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Science and Technology Catalogue

July - December 2025

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Software Networking & Security and Statistics



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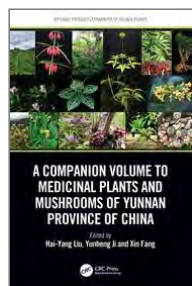
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A Companion Volume to Medicinal Plants and Mushrooms of Yunnan Province of China



Edited by **Hai-Yang Liu, Yunheng Ji, Xin Fang**

Series: *Natural Products Chemistry of Global Plants*

This book, a companion volume of "Medicinal Plants and Mushrooms of Yunnan Province of China", continues the systematical introduction of the plant morphological characteristics, medicinal history, resource situation, traditional uses, ethnopharmacology, phytochemicals, pharmacological effects, biosynthesis, and sustainable utilization of some important or endemic medicinal plants and mushrooms of Yunnan province of China, including Amomi Fructus, Amomum tsaoko, Angelica sinensis, Aucklandia costus, Gentiana rigescens, Phyllanthus emblica, and Polygonatum kingianu, Tricholoma matsutake, etc.

CRC Press
September 2025 : 296pp
Hb: 978-1-032-78285-0 : \$240

* For full contents and more information, visit: www.routledge.com/9781032782850

2ND EDITION

A Guide to Particulate Science in Pharmaceutical Product Development



Margaret D. Louey, Timothy M. Crowder, Anthony J. Hickey RTI International, North Carolina, USA

Series: *Drugs and the Pharmaceutical Sciences*

The pharmaceutical applications of powder technology have long been recognized. Yet while many books focus on aspects of powder formation and behaviour, there are few texts that explore the power of particulate science in the design, manufacture, and control of quality medicines. This revision discusses key principles and practical applications. The authors cover particulate material, its form and production, sampling from bodies of powder, particle size descriptors and statistics, behaviour of particles and powder, instrumental analysis, particle size measurement and synergy of adopted techniques, and in vitro and in vivo performance criteria.

CRC Press
August 2025 : 240pp
Hb: 978-1-032-73182-7 : \$210

* For full contents and more information, visit: www.routledge.com/9781032731827

Advanced Experimental Organic Chemistry



V.K. Ahluwalia, Sunita Dhingra

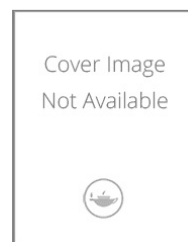
This book details the fundamental concepts in Organic Chemistry, including – Qualitative analysis of organic compounds: Methods for identifying single compounds and mixtures, with detailed explanations of tests, derivative preparations, and spot tests for functional groups and elements are discussed. Spectrometric methods: Techniques like IR, UV, NMR, and Mass Spectrometry are explained with practical examples. Practical applications: Practical examples and self assessment questions are included within the chapters. Print edition not for sale in South Asia (India, Sri Lanka, Nepal, Bangladesh, Pakistan or Bhutan)

CRC Press
May 2025 : 568pp
Hb: 978-1-032-97449-1 : \$260
eBook: 978-1-003-59381-2

* For full contents and more information, visit: www.routledge.com/9781032974491

Anticancer Activity in Heterocyclic Organic Structures

A Pathway to Novel Drug Development Part 1



Larbi El Mchichi, Mohammed Bouachrine, Tahar Lakhli

Series: *New Directions in Organic & Biological Chemistry*

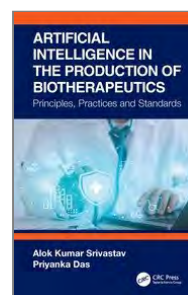
This new volume in New Directions in Organic & Biological Chemistry, explores the development of cancer therapeutics, focusing on molecular chemistry and advanced drug design approaches. Written by experts in theoretical chemistry and molecular chemistry, they bridge the gap between theoretical chemistry, molecular biology, and drug development. In Part I, they focus on the fundamental properties of heterocyclic compounds and innovative methodologies being employed to enhance therapeutic potential.

CRC Press
November 2025 : 184pp
Hb: 978-1-041-10058-4 : \$200

* For full contents and more information, visit: www.routledge.com/9781041100584

Artificial Intelligence in the Production of Biotherapeutics

Principles, Practices and Standards



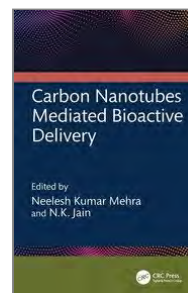
Alok Kumar Srivastav, Priyanka Das

Delving into the core of biomanufacturing, the book provides a structured journey through its critical phases. It begins with an introduction to modern biomanufacturing principles, quality-by-design approaches, and the integration of AI. Subsequent chapters examine raw material management, lean manufacturing practices, and the application of predictive analytics to optimize supply chains. Readers will explore advanced tools such as AI-enhanced data acquisition in PAT, automated standard operating procedures (SOPs), and AI-driven process controls for fermenters and chromatography systems.

CRC Press
July 2025 : 304pp
Hb: 978-1-041-03635-7 : \$130

* For full contents and more information, visit: www.routledge.com/9781041036357

Carbon Nanotubes Mediated Bioactive Delivery



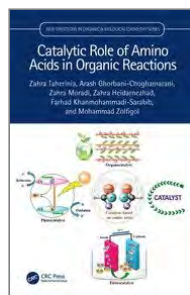
Edited by **Neelesh Kumar Mehra** (NIPER) Hyderabad, India, **N.K. Jain**

Carbon nanotubes (CNTs) has emerged as novel carbon based nanomaterials with unique physicochemical properties for pharmaceutical and biomedical applications. This book provides the fundamental concept, basic physicochemical properties, functionalization, method of synthesis, applications and regulatory considerations of carbon nanotubes (CNTs). The prime objective of the Editors and Authors would be to exhaustively cover the basic fundamentals of carbon nanomaterials, carbon nanotubes, functionalization and chemistries involved, drug delivery aspects and applications with their regulatory aspects.

CRC Press
August 2025 : 272pp
Hb: 978-1-032-47916-3 : \$150

* For full contents and more information, visit: www.routledge.com/9781032479163

Catalytic Role of Amino Acids in Organic Reactions



Zahra Taherinia Ilam University, Iran, **Arash Ghorbani-Choghamarani** Bu-Ali Sina University, Iran, **Zahra Moradi** Ilam University, Iran, **Zahra Heidarneshtad** Ilam University, Iran, **Farhad Khanmohammadi-Sarabib** Bu-Ali Sina University, Iran, **Mohammad Zolfigol** Bu-Ali Sina University, Iran

Series: New Directions in Organic & Biological Chemistry

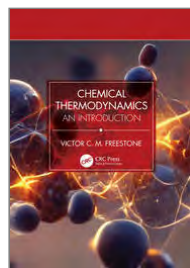
Asymmetric synthesis using both natural and unnatural amino acids has been tremendously important from synthetic and industrial viewpoints, and numerous new methodologies have been developed in the last decades. Herein we provide an overview of old and very recent advances and applications in heterogeneous catalysis, homogeneous catalysis, electrocatalysis, photocatalysis, organocatalysis, thermal catalysis using amino acids, an amino acid containing materials or amino acids derivatives as an essential component of catalysts, this book highlights the most important and recent developments to immobilize or support amino acids on various support materials.

CRC Press
June 2025 : 392pp
Hb: 978-1-041-01568-0 : \$170

* For full contents and more information, visit: www.routledge.com/9781041015680

Chemical Thermodynamics

An Introduction



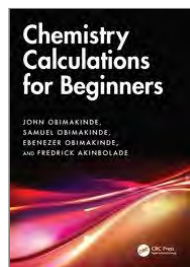
Victor CM Freestone

Thermodynamics can never be made easy, but with the right approach and a consistent use of scientific terms it can be made less opaque, and it can give a person an insight into how science explains why things happen the way they do. The approach adopted in this book will give readers a better understanding of how science works together with its limitations. Thermodynamics is a subject which (apart from quantum mechanics) probably causes most confusion and bewilderment amongst scientists. No one can pretend that the subject is easy, but it can be made accessible by a rigorous definition of concepts and ensuring that a consistency of use of these definitions is maintained.

CRC Press
June 2025 : 348pp
Pb: 978-1-041-00153-9 : \$140
Hb: 978-1-041-00154-6 : \$375
eBook: 978-1-003-60840-0

* For full contents and more information, visit: www.routledge.com/9781041001539

Chemistry Calculations for Beginners



John Obimakinde Greenland Hall, Lagos, Nigeria, **Samuel Obimakinde** Destin Kids Academy, Cape Town, South Africa, **Ebenezer Obimakinde** Federal University of Technology, Akure, Nigeria, **Fredrick Akinbolade** Greenland Hall Educational Services, Nigeria

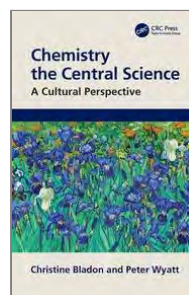
This text is crafted to provide a clear and accessible pathway to overcoming this challenge by assisting students, especially novices or those with minimal knowledge of the subject, in performing chemistry calculations. The content covers fundamental calculations crucial to understanding the principles of chemistry, making it an invaluable tool for students aiming to excel in their studies.

CRC Press
May 2025 : 430pp
Pb: 978-1-032-85414-4 : \$84.99
Hb: 978-1-032-85415-1 : \$210

* For full contents and more information, visit: www.routledge.com/9781032854144

Chemistry the Central Science: A Cultural Perspective

A Cultural Perspective



Christine Bladon, Peter Wyatt

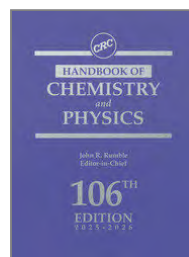
A series of stories to illustrate the impact of chemistry on the lives of people from the past to the present day. The book gives chemistry students and lay readers a window into how interactions at the atomic level translate into familiar materials. Teachers of chemistry and related subjects may also find the content and wealth of detail in the book a valuable resource to supplement their lecture room and classroom courses.

CRC Press
October 2025 : 256pp
Pb: 978-1-032-90057-5 : \$66.99
Hb: 978-1-032-91273-8 : \$120

* For full contents and more information, visit: www.routledge.com/9781032900575

106TH EDITION

CRC Handbook of Chemistry and Physics



Edited by John Rumble

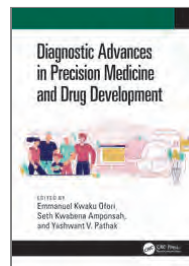
Series: CRC Handbook of Chemistry and Physics

High Quality Science requires High Quality Data! Today, more than ever, the CRC Handbook of Chemistry and Physics is critical in ensuring that researchers, educators, and students have the highest quality data for chemical compounds and physical particles. Available both in print and online, the Handbook covers 390 chemistry, physics, and related subjects organized in easy-to-find, well-organized tables. Every year, new reported data and new scientific areas are added, making the Handbook the largest comprehensive physical science data source available anywhere.

CRC Press
June 2025 : 1674pp
Hb: 978-1-032-65566-6 : \$240

* For full contents and more information, visit: www.routledge.com/9781032655666

Diagnostic Advances in Precision Medicine and Drug Development



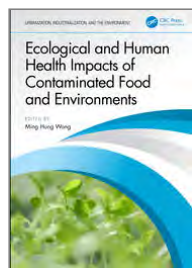
Edited by Emmanuel Kwaku Ofori UGMS, Ghana, **Seth Kwabena Amponsah** UGMS, Ghana, **Yashwant Pathak** USF, USA

To arrive at the most appropriate decision regarding patient management, an essential step is for medical practitioners to determine a correct and accurate diagnosis of the patient's condition. In recent years there have been significant technological efforts in chemistry, biochemistry, laboratory science and biotechnology towards improving disease diagnosis and management in patients. Further, drug developers have utilized some of these novel diagnostic methods during preclinical and clinical trials that have led to creating efficiencies in their development processes.

CRC Press
June 2025 : 304pp
Hb: 978-1-032-78171-6 : \$240
eBook: 978-1-003-48690-9

* For full contents and more information, visit: www.routledge.com/9781032781716

Ecological and Human Health Impacts of Contaminated Food and Environments



Edited by **Ming Hung Wong** Consortium on Health, Environment, Education, and Research (CHEER), The Education University of Hong Kong, China

Series: Urbanization, Industrialization, and the Environment

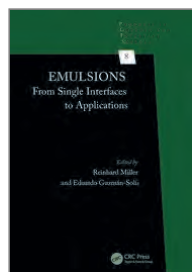
This book discusses linkages between the natural and disturbed chemical composition of the earth's surface and ecological and human health. It reviews the environmental geochemical cycles of natural elements and persistent toxic substances (PTS) in the environment, highlighting the degradation of soil and water resources due to human activities such as extraction and usage of minerals. There is an attempt to provide evidence concerning the health effects of consuming contaminated food, due to frequent consumption of mercury-laden fish. Lastly, sources, fates, and ecological effects of various PTS are presented, including microplastics and associated chemicals.

CRC Press
July 2025 : 458pp
Hb: 978-1-032-78706-0 : \$240

* For full contents and more information, visit: www.routledge.com/9781032787060

Emulsions

From Single Interfaces to Applications



Edited by **Reinhard Miller** MPI Colloids and Interfaces, Potsdam, Germany, **Eduardo Guzman**

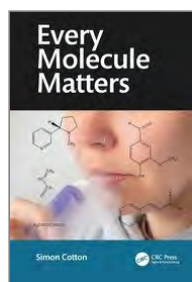
Series: Progress in Colloid and Interface Science

This book presents a comprehensive investigation of the complex scientific principles and practical applications of emulsions, offering valuable references for researchers, industry professionals, and advanced students in the fields of physical chemistry, material sciences, and engineering. The book is structured in three sections, which allow the readers to explore the fundamental principles of interfacial phenomena, the methodologies for emulsion preparation, and the diverse applications of emulsions in various industrial branches in depth.

CRC Press
July 2025 : 488pp
Hb: 978-1-032-63610-8 : \$190

* For full contents and more information, visit: www.routledge.com/9781032636108

Every Molecule Matters



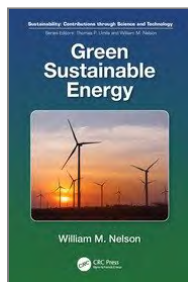
Simon Cotton University of Birmingham, UK

These range from the familiar odours which give pleasure to eating (and the spices that add piquancy) and the vitamins that are vital to our survival, to the way in which insects and plants use chemicals to protect themselves. There's controversy, with the compounds of chlorine which range from life-supporting anaesthetics and natural antibiotics to insecticides like DDT, which saved innumerable lives but became an environmental cause-celebre. Through the addictive power of nicotine, smoking tobacco morphed from being a curiosity imported from the Americas to a megapound industry that left human illness and death in its wake.

CRC Press
August 2025 : 416pp
Pb: 978-1-041-11062-0 : \$54.99
Hb: 978-1-041-11063-7 : \$120

* For full contents and more information, visit: www.routledge.com/9781041110620

Green Sustainable Energy



William M. Nelson US Army ERDC, USA

Series: Sustainability: Contributions through Science and Technology

As the world struggles with sustainable practices and policies regarding environmental protection, green sustainable energy is a key player. The chemistries involving energy production must be efficient, but also must evolve and change to meet new restrictions and footprint guidelines. Rather than only being seen as a necessary evil, energy through GSE must become a key piece in the sustainability puzzle.

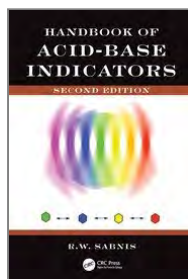
CRC Press
September 2025 : 224pp
Pb: 978-1-032-52601-0 : \$79.99
Hb: 978-1-032-52593-8 : \$140

* For full contents and more information, visit: www.routledge.com/9781032526010

2ND EDITION

Handbook of Acid-Base Indicators

pH Indicators



R.W. Sabnis

This updated handbook provides information on over 300+ acid-base indicators and a guide for both the chemist and non-chemist in industry and in university. Listed alphabetically each entry contains General Chemical Name, Other Chemical Names, Chemical Abstract (CA) Index Name, CAS Registry Number, Merck Index Number, Chemical Structure, Chemical/Dye Class, Molecular Formula, Molecular Weight, Melting Point, Boiling Point, pH Range, Color Change at pH, pKa, Physical Form, Solubility, UV-visible Spectrum, Synthesis, Major Applications, Safety and References.

CRC Press
November 2025 : 744pp
Hb: 978-1-138-19805-0 : \$300

* For full contents and more information, visit: www.routledge.com/9781138198050

Innovations in Ionic Liquid-Based Surfactants and Interfacial Phenomena



Mona Kharazi Bu-Ali Sina University, Hamedan, **Javad Saïen**, **Aliyar Javadi** Technical University of Dresden, **Reinhard Miller** MPI Colloids and Interfaces, Potsdam, Germany

Series: Progress in Colloid and Interface Science

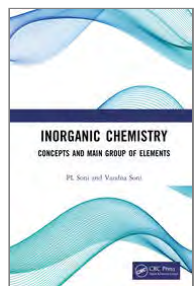
Section I establishes the fundamental properties of ionic liquids (ILs) and ILBSs, emphasizing their unique structures, environmental advantages, and flexible design. It details the diverse types of ILBSs, highlighting their individual characteristics and applications. Section II delves into the crucial interfacial behavior of ILBSs, examining their role in reducing interfacial tension, influencing micelle formation, enhancing emulsification processes, and modifying surface wettability.

CRC Press
July 2025 : 328pp
Hb: 978-1-032-74807-8 : \$250

* For full contents and more information, visit: www.routledge.com/9781032748078

Inorganic Chemistry

Concepts and Main Group of Elements



PL Soni, Vandna Soni

This book covers the concepts of Inorganic Chemistry. It deals with the structures, properties and reactions of inorganic compounds and details the periodicity in properties, types of structures and their reactivities. The subject matter of this book also discusses: Heisenberg's Uncertainty Principle Failure of Electronic Theory Electronic Configuration and Oxidation States Arsenic, Antimony and Bismuth Melting and Boiling Points Print edition not for sale in South Asia (India, Sri Lanka, Nepal, Bangladesh, Pakistan or Bhutan)

CRC Press
June 2025 : 458pp
Hb: 978-1-041-02316-6 : \$160
eBook: 978-1-003-61870-6

* For full contents and more information, visit: www.routledge.com/9781041023166

2ND EDITION

Medicinal Chemistry



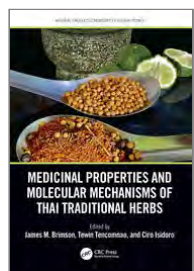
Norma K Dunlap Middle Tennessee State University, USA, **Donna M Huryn** University of Pennsylvania and University of Pittsburgh, USA

This book provides a concise introduction to the medicinal chemistry of therapeutically active compounds. Written in an accessible style, it offers a brief overview of the drug development process, from discovery to approved drug. Emphasizing medicinal chemistry strategies, the content is organized by target as well as therapeutic area drug classes. It covers existing drugs, and the discovery process that led to their development. Aimed at students and professionals interested in drug discovery, Medicinal Chemistry requires little prior knowledge, making it ideal for classroom and training seminar use.

Garland Science
October 2025 : 544pp
Pb: 978-1-032-73715-7 : \$140
Hb: 978-1-032-73716-4 : \$180

* For full contents and more information, visit: www.routledge.com/9781032737157

Medicinal Properties and Molecular Mechanisms of Thai Traditional Herbs



Edited by James M. Brimson Faculty of Allied Health Sciences Chulalongkorn University, **Tewin Tencomnao** Chulalongkorn University, **Ciro Isidoro** UNIVERSITA' DEL PIEMONTE ORIENTALE - DEPARTMENT OF HEALTH SCIENCES

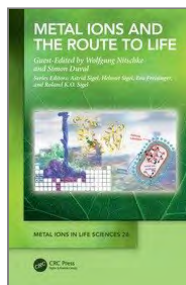
Series: *Natural Products Chemistry of Global Plants*

With a focus on the unique cultural and ecological of aspects of Thailand, this latest title in the popular series, *Natural Products Chemistry of Global Plants*, offers invaluable insights for researchers and healthcare professionals interested in exploring the potential of Thai herbal medicines in the broader context of global health and wellness. It also appeals to individuals seeking natural and traditional alternatives to modern medicine. The book provides a bridge between the modern pharmacology and the traditional medicinal practices, thereby bringing Thai traditional herbal medicines into the mainstream, while giving a critical explanation of their efficacy and safety.

CRC Press
May 2025 : 222pp
Hb: 978-1-032-82977-7 : \$240
eBook: 978-1-003-50872-4

* For full contents and more information, visit: www.routledge.com/9781032829777

Metal Ions and the Route to Life



Edited by Wolfgang Nitschke BIP CNRS, **Simon Duval**

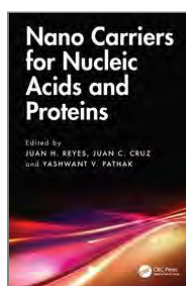
Series: *Metal Ions in Life Sciences Series*

This volume challenges the narrow focus on organic molecules in mainstream emergence-of-life research by collecting contributions from a transdisciplinary ensemble of authors who work in emergence-of-life-related domains. The change of paradigm away from the organic-molecule-focused approaches to life's emergence in recognizing the fundamental importance of metal ions is disparately promoted in several concerned research communities. This volume brings together aspects from different disciplines substantiating the call for a re-assessment of metal-ions' role in bringing inanimate matter to life'

CRC Press
July 2025 : 440pp
Hb: 978-1-032-60615-6 : \$190

* For full contents and more information, visit: www.routledge.com/9781032606156

Nanocarriers for Nucleic Acids and Proteins



Edited by Luis H. Reyes, Juan C. Cruz, Yashwant Pathak USF, USA

At the frontier of modern medicine lies a revolution in drug delivery systems that operates at the scale of billionths of a meter. "Nano Carriers for Nucleic Acids and Proteins" presents a comprehensive exploration of these groundbreaking technologies that are reshaping therapeutic approaches across medical science. Featuring detailed coverage of lipid-based, polymer-based, inorganic, and bio-inspired nanocarriers, this essential resource bridges the gap between theoretical understanding and practical application.

CRC Press
July 2025 : 412pp
Hb: 978-1-032-75058-3 : \$200

* For full contents and more information, visit: www.routledge.com/9781032750583

Novel Photochemical Reactions in Organic and Medicinal Chemistry



Aparna Das, Bimal Krishna Banik PMU, Saudi Arabia

Series: *Global Science Education*

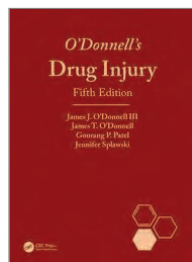
This book will be beneficial for undergraduate, postgraduate, research scholars and young teachers in chemistry and biological science, pharmacists, pharmacologists, clinicians, industrialists, and biochemists. Methods for creating carbon-carbon and carbon-heteroatom bonds following green chemistry and concepts on electron-donor-acceptor pathways. Focuses on medicinally important molecules, in particular against diverse cancers. Describes synthesis of natural products. Describe economical and practical pathways. Encourages new ways to conduct research in organic and medicinal chemistry.

CRC Press
August 2025 : 184pp
Hb: 978-1-041-06194-6 : \$66.99

* For full contents and more information, visit: www.routledge.com/9781041061946

5TH EDITION

O'Donnell's Drug Injury



Edited by **James J. O'Donnell III** Rosalind Franklin University of Medicine and Science, **James T. O'Donnell** Rush University Medical Center, Chicago, USA, **Gourang Patel** University of Chicago Medicine, USA, **Jennifer Splawski** Bluesight TM, A Medication Intelligence Company

O'Donnell's Drug Injury, Fifth Edition presents up-to-date information on adverse events caused by drugs via direct pharmacological action or indirectly through injury caused by impairment or an altered mental state. The impact of drug injury on legal cases is emphasized throughout the book. This book serves as a comprehensive reference for attorneys, pharmacists, physicians, risk managers, nurses, drug manufacturers, and regulators—as well as anyone with an interest in drug use and drug injury.

CRC Press
July 2025 : 940pp
Hb: 978-1-041-01545-1 : \$300

* For full contents and more information, visit: www.routledge.com/9781041015451

Phytochemistry and Pharmacology of Garlic (Allium sativum L.) Clove



Dinesh Kumar Singh, Devesh Pratap Singh

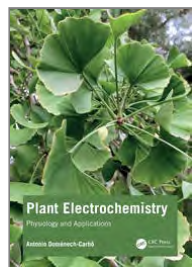
The present book is an attempt to make a comprehensive overview on origin of garlic, history of garlic chemistry, garlic preparations and their use in folklore, health benefits of garlic, garlic as pesticide and its adverse effects. Seasonal Blurb: Garlic (*Allium sativum*) is used as a popular herbal alternative therapy. There is a lack of consolidated literature on the health benefits of garlic. The present book is an attempt to make a comprehensive overview on origin of garlic, history of garlic chemistry, garlic preparations and their use in folklore, health benefits of garlic, garlic as pesticide and its adverse effects.

CRC Press
October 2025 : 144pp
Hb: 978-1-041-08606-2 : \$140

* For full contents and more information, visit: www.routledge.com/9781041086062

Plant Electrochemistry

Physiology and Applications



Antonio Doménech-Carbó Department of Analytical Chemistry, University of Valencia, Spain.

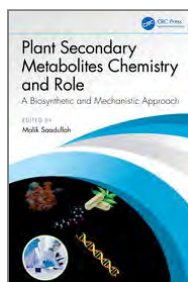
The book comprehensively views the intersection between electrochemistry and botany. It attempts to inform people about the capacity of electrochemistry to provide information of interest to plant science. This includes electrophysiology, plant communication, and plant defense responses, as well as chemoecological and phylogenetic aspects. Conversely, the book also treats the capabilities of vegetal systems and vegetal-derived materials to be used in electrochemical applications for sensing, energy production and storage, and environmental issues.

CRC Press
May 2025 : 332pp
Hb: 978-1-032-69729-1 : \$140
eBook: 978-1-032-69782-6

* For full contents and more information, visit: www.routledge.com/9781032697291

Plant Secondary Metabolites Chemistry and Role

A Biosynthetic and Mechanistic Approach



Edited by **Malik Saadullah** Government College University Faisalabad

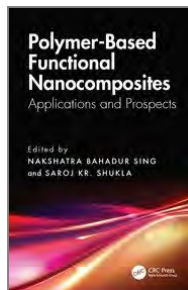
For centuries the vast and versatile pharmacological effects of medicinal plants constituents have played vital roles in biological, economic, social, spiritual, cultural and health wellbeing. This unique text establishes a groundwork in natural product chemistry and phytochemistry by considering biosynthesis and mechanistic way. There is abundant evidence showing that medicinal plants and their secondary metabolites are useful in preventing different ailments and this book discusses this as well as the mechanisms, amelioration and biosynthesis. It helps readers to understand computational, toxicological, cosmetic and nutraceutical aspects of plant secondary metabolites.

CRC Press
June 2025 : 300pp
Hb: 978-1-032-70250-6 : \$240

* For full contents and more information, visit: www.routledge.com/9781032702506

Polymer-Based Functional Nanocomposites

Applications and Prospects



Edited by **Nakshatra Bahadur Singh, Saroj Kr. Shukla**

This book offers a thorough insight into polymer-based functional nanocomposites, covering their development, properties, and applications. It describes advanced processing techniques that enhance mechanical, optical, and photonic performance. Emphasizing their transformative role, it highlights applications in electronics, water purification, and sustainability. This book provides a comprehensive insight into polymer-based nanocomposites, from fundamentals to industrial applications and future prospects. It is an essential resource for researchers, academicians, engineers, industry professionals, innovators, and entrepreneurs.

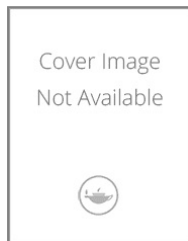
CRC Press
September 2025 : 216pp
Hb: 978-1-032-86368-9 : \$140

* For full contents and more information, visit: www.routledge.com/9781032863689

3RD EDITION

Quality Assurance and Quality Control in the Analytical Chemical Laboratory

A Practical Approach



Piotr Konieczka Gdansk University of Technology, Poland

Series: *Analytical Chemistry*

The third edition of Quality Assurance and Quality Control in the Analytical Chemical Laboratory: A Practical Approach defines the tools used in QA/QC, especially the application of statistical tools during analytical data treatment. Clearly written and logically organized, this well-loved volume takes a generic approach applicable to any field of analysis. The authors begin with the theory behind quality control systems, then detail validation parameter measurements, the use of statistical tests, counting the margin of error, uncertainty estimation, traceability, reference materials, proficiency tests, and method validation.

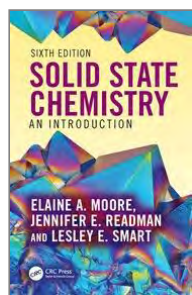
CRC Press
August 2025 : 200pp
Hb: 978-1-032-82465-9 : \$250

* For full contents and more information, visit: www.routledge.com/9781032824659

6TH EDITION

Solid State Chemistry

An Introduction



Elaine A. Moore The Open University, Milton Keynes, UK,
Jennifer Readman University of Central Lancashire

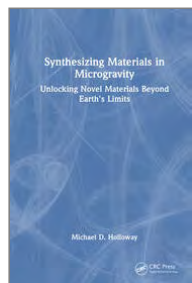
Solid-state chemistry is still a rapidly advancing field, contributing to areas such as batteries for transport and energy storage, nanostructured materials, porous materials for the capture of carbon dioxide and other pollutants. This edition aims, as previously, not only to teach the basic science that underpins the subject, but also to direct the reader to the most modern techniques and to expanding and new areas of research. The user-friendly style takes a largely non-mathematical approach and gives practical examples of applications of solid state materials and concepts.

CRC Press
 May 2025 : 412pp
 Pb: 978-1-032-72887-2 : \$64.99
 Hb: 978-1-032-72894-0 : \$140
 eBook: 978-1-003-42294-5

* For full contents and more information, visit: www.routledge.com/9781032728872

Synthesizing Materials in Microgravity

Unlocking Novel Materials Beyond Earth's Limits



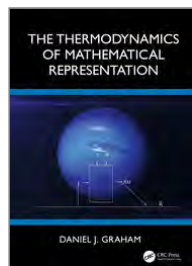
Michael D. Holloway

This book explores the transformative potential of microgravity environments for advancing material synthesis beyond terrestrial limitations. On Earth, gravitational forces drive buoyancy-induced convection, sedimentation, and hydrostatic pressure gradients, which often result in defects, phase segregation, and non-uniform microstructures during processes such as crystallization, alloy solidification, polymerization, and ceramic sintering. These imperfections hinder the development of high-performance materials crucial for aerospace engineering, electronics, and biomedical devices.

CRC Press
 November 2025 : 232pp
 Hb: 978-1-041-10636-4 : \$180

* For full contents and more information, visit: www.routledge.com/9781041106364

The Thermodynamics of Mathematical Representation



Daniel J. Graham Loyola University, Chicago, Illinois, USA

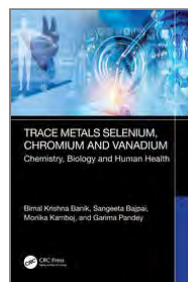
Thermodynamics is the physical science surrounding work, heat, and relationships across fundamental quantities, and situates itself near the center of multiple disciplines through its generality and timelessness. Its laws required no rewriting after the twentieth century revolutions of quantum mechanics, relativity, and solid state physics, just to name three subjects. The nine chapters of this book make appeal to thermodynamic notions and laws to get under the hood of mathematics without just echoing things best said and written in math books.

CRC Press
 July 2025 : 314pp
 Hb: 978-1-032-98150-5 : \$250

* For full contents and more information, visit: www.routledge.com/9781032981505

Trace Metals Selenium, Chromium and Vanadium Chemistry, Biology & Human Health

Chemistry, Biology and Human Health



Bimal Krishna Banik PMU, Saudi Arabia, **Sangeeta Bajpai** Amity University, **Monika Kamboj** Amity School of Applied Sciences, Amity University, **Garima Pandey**

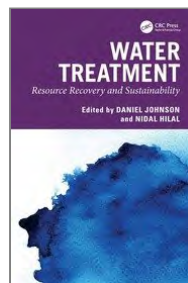
Trace elements Selenium, Vanadium and Chromium play an essential role in the nutrition of both animals and humans. Their accumulation in various environments and the subsequent transition of these elements into the food chain significantly affect human and environmental health. This volume emphasizes the integrative aspects of Selenium, Vanadium and Chromium with chapters dedicated to their fundamental chemistry, biochemistry, clinical science, and environmental effects. Each chapter focuses on the advancement of scientific knowledge about these trace elements. Important studies on these elements will be described through interdisciplinary approaches.

CRC Press
 July 2025 : 274pp
 Hb: 978-1-032-61371-0 : \$240

* For full contents and more information, visit: www.routledge.com/9781032613710

Water Treatment

Resource Recovery and Sustainability



Edited by **Nidal Hilal** Research (CWATER), College of Engineering, Swansea University, UK, **Daniel J. Johnson** New York University Abu Dhabi

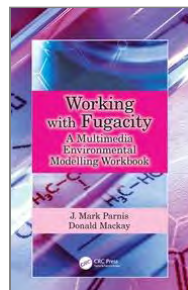
The book presents latest research in methods for limiting the environmental and economic costs of the processes involved in using non-traditional sources of water, to increase the efficiency of treatment processes and optimize water recovery and reuse, research has focused on recovery of resources from their associated waste streams, including recovery of: heat, pressure and generation of electricity from salinity gradients; nutrients such as nitrogen and phosphates; recovery of valuable minerals including metals concentrated in desalination brine as well as optimization of water recovery and reuse from wastewater sources.

CRC Press
 August 2025 : 376pp
 Hb: 978-1-032-74946-4 : \$250

* For full contents and more information, visit: www.routledge.com/9781032749464

Working with Fugacity

A Multimedia Environmental Modelling Workbook



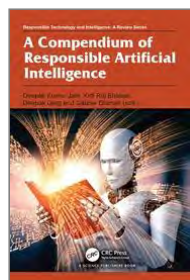
J. Mark Parnis Trent University- Canada, **Donald Mackay** Trent University- Canada

Fugacity-based chemical fate modelling is a fascinating and sometimes complicated scientific pursuit. Such modelling is of critical importance in the early stages of chemical management, when new chemicals are being introduced into production and little is known yet about their actual behaviour and fate in the environment.

CRC Press
 November 2025 : 128pp
 Pb: 978-1-041-10865-8 : \$64.99
 Hb: 978-1-041-10866-5 : \$120

* For full contents and more information, visit: www.routledge.com/9781041108658

A Compendium of Responsible Artificial Intelligence



Edited by **Deepak Kumar Jain** Dalian University of Technology, China, **Kirti Raj Bhatele**, **Deepak Garg** Distinguished Professor, School of Computer Science and Artificial Intelligence, SR University, Warangal, Telangana, India <https://www.gdeepak.com/>, **Gaurav Dhiman** PSOU, India

Series: Responsible Technology and Intelligence

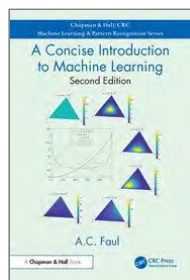
A Compendium of Responsible Artificial Intelligence: Taking a broad, multidisciplinary approach to the ethical, legal, and practical dimensions of developing AI, it puts key issues such as bias, transparency, accountability, and privacy at center stage. From computer science through law and ethics into policy, it lays down the roadmap on which developers, data scientists, and policymakers could bring AI technologies properly attuned to societal values. This book can be read as a resource for those who want to be able to guide the development and deployment of responsibly controlled AI systems.

CRC Press
July 2025 : 350pp
Hb: 978-1-032-82527-4 : **\$180**
eBook: 978-1-003-51449-7

* For full contents and more information, visit: www.routledge.com/9781032825274

2ND EDITION

A Concise Introduction to Machine Learning



A.C. Faul University of Cambridge, UK

Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

A Concise Introduction to Machine Learning uses mathematics as the common language to explain a variety of machine learning concepts from basic principles and illustrates every concept using examples in both Python and Matlab® which are available on GitHub and can be run from there in Binder in a web browser. Each chapter concludes with exercises to explore the content. The emphasis of the book is on the question of Why - only if why an algorithm is successful is understood, can it be properly applied, and the results trusted. Standard techniques are treated rigorously, including an introduction to the necessary probability theory.

Chapman & Hall
May 2025 : 352pp
Pb: 978-1-032-87814-0 : **\$64.99**
Hb: 978-1-032-87817-1 : **\$170**
eBook: 978-1-003-53461-7

* For full contents and more information, visit: www.routledge.com/9781032878140

2ND EDITION

A Concise Introduction to Robot Programming with ROS 2



Francisco Martín Rico

A Concise Introduction to Robot Programming with ROS2 provides the reader with the concepts and tools necessary to bring a robot to life through programming. It will equip the reader with the skills necessary to undertake projects with ROS2, the new version of ROS. It is not necessary to have previous experience with ROS2 as it will describe its concepts, tools, and methodologies from the beginning.

Chapman & Hall
June 2025 : 258pp
Pb: 978-1-032-85148-8 : **\$64.99**
Hb: 978-1-032-85150-1 : **\$105**
eBook: 978-1-003-51679-8

* For full contents and more information, visit: www.routledge.com/9781032851488

A Gamer's Introduction to Programming with MonoGame

Welcome Brave Adventurer!



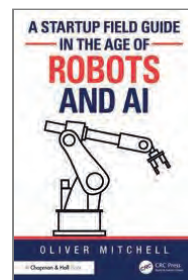
Aaron Langille Cambrian College, Canada

In this book, you'll learn the essential ins-and-outs of how to work with fonts and text, images and sprites, audio and even animation. You'll learn how to give your players control over their destiny through keyboards, mice, and gamepads and you'll harness the never-ending energy of the gameplay loop functions. Within these pages you'll find a fun and approachable adventure that will introduce you to the accessible but powerful MonoGame development framework. Using Visual Studio and C#, you'll write simple but engaging interactive scenes and games that will gradually build up your coding skills and confidence.

Chapman & Hall
September 2025 : 328pp
Hb: 978-1-032-74538-1 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032745381

A Startup Field Guide in the Age of Robots and AI



Oliver Mitchell

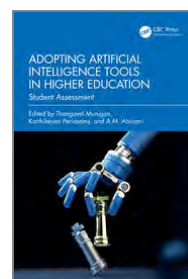
This book acts as a detailed field guide for machine inventors and founders to meet customer demand and financing objectives. It acts as a pivotal point in the ideation process whilst introducing a cadre of potential mentors. Through interviews with some of the most respected luminaries in this field, Oliver Mitchell helps fortify our resolve to follow our passions and build a billion-dollar company. The chapters of this book have been organized like a field guide, as if setting out on a trip in the wild. Just like it's essential to satiate yourself before scaling mountains, fast-tracking your innovation into the hands of early adopters is vital for achieving success on Main Street.

Chapman & Hall
June 2025 : 160pp
Pb: 978-1-032-82749-0 : **\$42.99**
Hb: 978-1-032-83247-0 : **\$150**
eBook: 978-1-003-50841-0

* For full contents and more information, visit: www.routledge.com/9781032827490

Adopting Artificial Intelligence Tools in Higher Education

Student Assessment



Edited by **Thangavel Murugan** United Arab Emirates University, UAE, **Karthikeyan Periasamy** Thiagarajar College of Engineering, India, **A.M. Abirami** Thiagarajar College of Engineering, India

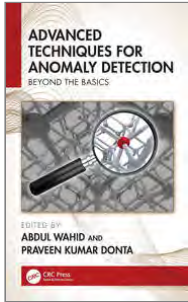
This edited volume explores the adoption of Artificial Intelligence (AI) tools in higher education, specifically focusing on student assessment. It examines the integration of various AI tools within higher education, discussing the challenges and opportunities they present and the innovative solutions they offer. Educators, administrators, academics, and technology experts working in institutes of higher learning will find this volume compelling. It is also suitable for students taking courses in educational technology, e-learning, and digital learning.

CRC Press
May 2025 : 240pp
Pb: 978-1-032-74665-4 : **\$64.99**
Hb: 978-1-032-74668-5 : **\$84.99**
eBook: 978-1-003-47030-4

* For full contents and more information, visit: www.routledge.com/9781032746654

Advanced Techniques for Anomaly Detection

Beyond the Basics



Edited by **Abdul Wahid , Praveen Kumar Donta**

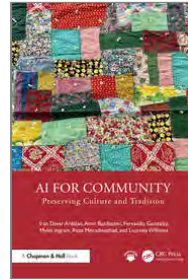
With this book, we will summarize the latest developments in anomaly detection techniques across various fields, including cybersecurity, finance, image processing, sensor networks, social network analysis, health systems, and IoT systems. The book will provide readers with a comprehensive understanding of advanced anomaly detection techniques, such as deep learning-based anomaly detection, feature selection and extraction techniques, ensemble methods, and evaluation metrics.

CRC Press
May 2025 : 194pp
Hb: 978-1-032-72930-5 : \$160
eBook: 978-1-003-46355-9

* For full contents and more information, visit: www.routledge.com/9781032729305

AI for Community

Preserving Culture and Tradition



Iran Davar Ardalan , Amir Banifatemi , Fernando Gonzalez , Myles Ingram , Reza Moradinezhad , Lucretia Williams

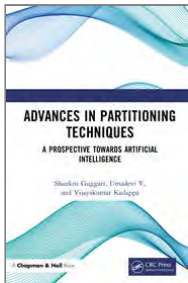
AI for Community examines how technology can bridge cultural divides while considering what it means to preserve culture responsibly and human flourishing. The book presents real-world examples and ethical insights that are timely, actionable, and deeply human-centered. Each chapter is also supported by online resources accessible as podcasts, videos, and articles to deepen understandings of culturally aware AI. The book highlights how community-driven language preservation, storytelling, and inclusive design can empower diverse cultures and protect their heritage, and is a vital resource for those seeking to create AI that respects and uplifts communities.

Chapman & Hall
June 2025 : 212pp
Pb: 978-1-032-84662-0 : \$64.99
Hb: 978-1-032-85211-9 : \$160
eBook: 978-1-003-51711-5

* For full contents and more information, visit: www.routledge.com/9781032846620

Advances in Partitioning Techniques

A Prospective towards Artificial Intelligence



Shankru Guggari , Umadevi V , Vijayakumar Kadappa

The book discusses various partitioning strategies tailored for traditional machine learning algorithms. It examines how data can be divided efficiently to enhance the performance and scalability of classic Machine Learning models. By bridging the gap between theory and practical applications, the book intends to equip researchers, practitioners, and students with invaluable insights into harnessing partitioning for optimizing AI-driven systems, data processing, and problem-solving strategies. This book is a vital resource, illuminating the path towards unlocking the full potential of partitioning in shaping the future of AI technologies.

Chapman & Hall
June 2025 : 134pp
Hb: 978-1-032-75001-9 : \$210
eBook: 978-1-003-47190-5

* For full contents and more information, visit: www.routledge.com/9781032750019

AI for Knowledge



Andrew Cox , Mike Thelwall

Series: AI for Everything

The book investigates how AI will impact everyday knowledge discovery, understanding and creation. It considers both the positive benefits and the many informational and ethical challenges, including the impact on our wider information culture. It then weighs up the impact on scholarship, including the processes of scholarly communication. It explains the role of libraries and archives and how they could be enhanced using AI. It concludes by showing how governments can regulate AI to ensure social benefit and outlines what we as individuals need to know about AI.

CRC Press
June 2025 : 92pp
Pb: 978-1-032-87424-1 : \$29.99
Hb: 978-1-032-89892-6 : \$170
eBook: 978-1-003-54516-3

* For full contents and more information, visit: www.routledge.com/9781032874241

Advances in the Internet of Things

Challenges, Solutions, and Emerging Technologies



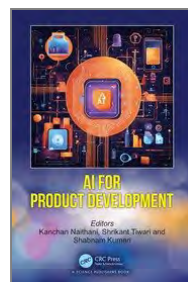
Edited by **Qusay Hassan**

Many reports estimate that in 2024, the number of IoT devices exceeded 18 billion worldwide, with predictions to reach 40 billion by 2033. Despite primarily being consumer devices, a growing number of them will find use in industrial and enterprise applications. The main objective of this book is to capture the state-of-the-art in IoT and cover some of its challenges, solutions, and emerging technologies. The book is peer-reviewed and serves as a reference for researchers, academics, practitioners, implementers, and graduate-level students.

CRC Press
July 2025 : 328pp
Hb: 978-1-032-82840-4 : \$130

* For full contents and more information, visit: www.routledge.com/9781032828404

AI for Product Development



Edited by **Kanchan Naithani , Shrikant Tiwari , Shabnam Kumari**

This book explores the transformative role of artificial intelligence in reshaping modern industries and offers a comprehensive guide, spanning the evolution of AI in product innovation to practical applications such as clustering techniques, human-autonomous vehicle interactions and personalized healthcare solutions. With contributions from leading researchers, it covers explainable AI, real-world case studies and ethical considerations in intelligent systems. The chapters delve into cutting-edge topics like YOLO model variants, AI-driven emotion detection and strategies for overcoming AI implementation challenges.

CRC Press
June 2025 : 318pp
Hb: 978-1-032-85775-6 : \$200
eBook: 978-1-003-53690-1

* For full contents and more information, visit: www.routledge.com/9781032857756

AI in Hospital Administration

Revolutionizing Healthcare



David Mhlanga Monash University, Australia

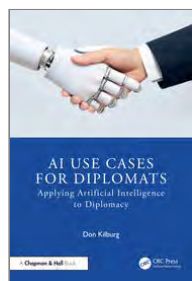
Artificial Intelligence (AI) is revolutionizing hospital administration by optimizing processes, improving patient outcomes, and enhancing resource management. AI applications in healthcare include patient scheduling, electronic health record management, medical imaging, and clinical decision support systems. This transformation promises more efficient operations, accurate diagnoses, and personalized patient care. However, the integration of AI also poses challenges, such as ethical considerations and data security, which must be carefully managed to realize its full potential.

CRC Press
May 2025 : 234pp
Hb: 978-1-032-74673-9 : **\$170**
eBook: 978-1-003-47580-4

* For full contents and more information, visit: www.routledge.com/9781032746739

AI Use Cases for Diplomats

Applying Artificial Intelligence to Diplomacy



Donald Kilburg

Drawing on over 21 years of experience integrating technology into foreign affairs, the author reveals how AI is revolutionizing diplomatic engagement, crisis management, and public diplomacy. Readers will discover practical strategies for implementing AI in diplomatic operations, gain insights into the future of AI-driven global governance, and learn when—crucially—not to use AI at all. Whether you're a diplomatic practitioner, a student of international affairs, or fascinated by technology's impact on global relationships, this guide charts the course for diplomacy's next evolution—where human wisdom and AI converge to address our world's most pressing challenges.

Chapman & Hall
August 2025 : 312pp
Pb: 978-1-041-00835-4 : **\$64.99**
Hb: 978-1-041-00926-9 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781041008354

AI, Cybersecurity and Data Science for Drone and Unmanned Aerial Vehicles

Real-Life Applications and Case Studies



Edited by **Shishir Kumar Shandilya** Devi Ahilya University, India, **Fernando Ortiz Rodriguez**, **Smita Shandilya** Sagar Institute of Research and Technology, India, **Gerardo Romero** Autonomous University of Tamaulipas, UAM Reynosa-Rodhe, Mexico

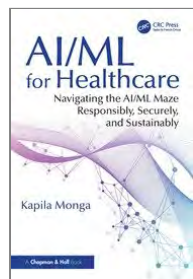
This book explores the transformative impact of drone technology and unmanned aerial systems (UAS) across diverse industries, from precision agriculture and logistics to disaster response and forensic investigations. It highlights how the integration of Artificial Intelligence (AI) into UAVs is addressing contemporary challenges, optimizing operations, and shaping the future of aerial systems. It offers technical methodologies, case studies, and a detailed roadmap for integrated drone forensics, making it an essential resource for understanding the dynamic sector of Intelligent Aerial Systems.

Chapman & Hall
August 2025 : 178pp
Hb: 978-1-032-76614-0 : **\$210**

* For full contents and more information, visit: www.routledge.com/9781032766140

AI/ML for Healthcare

Navigating the AI/ML Maze Responsibly, Securely, and Sustainably



Kapila Monga

The advent of Generative AI has democratized access to AI, prompting everyone in healthcare organizations to ask pressing questions: How can I be better equipped to support AI adoption meaningfully? How do I ensure I ask the right questions? What cautions should I exercise as I think about AI/ML in my business process? This book aims to answer these and other such questions, and to provide healthcare professionals with knowledge across various aspects of AI/ML. The book features a healthcare-specific case study that bridges the gap between theoretical knowledge and practical application, illustrating all major concepts in a real-world context.

Chapman & Hall
June 2025 : 296pp
Pb: 978-1-032-59430-9 : **\$49.99**
Hb: 978-1-032-59432-3 : **\$250**
eBook: 978-1-003-45466-3

* For full contents and more information, visit: www.routledge.com/9781032594309

3RD EDITION

AI-Driven Energy Centered Maintenance



Fadi Alshakhshir

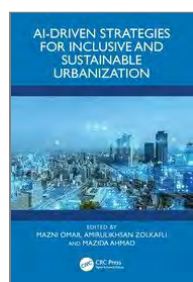
Series: River Publishers Series in Energy Management

This third edition provides a comprehensive update and expansion on the principles and practices of energy-centered maintenance (ECM). It combines advanced concepts with actionable strategies to enhance equipment energy efficiency, reliability, and availability. Tailored for engineers, facility managers, students, and decision-makers, this edition equips readers with the tools and knowledge needed to implement ECM effectively in modern facilities.

River Publishers
August 2025 : 308pp
Hb: 978-8-743-80171-9 : **\$180**

* For full contents and more information, visit: www.routledge.com/9788743801719

AI-Driven Strategies for Inclusive and Sustainable Urbanization



Edited by **Mazni Omar**, **Samsul Ariffin Abdul Karim** FASD, Universiti Teknologi Petronas, Malaysia, **Amirulikhshan Zolkafli**, **Mazida Ahmad**

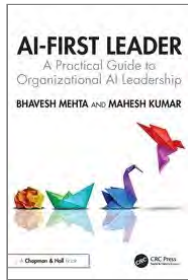
This book explores the transformative potential of artificial intelligence (AI) in reshaping urban development practices. This book studies how AI technologies can be utilized to tackle the complex challenges encountered in urban areas, spanning from ethical, social, and environmental implications across urban governance and beyond. Through interdisciplinary research, case studies, and expert insights, the book aims to educate students in higher learning and inspire policymakers, urban planners, and practitioners to leverage AI technologies to tackle urban challenges and build better cities for all residents.

CRC Press
October 2025 : 358pp
Pb: 978-1-041-04869-5 : **\$69.99**
Hb: 978-1-041-04872-5 : **\$250**

* For full contents and more information, visit: www.routledge.com/9781041048695

AI-First Leader

A Practical Guide to Organizational AI Leadership



Bhavesh Mehta , Mahesh Kumar

AI-First Leader is a practical guide for executives, technology leaders, and decision-makers seeking to turn artificial intelligence into a strategic advantage. As AI rapidly reshapes how organizations operate and compete, this book provides a clear roadmap from initial awareness to enterprise-wide adoption. It equips leaders with the tools to navigate both the promise and complexity of today's AI landscape, including machine learning, generative AI, and autonomous systems.

Chapman & Hall
October 2025 : 232pp
Pb: 978-1-041-09823-2 : **\$66.99**
Hb: 978-1-041-09825-6 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781041098232

Animation in Austria

An Almost Invisible Art



Florian Schmidlechner

Series: European Animation

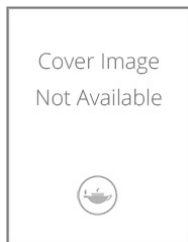
This book provides a comprehensive account of Austrian animation history, as well as an analysis of the current state of the industry in competition with American and cheaper international products in the face of dwindling budgets. This book will be of great interest to academics, students, and professionals working and researching in the field of animation.

CRC Press
May 2025 : 316pp
Hb: 978-1-032-54148-8 : **\$110**
eBook: 978-1-003-41544-2

* For full contents and more information, visit: www.routledge.com/9781032541488

Animation in Spain

Magic Tricks, Drawings on Cels, and CGI



Maria Pagès Rovira

Series: European Animation

This book provides a comprehensive account of Spanish animation history, from its early days through to the arrival of CGI. It examines the two main centers of production, Barcelona and Madrid, as well as evolving animation hubs in the Basque Country and Galicia. This book will be of great interest to academics, students, and professionals working and researching in the field of animation.

CRC Press
August 2025 : 200pp
Hb: 978-1-032-89207-8 : **\$110**

* For full contents and more information, visit: www.routledge.com/9781032892078

Applications of Blockchain Technology



Edited by **Arvind Mewada** Bennett University, India,
Nagendra Singh , Mohd. Aquib Ansari , Amrendra Singh Yadav Institute of Information Technology and Management Gwalior, India

This book explores the transformative potential of blockchain technology and shows how blockchain can promote equitable access to resources and bridge societal gaps. It examines blockchain's role in enhancing transparency, security, and decentralisation across various sectors and in society. The book addresses both the advancements and challenges of blockchain, providing practical use cases to understand the opportunities, limitations, and innovative applications of blockchain, envisioning a future where this technology drives significant societal change.

Chapman & Hall
August 2025 : 312pp
Hb: 978-1-032-89986-2 : **\$190**

* For full contents and more information, visit: www.routledge.com/9781032899862

Applications of Digital Twins and Robotics in the Construction Sector



Edited by **Syed Saad Civil** and Env Engineering Dep, Malaysia,
Kumeel Rasheed , Syed Ammad Griffith University, Australia

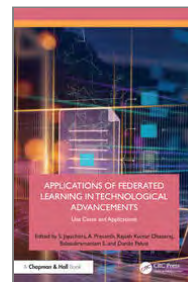
Applications of Digital Twins and Robotics in the Construction Sector inquires into the transformative impact of futuristic technologies in modern construction. This book includes digital twins for planning, project management, real-time simulation, circular construction, and data-driven decision-making, alongside robotics for automating on-site operations with precision and safety. Bridging these advancements, it highlights the interconnection in enhancing efficiency and innovation. Designed for both experts and enthusiasts, the book offers a comprehensive view of innovations shaping the industry's future.

CRC Press
June 2025 : 254pp
Hb: 978-1-032-82863-3 : **\$170**
eBook: 978-1-003-51874-7

* For full contents and more information, visit: www.routledge.com/9781032828633

Applications of Federated Learning in Technological Advancements

Use Cases and Applications



Edited by **S. Jayachitra** PSNA College of Engineering and Technology, India, **A. Prasanth** Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, India, **Rajesh Kumar Dhanaraj** Symbiosis International (Deemed University), **Balasubramaniam S , Danilo Pelusi** University of Teramo, Italy

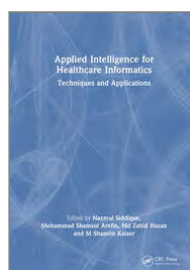
This book explores the applications and advancements of Federated Learning across diverse sectors, focusing on its integration with cutting-edge technologies like IoT, AI, Blockchain, and Digital Twins. Real-world examples and case studies illustrate Federated Learning's role in healthcare, smart cities, and maritime applications while addressing critical concerns such as security. It provides insights into Federated Learning's transformative potential, offering practical strategies for intelligent systems and sustainable environments.

Chapman & Hall
September 2025 : 200pp
Hb: 978-1-032-85951-4 : **\$210**

* For full contents and more information, visit: www.routledge.com/9781032859514

Applied Intelligence for Healthcare Informatics

Techniques and Applications



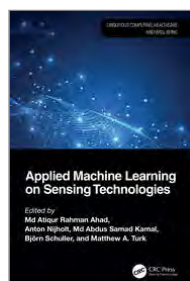
Edited by **Nazmul Siddique** University of Ulster, Magee, UK, **Mohammad Shamsul Arefin**, **Md Zahid Hasan**, **M Shamim Kaiser** Institute of Information Technology, Jahangirnagar University, Bangladesh

AI is revolutionizing healthcare, transforming diagnostics, treatment, and patient care. Applied Intelligence for Healthcare Informatics: Techniques and Applications explores cutting-edge AI solutions for disease prediction, medical imaging, mental health analysis, and healthcare decision-making. Covering topics like heart disease prediction, COVID-19 detection, breast cancer classification, and ethical AI challenges, this book bridges theory with real-world applications. A must-read for researchers, practitioners, and innovators, it offers insights into the future of AI-driven healthcare.

CRC Press
October 2025 : 274pp
Hb: 978-1-032-95056-3 : \$150

* For full contents and more information, visit: www.routledge.com/9781032950563

Applied Machine Learning on Sensing Technologies



Edited by **Md Atiqur Rahman Ahad**, **Anton Nijholt**, **Md Abdus Samad Kamal**, **Björn Schuller**, **Matthew A. Turk**

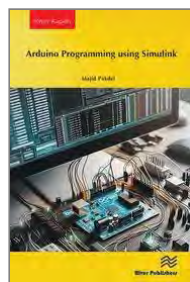
Series: Ubiquitous Computing, Healthcare and Well-being

The book will be related to applied machine learning and deep learning in the field of sensing, vision and sensor-based applications. Apart from a series of methodologies, it will have some- original methods,- exploration of new applications,- presentations on relevant datasets,- challenging applications,- ideas and future scopes with some guidelines. The editors are top experts in these arenas and published

CRC Press
August 2025 : 236pp
Hb: 978-1-032-76642-3 : \$180

* For full contents and more information, visit: www.routledge.com/9781032766423

Arduino Programming using Simulink



Majid Pakdel

Unlock the full potential of your Arduino projects with this comprehensive guide to integrating Simulink for advanced controller design. Whether you are a beginner or an experienced engineer, this book provides step-by-step instructions on how to design, simulate, and deploy sophisticated control systems using the powerful combination of Simulink and Arduino. Ideal for engineers, hobbyists, and students, this book bridges the gap between software and hardware, empowering you to build reliable, real-time embedded systems for a wide range of applications.

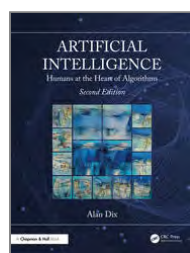
River Publishers
May 2025 : 128pp
Pb: 978-8-743-80081-1 : \$75
eBook: 978-8-743-80082-8

* For full contents and more information, visit: www.routledge.com/9788743800811

2ND EDITION

Artificial Intelligence

Humans at the Heart of Algorithms



Alan Dix Swansea University, Fabian Way, Swansea, Wales

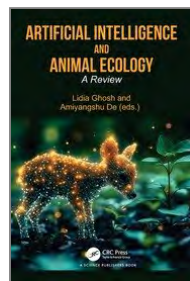
It expands the book's focus on human-centred AI, covering bias (gender, ethnic), the need for transparency, augmentation vs replacement, IUI, and designing interactions to aid ML. With detailed, well-illustrated examples and exercises throughout, this book provides a substantial and robust introduction to artificial intelligence in a clear and concise coursebook form.

Chapman & Hall
June 2025 : 428pp
Pb: 978-0-367-51598-0 : \$66.99
Hb: 978-0-367-53687-9 : \$170

* For full contents and more information, visit: www.routledge.com/9780367515980

Artificial Intelligence and Animal Ecology

A Review



Edited by **Lidia Ghosh**, **Amiyangshu De**

The volume explores AI's transformative role in addressing ecological challenges and enhancing our understanding of the natural world. It highlights how species' ecological behavior have enriched AI's adaptive capabilities, aiding in the analysis of habitat, navigation, and communication. The book emphasizes a symbiotic relationship between AI and species, showcasing innovative solutions to ecological problems while promoting an ethical and conservation-focused approach to preserving the natural environment.

CRC Press
July 2025 : 274pp
Hb: 978-1-032-78234-8 : \$160

* For full contents and more information, visit: www.routledge.com/9781032782348

Artificial Intelligence and Bioethics

Perspectives



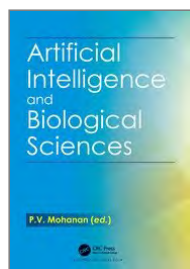
Edited by **Luiz Vianna Sobrinho**, **Leandro Modolo** The State University of Campinas, Brazil, **Máira Araújo de Santana** Uni of Pernambuco, Brazil, **Giselle Machado Magalhães Moreno**, **Fabiano Tonaco Borges**, **Wellington Pinheiro dos Santos** Universidade Federal de Pernambuco, Brazil

This book explores the ethical challenges of the fourth industrial revolution—mass unemployment, new colonialism, and pervasive surveillance—while acknowledging its benefits to productivity and quality of life. It unfolds bioethical perspectives on AI's impact, critically integrating both northern and southern epistemologies. Covering topics from aging to surveillance, it offers universal bioethical guidelines for professionals concerned about AI's impact, aiming to promote ethical, explainable AI that benefits life on earth.

CRC Press
May 2025 : 188pp
Hb: 978-1-032-65737-0 : \$160
eBook: 978-1-032-69477-1

* For full contents and more information, visit: www.routledge.com/9781032657370

Artificial Intelligence and Biological Sciences



Edited by **P.V. Mohanan** Sree Chitra Tirunal Ins for Med Sci and Tech, India

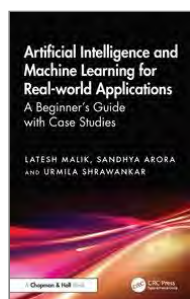
Advancements in AI have revolutionized medical, biological, and agricultural sciences, enabling faster disease detection, personalized precision medicine, and predictive epidemiology with minimal errors. AI optimizes agriculture through tailored fertilizer use, water management, and yield prediction. This book explores AI applications in the medical sciences, biotechnology, pharmacovigilance, digital pathology, and bioinformatics. Featuring expert contributions, it addresses ethical considerations and societal impacts, serving as a valuable resource for researchers, students, pharma companies, and policymakers in advancing sustainable innovations.

CRC Press
June 2025 : 468pp
Hb: 978-1-032-78120-4 : \$170
eBook: 978-1-003-49272-6

* For full contents and more information, visit: www.routledge.com/9781032781204

Artificial Intelligence and Machine Learning for Real-World Applications

A Beginner's Guide with Case Studies



Latesh Malik GCE Nagpur, **Sandhya Arora** CCEW Pune, **Urmila Shrawankar** RTM Univ.

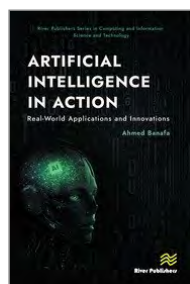
This book introduces foundational and advanced concepts in artificial intelligence and machine learning, focusing on their real-world applications and societal implications. Covering topics from knowledge representation and model interpretability to deep learning and Generative AI, it includes practical Python implementations and case studies from healthcare, agriculture, and education. Beginning with core concepts such as AI fundamentals, knowledge representation, and statistical techniques, it gradually advances to cover machine learning algorithms, deep learning architectures, and the basics of Generative AI.

Chapman & Hall
October 2025 : 256pp
Pb: 978-1-032-87345-9 : \$115
Hb: 978-1-032-87346-6 : \$84.99

* For full contents and more information, visit: www.routledge.com/9781032873459

Artificial Intelligence in Action

Real-World Applications and Innovations



Ahmed Banafa

Series: *River Publishers Series in Computing and Information Science and Technology*

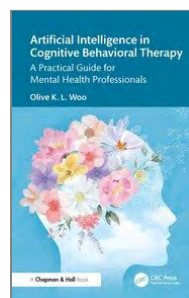
This comprehensive book dives deep into the current landscape of AI, exploring its fundamental principles, development challenges, potential risks, and the cutting-edge breakthroughs that are propelling it forward. Artificial intelligence (AI) is rapidly transforming industries and societies worldwide through groundbreaking innovations and real-world applications. Starting with the core concepts, the book examines the various types of AI systems, generative AI models, and the complexities of machine learning.

River Publishers
June 2025 : 362pp
Hb: 978-8-770-04620-6 : \$140

* For full contents and more information, visit: www.routledge.com/9788770046206

Artificial Intelligence in Cognitive Behavioral Therapy

A Practical Guide for Mental Health Professionals



Olive K. L. Woo Private practice, Hong Kong

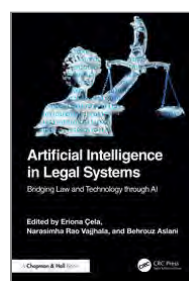
Bridges the gap between artificial intelligence (AI) and cognitive behavioral therapy (CBT). Designed for mental health professionals.

Chapman & Hall
November 2025 : 272pp
Pb: 978-1-032-87151-6 : \$66.99
Hb: 978-1-032-87154-7 : \$180

* For full contents and more information, visit: www.routledge.com/9781032871516

Artificial Intelligence in Legal Systems

Bridging Law and Technology through AI



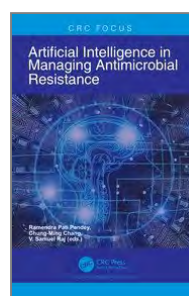
Edited by **Eriona Çela**, **Narasimha Rao Vajjhala**, **Behrouz Aslani**

This book presents a comprehensive analysis of the transformative impact of artificial intelligence (AI) across legal frameworks within the European Union and beyond. It addresses the pressing issue of data protection in the context of Generative Pre-trained Transformer (GPT) technology, emphasizing the EU's commitment to individual privacy rights. The book also evaluates AI's role in public governance and examines the potential of blockchain technology in enhancing legal processes. It is a key resource for postgraduate students, researchers, and professionals in legal fields seeking to better understand the benefits and risks of incorporating AI into legal practices.

Chapman & Hall
September 2025 : 224pp
Pb: 978-1-032-89239-9 : \$64.99
Hb: 978-1-032-89241-2 : \$160

* For full contents and more information, visit: www.routledge.com/9781032892399

Artificial Intelligence in Managing Antimicrobial Resistance



Edited by **Ramendra Pati Pandey** SRM University, India
As of October 2024: School of Health Sciences and Technology UPES, Bidholi Campus Dehradun - 248007, Uttarakhand, India, **Chung-Ming Chang** Department of Medical Biotechnology and Laboratory Science, Chang Gung University No.259, Wenhua 1st Rd., Guishan Dist. Taoyuan City 33302, Taiwan (R.O.C.), **V. Samuel Raj** Director, Centre for Drug Design Discovery & Development (C4D) Dean Academic Affairs, SRM University, Delhi NCR Sonapat - 131 029, Haryana, India

This volume reviews the use of machine learning (ML) to predict antibiotic resistance in pathogens based on gene content and genome composition as data sets comprising hundreds or thousands of pathogen genomes become available. One of the main goals of this work is to promote the use of ML in front-line contexts while simultaneously emphasizing the additional improvements that are required to use these techniques in a secure and confident manner. Given the variety of quantitative and qualitative laboratory indicators of AMR, the issue of what to anticipate is not an easy one.

CRC Press
May 2025 : 170pp
Hb: 978-1-032-81245-8 : \$170
eBook: 978-1-003-50301-9

* For full contents and more information, visit: www.routledge.com/9781032812458

Artificial Intelligence Paradigms for Application Practice



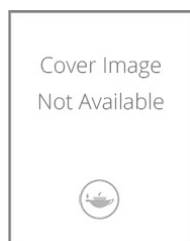
Shiguo Lian , Zhaoxiang Liu

This book proposes practical application paradigms for deep neural networks, aiming to establish best practices for their real-world implementation. The book will benefit researchers, engineers, undergraduate and graduate students interested in artificial intelligence, deep neural networks, large models, stable diffusion models, video surveillance, smart city, intelligent manufacturing, intelligent transportation, and other related areas.

CRC Press
August 2025 : 220pp
Hb: 978-1-041-08226-2 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781041082262

Artificial Intelligence, Machine Learning and IoT for Smart Business Management



Edited by **Garima Jain , Ankush Jain** NSUT, India, **Veena Grover** Noida Institute of Engineering & Technology, India, **Balamurugan Balusamy** Shiv Nadar Uni., **Praveen Tomar**

Series: Artificial Intelligence, Machine Learning, Data Analytics and Automation for Business Management

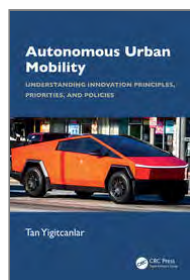
This book investigates the transformative impact of AI, ML, Data Analytics, and IoT on modern business, emphasising their roles in strategic growth, operational efficiency, and data-driven decision-making. Through real-world case studies, strategic frameworks, and ethical considerations, it offers actionable insights for integrating these technologies. Covering emerging trends and responsible adoption, this book is an essential resource for professionals navigating digital transformation and achieving sustainable success.

Chapman & Hall
September 2025 : 264pp
Hb: 978-1-032-91200-4 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032912004

Autonomous Urban Mobility

Understanding Innovation Principles, Priorities, Policies



Tan Yigitcanlar Queensland University of Technology

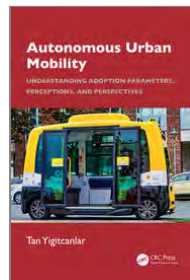
This book provides a comprehensive exploration of the rapidly evolving field of autonomous urban mobility, examining its transformative potential and the principles guiding its innovation. This essential resource offers deep insights into the societal, policy, and urban impacts of autonomous vehicles, drawing on an extensive body of research. This volume, alongside its companion, *Autonomous Urban Mobility: Understanding Adoption Parameters, Perceptions, Perspectives*, offers a holistic view of Autonomous Urban Mobility.

CRC Press
August 2025 : 406pp
Pb: 978-1-032-99699-8 : **\$69.99**
Hb: 978-1-032-99700-1 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032996998

Autonomous Urban Mobility

Understanding Adoption Parameters, Perceptions, Perspectives



Tan Yigitcanlar Queensland University of Technology

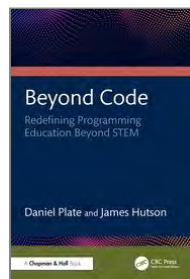
This book delves into the complex landscape of autonomous urban mobility, analysing the factors that influence public adoption, stakeholder perspectives, and societal perceptions in this rapidly evolving field. Aimed at scholars, policymakers, urban planners, and industry professionals, the book offers a thorough exploration of the key elements driving the integration of autonomous vehicles in urban settings. This volume, alongside its companion, *Autonomous Urban Mobility: Understanding Innovation Principles, Priorities, Policies*, offers a holistic view of Autonomous Urban Mobility.

CRC Press
August 2025 : 312pp
Pb: 978-1-032-99721-6 : **\$66.99**
Hb: 978-1-032-99724-7 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032997216

Beyond Code

Redefining Programming Education Beyond STEM



Daniel Plate , James Hutson

AI-powered coding tools are revolutionizing software development, transforming programming from a specialized skill into an accessible educational practice across disciplines. This book investigates how tools such as Cursor AI, GitHub Copilot, and Replit's Ghostwriter are dismantling traditional barriers to entry for learners—particularly those from non-STEM backgrounds—by enabling natural language code generation, intelligent debugging, and interactive, project-based learning. Bridging the gap between theoretical instruction and practical application, the book serves as both a guide and a critical framework for integrating generative AI into curricula.

Chapman & Hall
September 2025 : 280pp
Pb: 978-1-041-06896-9 : **\$66.99**
Hb: 978-1-041-06900-3 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781041068969

BiteSize Python for Absolute Beginners

With Practice Labs, Real-World Examples, and Generative AI Assistance



Di Wu

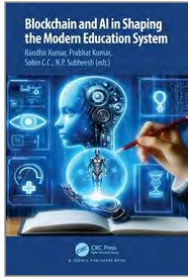
Series: Chapman & Hall/CRC The Python Series

As an introduction to Python, this book allows readers to take a slow and steady approach to understanding Python code, explaining concepts, connecting programming with real-life examples, writing Python programs, and completing case studies. Python programming is broken down into easily digestible lessons of less than 5 minutes each, following the BiteSize approach. It includes coding demonstrations, practice tasks, case studies, and tips to show how you can incorporate generative AI into your learning toolkit. This book is designed for absolute beginners with no prior programming experience. It is ideal for individuals with busy schedules or limited time for studying.

Chapman & Hall
July 2025 : 240pp
Pb: 978-1-032-86485-3 : **\$66.99**
Hb: 978-1-032-86488-4 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032864853

Blockchain and AI in Shaping the Modern Education System



Edited by **Randhir Kumar** SRM University, India, **Prabhat Kumar**, **Sobin C.C.** SRM University, India, **N.P. Subheesh** Indian Institute Of Technology Madras, India

The current centralized education system is highly restrictive and riddled with various challenges such as single point of failure, data privacy, security, transparency, adaptive learning etc. To address this, a newer/modern educational system provides fast and efficient data analytics is imperative for the modern education system. The integration of Blockchain and AI into the education system has enhanced its global accessibility, credential verification and recognition, data security, and privacy of the identity.

CRC Press
May 2025 : 284pp
Hb: 978-1-032-80170-4 : **\$180**
eBook: 978-1-003-50273-9

* For full contents and more information, visit: www.routledge.com/9781032801704

Blockchain and IoT

Foundations, Applications and Case Studies



Edited by **R. Anandan**, **D. Akila** Saveetha College of Liberal Arts and Sciences, SIMATS, India, **Souvik Pal** Sister Nivedita Uni, Kolkata

Series: *Chapman & Hall/CRC Internet of Things*

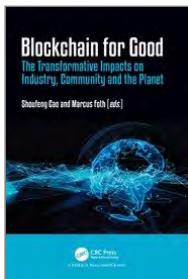
This book offers a detailed exploration of the transformative potential of the Internet of Things (IoT) and Blockchain in reshaping industries. Through a combination of theoretical foundations, practical case studies, and innovative applications, it highlights how these cutting-edge technologies can revolutionise business models, enhance operational efficiency, and foster innovation. This is a helpful guide for scholars, researchers, and professionals engaged in research on the Internet of Things, Artificial Intelligence, Machine Learning, Blockchain, and their applications at the industry level.

Chapman & Hall
June 2025 : 194pp
Hb: 978-1-032-54626-1 : **\$200**

* For full contents and more information, visit: www.routledge.com/9781032546261

Blockchain for Good

The Transformative Impacts on Industry, Community and the Planet



Edited by **Shoufeng Cao** The University of Queensland, Australia, **Marcus Foth**

Blockchain for Good: The Transformative Impacts on Industry, Community, and the Planet explores how blockchain technology can drive ethical, social, and environmental advancements. Through real-world case studies and interdisciplinary insights, this book showcases blockchain's potential beyond cryptocurrencies, highlighting its applications in sustainable business, social equity, and environmental sustainability. Ideal for professionals, researchers, and policymakers, this volume illustrates the various facets of how blockchain can foster transparency, inclusivity, and positive change in a digital world.

CRC Press
May 2025 : 256pp
Hb: 978-1-032-59806-2 : **\$150**
eBook: 978-1-003-45634-6

* For full contents and more information, visit: www.routledge.com/9781032598062

CHART

Designing Creative Data Visualizations from Charts to Art



Nadieh Bremer

Series: *AK Peters Visualization Series*

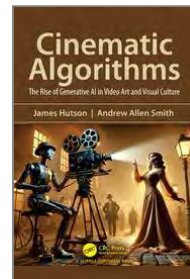
CHART is a guide to unleashing creativity in data visualization. It takes you on a journey along the spectrum from an ordinary chart to data art, packed with ways to bring more creativity into any visualization. It will help to make your visuals more compelling and memorable, long after the numbers have been crunched. The author shares thirteen hands-on, tool-agnostic lessons, each filled with actionable insights and unique perspectives. Between these core lessons, you'll find tips, mini-chapters, and dozens of real-world examples from both client and personal projects. Designed for journalists, data analysts, business professionals, and newcomers alike.

A K Peters/CRC Press
June 2025 : 284pp
Hb: 978-1-032-79775-5 : **\$48.99**
eBook: 978-1-003-49780-6

* For full contents and more information, visit: www.routledge.com/9781032797755

Cinematic Algorithms

The Rise of Generative AI in Video Art and Visual Culture



James Hutson, **Andrew Smith** Lindenwood University, USA

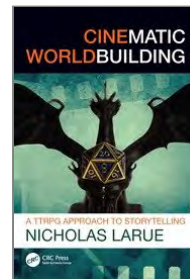
This book explores the groundbreaking integration of generative artificial intelligence into filmmaking and visual storytelling. From democratizing video production to reshaping aesthetics, this book highlights the creative revolution AI offers. Through case studies, interviews with innovative artists, and historical perspectives, it examines how intelligent systems enhance creativity while challenging traditional notions of authorship and originality.

CRC Press
June 2025 : 226pp
Hb: 978-1-032-98777-4 : **\$160**
eBook: 978-1-003-60112-8

* For full contents and more information, visit: www.routledge.com/9781032987774

Cinematic Worldbuilding

A TTRPG Approach to Storytelling



Nicholas LaRue

Everybody has a story in them. Some people lack the language and the tools to tell that story effectively. As an avid Tabletop Role-Playing Game player, I'm amazed at people's ability to tell stories on the spot. Both the players and the game master are creating worlds in their minds and playing out the events, using improv, in real-time. This book will contain insights and interviews from some of today's most respected game masters, players, actual play actors, and we'll also hear from some of the people behind the scenes responsible for creating these games, and how they view worldbuilding and storytelling for their audiences.

CRC Press
July 2025 : 296pp
Pb: 978-1-032-88515-5 : **\$64.99**
Hb: 978-1-032-88516-2 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032885155

Cities in the Metaverse

Digital Twins, Society, Avatars and Economics on the New Frontier



Andrew Hudson-Smith , Valerio Signorelli , Duncan Wilson

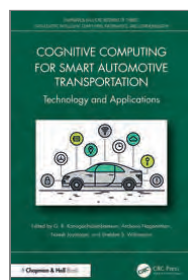
This book offers a comprehensive exploration of the intersection between urban environments and digital realms. The book addresses the challenges, potential pitfalls and ethical considerations in creating and inhabiting digital cities. At the same time, it takes a step back and examines already abandoned digital worlds, offering lessons from past attempts at creating virtual spaces. Essential reading for urban planners, geographers, economists, technologists, policymakers, and anyone interested in the future of cities and digital interaction, *Cities in the Metaverse* provides a balanced, informed perspective on this rapidly evolving field.

Chapman & Hall
October 2025 : 152pp
Pb: 978-1-032-57669-5 : **\$64.99**
Hb: 978-1-032-57670-1 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032576695

Cognitive Computing for Smart Automotive Transportation

Technology and Applications



Edited by G. R. Kanagachidambaresan , Archana Naganathan , Nireesh Jayarajan , Sheldon S. Williamson

Series: Chapman & Hall/CRC Internet of Things

The reference book explores the integration of cognitive computing technologies in the automotive industry to enhance smart transportation systems. It focuses on how AI, machine learning, and data analytics can improve vehicle automation, safety, and efficiency. Automation can support driverless vehicle transportation and bridge the gap between manual control and fully automated navigation systems. The text introduces a discussion on numerous applications of cognitive computing in smart transportation, motion planning, situation awareness, dynamic driving, adaptive behavior, human intent measurement, and predictive analysis.

Chapman & Hall
June 2025 : 180pp
Hb: 978-1-032-48740-3 : **\$160**
eBook: 978-1-003-39233-0

* For full contents and more information, visit: www.routledge.com/9781032487403

Cloud Computing Security

Strategies and Best Practices



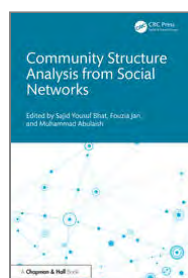
Neha Agrawal , Rohit Kumar , Shashikala Tapaswi

The book provides a fundamental exploration of cloud security, addressing the growing risks associated with modern cloud environments. It combines foundational theory with hands-on applications, equipping readers with the knowledge and tools needed to secure cloud platforms. Topics include cloud attack vectors, defence mechanisms, implementation challenges, and real-world case studies of major cloud service providers. Practical exercises and end-of-chapter questions reinforce key concepts, making this an essential resource.

Chapman & Hall
October 2025 : 488pp
Pb: 978-1-032-84009-3 : **\$94.99**
Hb: 978-1-032-83415-3 : **\$120**

* For full contents and more information, visit: www.routledge.com/9781032840093

Community Structure Analysis from Social Networks



Edited by Sajid Yousuf Bhat , Fouzia Jan NIT Srinagar, India, **Muhammad Abulaish** South Asian University, India

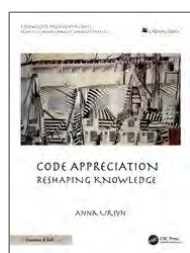
This book addresses social and complex network analysis challenges, exploring social network structures, dynamic networks, and hierarchical communities. Emphasising network structure heterogeneity, including directionality and dynamics, it covers community structure concepts like distinctness, overlap and hierarchy. The book aims to present challenges and innovative solutions in community structure detection, incorporating diversity into problem-solving. Furthermore, it explores the applications of identified community structures within network analysis, offering insights into social network dynamics.

Chapman & Hall
August 2025 : 256pp
Hb: 978-1-032-84748-1 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032847481

Code Appreciation

Reshaping Knowledge



Anna Ursyn

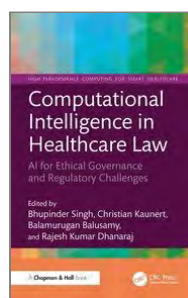
The book offers a new approach to storytelling by weaving coding into stories. Playfully, it encourages the readers to see computing as easier to understand and present in most disciplines. The book might benefit people from middle school, high school, college, and university students and faculty, advisors, chancellors, and those seeking majors or passions.

Chapman & Hall
September 2025 : 324pp
Pb: 978-1-032-97057-8 : **\$64.99**
Hb: 978-1-032-97254-1 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032970578

Computational Intelligence in Healthcare Law

AI for Ethical Governance and Regulatory Challenges



Edited by Bhupinder Singh , Christian Kaunert University of South Wales, UK, **Balamurugan Balusamy** Shiv Nadar Uni., **Rajesh Kumar Dhanaraj** Gargotias Uni.

Series: High-Performance Computing for Smart Healthcare

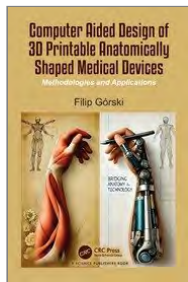
This book explores the intersection of legal frameworks, healthcare innovation, and computational intelligence, shedding light on how emerging technologies like AI and ML are reshaping the medical landscape. It presents real life challenges such as patient privacy, data security, and compliance issues in smart healthcare by engaging into associated ethical and regulatory implications. Comprising the concepts of predictive analytics, regulatory compliance algorithms, and legal decision-making processes, this book offers a roadmap for stakeholders to navigate the evolving landscape of healthcare innovation responsibly and ethically.

Chapman & Hall
June 2025 : 184pp
Hb: 978-1-032-88566-7 : **\$200**
eBook: 978-1-003-53846-2

* For full contents and more information, visit: www.routledge.com/9781032885667

Computer Aided Design of 3D Printable Anatomically Shaped Medical Devices

Methodologies and Applications



Filip Gorski Poznan University of Technology, Poland

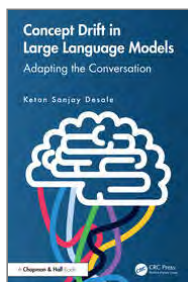
"Computer Aided Design of 3D Printable Anatomically Shaped Medical Devices: Methodologies and Applications" presents a comprehensive framework for designing 3D printable medical devices tailored to individual anatomies. Bridging engineering and medicine, the book guides readers through advanced CAD techniques, anatomical data acquisition (via 3D scanning and imaging), and additive manufacturing processes, presenting mostly results of author's own and co-authored research.

CRC Press
May 2025 : 368pp
Hb: 978-1-032-47920-0 : \$160
eBook: 978-1-003-38654-4

* For full contents and more information, visit: www.routledge.com/9781032479200

Concept Drift in Large Language Models

Adapting the Conversation



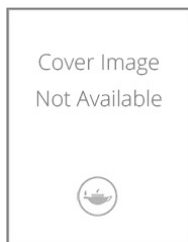
Ketan Sanjay Desale

This book explores the application of the complex relationship between concept drift and cutting-edge large language models to address the problems and opportunities in navigating changing data landscapes. It discusses the theoretical basis of concept drift and its consequences for large language models, particularly the transformative power of cutting-edge models such as GPT-3.5 and GPT-4. The book is designed for professionals, AI practitioners, and scholars, focused on natural language processing, machine learning, and artificial intelligence.

Chapman & Hall
May 2025 : 104pp
Hb: 978-1-032-97807-9 : \$105
eBook: 978-1-003-59553-3

* For full contents and more information, visit: www.routledge.com/9781032978079

Constraints and Advanced Solutions for LTE-Advanced Heterogeneous Networks



Rami Ahmad , Elankovan A. Sundararajan , Mohammad Kamrul Hasan

The book presents advanced techniques for enhancing mobility management across evolving wireless systems, including 5G and beyond. It introduces innovative handover decision algorithms that leverage user movement patterns, historical data, and multi-criteria optimisation to improve the reliability and efficiency of both horizontal and vertical handovers. Focusing on dense femtocell-macrocell environments, the book proposes refined handover parameters and distance-based vertical handover methods for small-cell transitions.

Chapman & Hall
October 2025 : 168pp
Hb: 978-1-041-08669-7 : \$150

* For full contents and more information, visit: www.routledge.com/9781041086697

Create Stunning Animations Using Corona and V-Ray in 3ds Max

Guiding the Next Generation of 3D Renderers



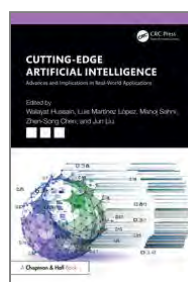
Margarita Nikita

The book is a step-by-step guide on how to create realistic animations using Corona and V-Ray within 3ds Max. It caters to beginners and intermediate users, helping them transform static renders into dynamic and captivating animations. The book combines technical knowledge with practical examples, covering everything from basic principles to advanced techniques.

CRC Press
September 2025 : 176pp
Pb: 978-1-041-09667-2 : \$66.99
Hb: 978-1-041-09670-2 : \$150

* For full contents and more information, visit: www.routledge.com/9781041096672

Cutting-Edge Artificial Intelligence Advances and Implications in Real-World Applications



Walayat Hussain Australian Catholic University, **Luis Martinez López** Las Lagunillas, **Manoj Sahni** Pandit Deendayal Petrol. Uni, India, **Zhen-Song Chen** Wuhan University, **Jun Liu** Ulster University

Artificial Intelligence (AI) is impacting industries worldwide by introducing new methods and altering traditional practices. This book examines AI's diverse effects, providing insights into its applications, challenges, and future prospects across education, healthcare, finance, and more. This comprehensive guide is valuable for educators, researchers, practitioners, and students interested in AI's current and future developments. By combining theory with practical examples, the book offers readers a clear understanding of how AI affects various sectors, enabling them to engage effectively with this rapidly evolving field.

Chapman & Hall
June 2025 : 200pp
Pb: 978-1-032-63246-9 : \$64.99
Hb: 978-1-032-63247-6 : \$84.99
eBook: 978-1-032-63248-3

* For full contents and more information, visit: www.routledge.com/9781032632469

Cyber Security in Business Analytics



Edited by **Gururaj H L** Manipal Institute of Technology, India, **B Ramesh , Chandrika J , Hong Lin** University of Houston- Downtown, Houston, TX

Series: Artificial Intelligence, Machine Learning, Data Analytics and Automation for Business Management

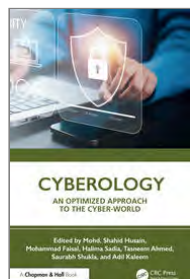
This book explores addressing the growing need for insights and practical experiences in this evolving field of cybersecurity for business analytics. Divided into sections covering cybersecurity basics, AI methods for threat detection, and practical applications in e-commerce and e-banking, it provides valuable insights into securing business data and improving decision-making processes. It covers topics such as data privacy, threat detection, risk assessment, and ethical considerations, catering to both technical and managerial audiences.

Chapman & Hall
October 2025 : 240pp
Hb: 978-1-032-85941-5 : \$180

* For full contents and more information, visit: www.routledge.com/9781032859415

Cyberology

An Optimized Approach to the Cyber-World



Edited by **Mohd. Shahid Husain** University of Technology & Applied Sciences, Oman, **Mohammad Faisal** Integral University, India, **Halima Sadia** Integral University, India, **Tasneem Ahmed** Integral University, India, **Saurabh Shukla**, **Adil Kaleem**

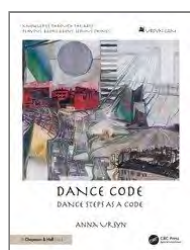
This book provides an insightful examination of cybersecurity threats and their implications across various sectors, including healthcare, agriculture, and government. It covers fundamental concepts in cyber security, including cybercrime laws, cyberbullying, and emerging technologies. It discusses challenges in detecting and preventing cyber threats and analyzes trends in cyber warfare and resilience. This book serves as a resource for understanding the complex relationship between technology and society, equipping readers with the knowledge needed to navigate the evolving cyber landscape. It is for scholars, students and professionals interested in cyber security.

Chapman & Hall
May 2025 : 380pp
Hb: 978-1-032-52668-3 : \$200
eBook: 978-1-003-40957-1

* For full contents and more information, visit: www.routledge.com/9781032526683

Dance Code

Dance Steps As A Code



Anna Ursyn

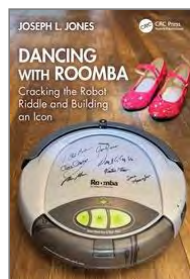
Mixes experiences in art, coding, music, dance, choreography, video, and stage design. Many people relax when coding is introduced as a language, rather than math.

Chapman & Hall
June 2025 : 316pp
Pb: 978-1-032-97162-9 : \$64.99
Hb: 978-1-032-97256-5 : \$180

* For full contents and more information, visit: www.routledge.com/9781032971629

Dancing with Roomba

Cracking the Robot Riddle and Building an Icon



Joseph L. Jones

Dancing with Roomba tells the unexpected story of the world's favorite robot. Selling nearly 50 million units since its launch, Roomba's unlikely success sprang from a breakthrough at an MIT robotics lab, an inventor who persevered through years of setbacks, and an inspired team that worked as one to smash every problem. This book provides a rare view behind the scenes, revealing how a revolutionary product came to be, how it works, and how a tiny company was able to best a crowd of corporate giants. Written in an easy, narrative style, Dancing with Roomba is accessible to all.

CRC Press
October 2025 : 256pp
Pb: 978-1-032-89061-6 : \$34.99
Hb: 978-1-032-88952-8 : \$89.99

* For full contents and more information, visit: www.routledge.com/9781032890616

Data Analytics using Machine Learning Techniques on Cloud Platforms



Seema Rawat Amity University Tashkent, Uzbekistan, **Neelu Jyothi Ahuja** University of Petroleum and Energy Studies, India, **Avita Katal** UPES, **Praveen Kumar** Amity University Tashkent Uzbekistan, **Shabana Urooj** Princess Nourah bint Abdulrahman University, Riyadh

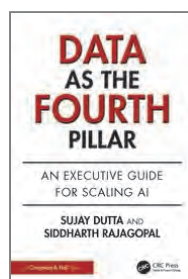
Data Analytics using Machine Learning Techniques on Cloud Platforms examines how machine learning and cloud computing combine to drive data-driven decision-making across industries. Covering ML techniques, cloud-based analytics tools, and security concerns, this book provides theoretical foundations and real-world applications in fields like healthcare, logistics, and e-commerce. It also addresses security challenges, privacy concerns, and compliance frameworks, ensuring a comprehensive understanding of cloud-based analytics.

Chapman & Hall
September 2025 : 200pp
Hb: 978-1-032-49146-2 : \$160

* For full contents and more information, visit: www.routledge.com/9781032491462

Data as the Fourth Pillar

An Executive Guide for Scaling AI



Sujay Dutta, **Siddharth Rajagopal**

Data as the Fourth Pillar reasons that data should be considered the Fourth Pillar of every enterprise, alongside people, processes, and technology. Aimed at Boards, CEOs, and CxOs, it provides a compelling case for why and how they should treat data as a strategic asset. It presents a comprehensive, success-by-design approach for enterprises, guiding them through a Maturity Framework to accelerate their data-centric journey. An essential resource for business executives in both SMBs and large enterprises, helping them navigate a highly complex and hyper-competitive business landscape while accelerating business value for their stakeholder communities.

Chapman & Hall
August 2025 : 224pp
Pb: 978-1-032-83599-0 : \$66.99
Hb: 978-1-032-84460-2 : \$160

* For full contents and more information, visit: www.routledge.com/9781032835990

Data Driven Applications for Emerging Technologies



Edited by **Nazmul Siddique** University of Ulster, Magee, UK, **Mohammad Shamsul Arefin**, **Ahmed Wasif Reza**, **S. M. Aminul Haque**

This book explores the practical use of data science in AI, healthcare, sustainability, and security. It covers key topics like predictive modelling, deep learning, and natural language processing, offering a mix of theory and hands-on applications. Designed for researchers, professionals, and students, this book provides a solid foundation in data-driven methods without being overly technical. Whether you're looking to enhance your understanding of AI and machine learning or apply data science in real-world scenarios, it serves as a useful and practical resource.

CRC Press
October 2025 : 296pp
Hb: 978-1-032-99693-6 : \$150

* For full contents and more information, visit: www.routledge.com/9781032996936

Data Driven Applications for Industry 4.0 and Beyond

Cover Image
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Edited by **Nazmul Siddique** University of Ulster, Magee, UK, **M Shamim Kaiser** Institute of Information Technology, Jahangirnagar University, Bangladesh, **KM Azharul Hasan**, **Mohammad Shamsul Arefin**

The increasing reliance on automation and data-driven decision-making is transforming industries. This book explores how data-driven approaches are being applied in various fields to solve real-world challenges. With contributions from researchers and professional, it discusses practical applications of modern computational techniques. The book also emphasizes the importance of responsible and interpretable technology to ensure fairness and transparency. This book is a valuable resource for students, researchers, and professionals looking to understand the evolving role of data in industry.

Chapman & Hall
October 2025 : 312pp
Hb: 978-1-032-64336-6 : \$150

* For full contents and more information, visit: www.routledge.com/9781032643366

2ND EDITION

Data Science and Analytics with Python



Jesus Rogel-Salazar Imperial College London, UK

Series: *Chapman & Hall/CRC Data Mining and Knowledge Discovery Series*

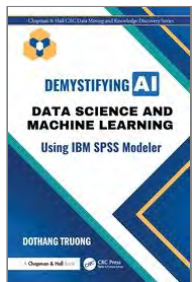
Since the first edition, we have witnessed an unprecedented explosion in the interest and development within the fields of Artificial Intelligence and Machine Learning. This surge has led to the widespread adoption of the book, not just among business practitioners, but also by universities as a key textbook. Designed as a practical companion for data analysts and budding data scientists, this book assumes a working knowledge of programming and statistical modelling but aims to guide readers deeper into the wonders of data analytics and machine learning. Whether revisiting fundamental concepts or diving into new, advanced topics, this book offers something valuable for every reader.

Chapman & Hall
June 2025 : 514pp
Pb: 978-1-032-77249-3 : \$64.99
Hb: 978-1-032-77252-3 : \$170
eBook: 978-1-003-48206-2

* For full contents and more information, visit: www.routledge.com/9781032772493

Data Science and Machine Learning for Non-Programmers

Using SPSS Modeler



Dothang Truong

Series: *Chapman & Hall/CRC Data Mining and Knowledge Discovery Series*

In this book, readers are guided through practical implementations using real datasets and SPSS Modeler, a user-friendly data mining tool. The approach remains consistent with a focus on application, providing step-by-step instructions for all stages of the data mining process using two large datasets, ensuring continuity and reinforcing concepts in a cohesive project framework. This book is a companion for beginners and experienced practitioners alike. It targets a broad audience, including students, lecturers, researchers, and industry professionals. It offers flexibility in learning pathways and deepens understanding of data science using easy-to-follow, software-based approaches.

Chapman & Hall
November 2025 : 600pp
Hb: 978-1-032-74000-3 : \$120

* For full contents and more information, visit: www.routledge.com/9781032740003

Data-Driven Decision Support System in Intelligent HealthCare



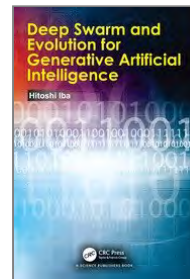
Debnath Bhattacharyya KL University, KLEF, India, **Yu-Chen Hu**

Generative AI is one of the most trending topics and application in every field of Science and Engineering with AI and Machine Intelligence. It is used to develop new products and automate the system by generating the new and improved models and improve decision making systems. Machine Intelligence and Generative AI collaboratively are using in healthcare decision making, drug discovery, personalized care, synthetic data generation, automations, and many more. Mathematical models like Adversarial Networks, and Variational Autoencoders are deployed to produce images, for data augmentation, improving disease diagnosis, and advanced medical imaging research area.

CRC Press
August 2025 : 272pp
Hb: 978-1-032-80627-3 : \$140

* For full contents and more information, visit: www.routledge.com/9781032806273

Deep Swarm and Evolution for Generative Artificial Intelligence



Hitoshi Iba University of Tokyo, Japan

The book provides theoretical and practical knowledge about swarm and evolutionary approach, i.e., deep swarm and deep evolution, to generative AI and LLMs (Large Language Models). It also discusses the cognitive differences and similarities between humans and LLMs. In addition, this book illustratively describes the intelligent behaviour of living organisms to clarify how to achieve AI in the direction of artificial life, e.g., LLMs as meta-heuristics and vice versa.

CRC Press
July 2025 : 266pp
Hb: 978-1-032-81577-0 : \$170

* For full contents and more information, visit: www.routledge.com/9781032815770

3RD EDITION

Designing Sound for Animation



Cover Image
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Robin Beauchamp

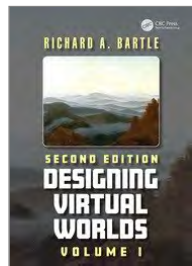
Sound is just as crucial an aspect to your animation as your visuals. Whether you're looking to create a score, ambient noise, dialog, or a complete soundtrack, you'll need sound for your piece. This nuts-and-bolts guide to sound design for animation will explain the theory and workings behind sound for image and provide an overview of the systems and production path to help you create your soundtrack. Follow the sound design process along with animated shorts and learn how to use the tools and techniques of the trade. Enhance your piece and learn how to design sound for animation.

CRC Press
September 2025 : 344pp
Pb: 978-1-032-74518-3 : \$66.99
Hb: 978-1-032-74520-6 : \$180

* For full contents and more information, visit: www.routledge.com/9781032745183

Designing Virtual Worlds

Volume I



Richard A. Bartle

Designing Virtual Worlds, authored by a true pioneer, stands as the most comprehensive examination of virtual-world design ever written. This seminal work is a tour de force, remarkable for its intellectual breadth, encompassing the literary, economic, sociological, psychological, physical, technological, and ethical foundations of virtual worlds. No other book on online games or virtual worlds matches the level of detail, historical context, and conceptual depth found in Designing Virtual Worlds.

CRC Press

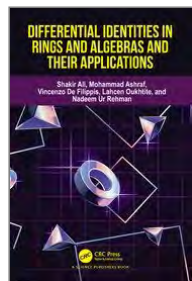
August 2025 : 672pp

Pb: 978-1-032-25832-4 : **\$66.99**

Hb: 978-1-032-25834-8 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032258324

Differential Identities in Rings and Algebras and their Applications



Shakir Ali Aligarh Muslim Uni, India, **Mohammad Ashraf** Aligarh Muslim Uni, India, **Vincenzo De Filippis** Uni of Messina, Italy, **Lahcen Oukhtite** Mohamed Ben Abdellah Uni, **Nadeem Ur Rehman** Aligarh Muslim Uni, India

This monograph summarizes the findings and approaches that have significantly advanced the field in recent decades. In order to make this monograph as self-contained as possible, the first chapter provides a brief introduction to the topic. The following three chapters cover the various kinds of derivations in rings and algebras as well as the interactions between the structure of some classes of rings with involution and the behavior of the underlying derivations, generalized derivations, skew derivations, and b-generalized derivations, as well as their corresponding properties.

CRC Press

May 2025 : 416pp

Hb: 978-1-032-81152-9 : **\$180**

eBook: 978-1-003-50457-3

* For full contents and more information, visit: www.routledge.com/9781032811529

Digital HR

Technologies for HR Transformation and Performance Improvement



Edited by **Deepa Gupta** GL Bajaj Institute of Management, India, **Mukul Gupta** GL BAJAJ INSTITUTE OF MANAGEMENT, Greater Noida, India, **Balamurugan Balusamy** Shiv Nadar Uni, **Rajesh Kumar Dhanaraj** Symbiosis International (Deemed University), **Parth Mukul Gupta** ZARTH CORP TECH PVT. LTD., Greater Noida, India

Series: Artificial Intelligence, Machine Learning, Data Analytics and Automation for Business Management

This book explores the impact of technology on HR practices and how organisations can effectively incorporate these advancements to improve HR processes. It provides a comprehensive overview of the various technologies that are transforming HR, including artificial intelligence, machine learning, big data, and blockchain. The book provides real-world examples, case studies, and best practices that illustrate how organisations are successfully leveraging technology to improve their HRM processes and outcomes.

Chapman & Hall

June 2025 : 228pp

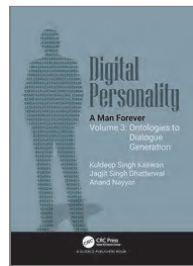
Hb: 978-1-032-61962-0 : **\$125**

eBook: 978-1-032-61965-1

* For full contents and more information, visit: www.routledge.com/9781032619620

Digital Personality: A Man Forever

Volume 3: Ontologies to Dialogue Generation



Kuldeep Singh Kaswan Galgotias Univ, **Jagjit Singh Dhatteerwal** PDM Univ, **Anand Nayyar** Duy Tan University, Vietnam

This book comprehensively explores ontologies, starting with foundational concepts and advancing to complex applications across various fields. It covers essential elements like vocabulary design, inter-task learning transfer, and reinforcement learning. Through techniques in dialogue generation, knowledge representation, and planning, readers learn strategies for building adaptable knowledge frameworks. With a focus on skill adaptation and cross-task knowledge transfer, this book is invaluable for AI and machine learning professionals seeking robust, effective solutions in digital and interactive systems.

CRC Press

May 2025 : 438pp

Hb: 978-1-032-86097-8 : **\$170**

eBook: 978-1-003-53070-1

* For full contents and more information, visit: www.routledge.com/9781032860978

5TH EDITION

Digital Storytelling

A Creator's Guide to Interactive Entertainment, Volume I



Carolyn Handler Miller

Digital Storytelling: A Creator's Guide to Interactive Entertainment 5th edition delves into the fascinating and groundbreaking stories enabled by interactive digital media, examining both fictional and non-fiction narratives. Interviews with industry leaders further enhance the understanding of this evolving universe, making it a valuable resource for both professionals and enthusiasts.

CRC Press

May 2025 : 458pp

Pb: 978-1-032-82322-5 : **\$66.99**

Hb: 978-1-032-85888-3 : **\$180**

eBook: 978-1-003-52009-2

* For full contents and more information, visit: www.routledge.com/9781032823225

Digital Strategy and Governance in Transformative Technologies



Edited by **Arif Perdana**, **S Vijayakumar Bharathi**, **Ridoan Karim**, **Saru Arifin**, **Aashish Srivastava**

Digital Strategy and Governance in Transformative Technologies offers a comprehensive exploration of how emerging technologies are reshaping business operations, governance structures, and societal interactions. This timely volume examines the complex interplay between digital strategies and governance frameworks across AI, blockchain, cryptocurrencies, and the metaverse. It provides crucial insights for navigating the digital frontier. This essential resource serves as a guide for organizations and institutions grappling with digital transformation challenges.

CRC Press

September 2025 : 496pp

Pb: 978-1-032-76268-5 : **\$64.99**

Hb: 978-1-032-76271-5 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032762685

Digital Transformation in Sports



Edited by **Jillian McNiff Villemaire** Flagler College,
Haiyan Huang Flagler College

Series: *Data Analytics Applications*

This book examines the digital transformation of the sports industry. It explores the digital and technological changes that will shape the sports industry for years to come. Topics covered include digital innovation, AI, machine learning, optimization, data privacy and security, organizational behavior, and globalization.

Auerbach Publications
August 2025 : 186pp
Pb: 978-1-032-64240-6 : **\$64.99**
Hb: 978-1-032-64818-7 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781032642406

Digital Twin and Blockchain for Sustainable Healthcare 5.0

Real-Life Applications and Case Studies



Edited by **Monica Gahlawat** L J University, India, **Sudeep Tanwar** Nirma University, Ahmedabad, India

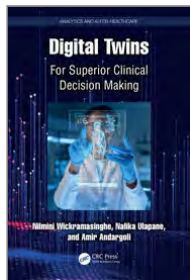
This book investigates blockchain and digital twin technologies to offer insights into their potential applications in the healthcare industry. It explores how these technologies can work together to build a strong and sustainable healthcare ecosystem, improve patient satisfaction, and streamline administrative procedures. Through examples, case studies, it highlights their use in supply chain management, disease prediction, and patient monitoring. It addresses challenges and offers solutions, examining ethical and legal considerations and the integration of patient preferences. The book is aimed at professionals, researchers, and policymakers interested in Healthcare 5.0.

Chapman & Hall
August 2025 : 328pp
Hb: 978-1-032-85443-4 : **\$210**

* For full contents and more information, visit: www.routledge.com/9781032854434

Digital Twins

For Superior Clinical Decision Making



Nilmini Wickramasinghe, **Nalika Ulapane**, **Amir Andargoli**

Series: *Analytics and AI for Healthcare*

This book centres on the topic of digital twins for superior healthcare decision support, as access is enabled to large volumes of multi-dimensional data such as patient's electronic medical records, medical scans, and data. This book is written for the healthcare audience, professionals, physicians, medical administrators, managers, and the IT practitioner. It would also serve as a useful reference for the senior level undergraduate students and graduate students in health informatics and public health.

CRC Press
August 2025 : 138pp
Pb: 978-1-032-78034-4 : **\$64.99**
Hb: 978-1-032-78035-1 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032780344

Digital Twins and Simulation Technology

Concepts and Applications



Edited by **Lavanya Sharma** Amity university, Noida, India.,
Pradeep Kumar Garg IIT Roorkee, India.

This book provides a comprehensive overview of the concept of digital twins, emphasising its strategic importance across various commercial domains. This book covers the fundamentals, data requirements, tools, and technologies essential for understanding and implementing digital twins. It discusses how digital twins are used for running simulations, analysing performance issues, and generating potential improvements to optimise business processes. The book explores the architecture, historical background, and real-time applications in sectors including urban planning, healthcare, smart cities, and manufacturing.

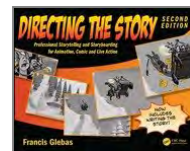
Chapman & Hall
August 2025 : 236pp
Hb: 978-1-032-94939-0 : **\$190**

* For full contents and more information, visit: www.routledge.com/9781032949390

2ND EDITION

Directing the Story

Professional Storytelling and Storyboarding for Animation, Comic and Live Action



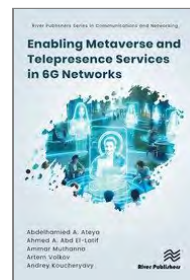
Francis Glebas

This book grew out of desperate need. I was a storyboard artist at Disney and had no idea what I was doing. At Disney I was surrounded by amazing talents. I went into work early and typed up notes on what I was learning. This experience became Directing the Story. I'm currently working on a new theory of story which shows how all the parts of story, character, plot and story work together. I'm including the beginning basics of this theory which allows my students to come up with a story in 7 minutes. Plot takes longer.

CRC Press
October 2025 : 360pp
Pb: 978-1-032-75306-5 : **\$64.99**
Hb: 978-1-032-77373-5 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032753065

Enabling Metaverse and Telepresence Services in 6G Networks



Abdelhamied A. Ateya, **Ahmed A. Abd El-Latif**,
Ammar Muthanna, **Artem Volkov**, **Andrey Koucheryav**

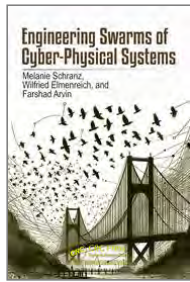
Series: *River Publishers Series in Communications and Networking*

The world is on the cusp of a transformative era, driven by the convergence of 6G networks, the metaverse, and telepresence technologies. This book delves into the heart of these advancements, exploring their potential to revolutionize communication and unlock entirely new avenues for collaboration, learning, and social connection.

River Publishers
May 2025 : 254pp
Hb: 978-8-770-04673-2 : **\$140**
eBook: 978-8-770-04674-9

* For full contents and more information, visit: www.routledge.com/9788770046732

Engineering Swarms of Cyber-Physical Systems



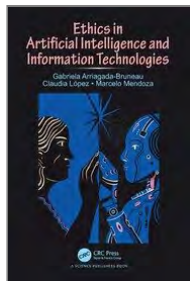
Melanie Schranz Lakeside Labs GmbH, Austria, **Wilfried Elmenreich** University of Klagenfurt, Austria, **Farshad Arvin** The University of Manchester, UK

The development of highly integrated and networked hardware has driven the creation of highly capable but also highly complex cyber-physical systems. One approach to handle this complexity is to apply swarm intelligence, where simple autonomous swarm entities interact locally with each other forming an overall emergent system. This has the potential for a robust, adaptable, and scalable system but also poses challenges for designing such a system. The present book covers the whole design cycle for applying swarm intelligence in cyber-physical systems and guides the user through modeling, design, simulation, and final deployment of swarm systems.

CRC Press
August 2025 : 184pp
Hb: 978-1-032-04715-7 : \$140

* For full contents and more information, visit: www.routledge.com/9781032047157

Ethics in Artificial Intelligence and Information Technologies



Gabriela Arriagada-Bruneau Pontificia Universidad Católica de Chile Departamento 1202 El Vergel, 2271, Providencia, Chile, **Claudia López** Department of Informatics Universidad Técnica Federico Santa María Avenida España 1680 Valparaíso, 1230000 Chile, **Marcelo Mendoza** Department of Computer Science Faculty of Engineering Pontificia Universidad Católica de Chile Vicuña Mackenna Av. 6840, Macul, Santiago, 7820436 Chile

This book explores the ethical and societal challenges of adopting AI technologies, focusing on fairness, accountability, transparency, and the impact on sustainability, and data privacy. Developed through interdisciplinary collaboration, it addresses issues in natural language processing, including debiasing and evaluation methods, and highlights the risks of disinformation with generative models like deep fakes. Aimed at advanced students, researchers, and practitioners, it provides a socio-technical perspective on integrating ethics into AI projects.

CRC Press
July 2025 : 238pp
Hb: 978-1-032-59418-7 : \$160

* For full contents and more information, visit: www.routledge.com/9781032594187

Event-Database Architecture for Computer Games

Two Volume Set



Rodney Quaye

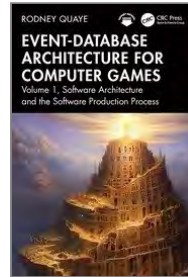
Event-Database Architecture for Computer Games proposes the first explicit software architecture for game development, answering the problem of building modern computer games with little or no game design. It will be of great interest to professional game developers involved in programming roles, such as Tools Programmers, UI Programmers, Gameplay Programmers and Engineers, as well as students studying game development and programming.

CRC Press
July 2025 : 600pp
Pb: 978-1-032-81803-0 : \$115
Hb: 978-1-032-82066-8 : \$425

* For full contents and more information, visit: www.routledge.com/9781032818030

Event-Database Architecture for Computer Games

Volume 1, Software Architecture and the Software Production Process



Rodney Quaye

This book proposes the first explicit software architecture for game development, answering the problem of building modern computer games with little or no game design. An archetypal software production process, based on this architecture, is also introduced. It will be of great interest to professional game developers involved in programming roles, such as Tools Programmers, UI Programmers, Gameplay Programmers and Engineers, as well as students studying game development and programming.

CRC Press
July 2025 : 280pp
Pb: 978-1-032-81806-1 : \$64.99
Hb: 978-1-032-82067-5 : \$170
eBook: 978-1-003-50278-4

* For full contents and more information, visit: www.routledge.com/9781032818061

Event-Database Architecture for Computer Games

Volume 2, Game Design and the Nature of the Beast



Rodney Quaye

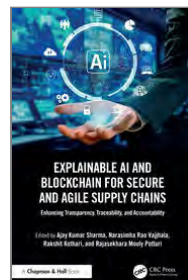
This book proposes the first explicit software architecture for game development, answering the problem of building modern computer games with little or no game design. In this volume, an example of a practical production process based on the software production process is explained, including examples of the game design, technical design, data design and tools design in that process. It will be of great interest to professional game developers involved in programming roles, such as Tools Programmers, UI Programmers, Gameplay Programmers and Engineers, as well as students studying game development and programming.

CRC Press
July 2025 : 354pp
Pb: 978-1-032-81807-8 : \$64.99
Hb: 978-1-032-82069-9 : \$170
eBook: 978-1-003-50280-7

* For full contents and more information, visit: www.routledge.com/9781032818078

Explainable AI and Blockchain for Secure and Agile Supply Chains

Enhancing Transparency, Traceability, and Accountability



Edited by **Ajay Kumar Sharma**, **Narasimha Rao Vajjhala**, **Rakshit Kothari**, **Rajasekhara Mouly Potluri** Kazakh British Tech. Univ., Kazakhstan

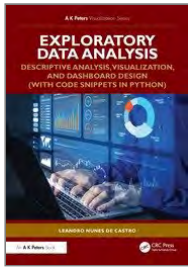
This book examines the transformative potential of integrating Explainable Artificial Intelligence (XAI) and blockchain technology in modern supply chain management. It provides insights into leveraging XAI to demystify AI decision-making and blockchain to ensure data security and decentralized accountability. Key topics include sustainable practices, smart contract automation, and human-centric approaches to enhancing trust and collaboration among stakeholders. It is a valuable resource for academics, industry leaders, and policymakers seeking to harness cutting-edge technologies for building resilient and transparent supply chains.

Chapman & Hall
May 2025 : 236pp
Hb: 978-1-032-80374-6 : \$160
eBook: 978-1-003-49736-3

* For full contents and more information, visit: www.routledge.com/9781032803746

Exploratory Data Analysis

Descriptive Analysis, Visualization, and Dashboard Design (with Codes in Python)



Leandro Nunes de Castro

Series: AK Peters Visualization Series

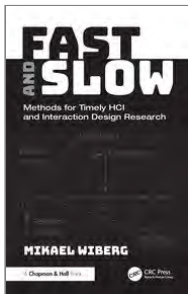
With a strong focus on applied concepts, clarity and real-world applications, this book equips readers with the essential skills to excel in data analysis. Ideal for anyone eager to harness the potential of data, it combines theoretical depth with practical insights for compelling, meaningful analysis.

A K Peters/CRC Press
August 2025 : 264pp
Pb: 978-1-032-93982-7 : **\$59.99**
Hb: 978-1-032-94430-2 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032939827

Fast and Slow

Methods for Timely HCI and Interaction Design Research

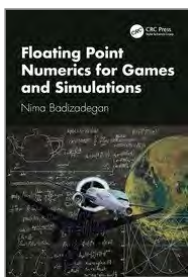


Mikael Wiberg Umeå University, Sweden

Drawing inspiration from fast and slow thinking, design thinking and our everchanging world, this book contrasts "fast" approaches—such as "quick-and-dirty ethnography, prototyping, and AI-driven automation—with "slow" methodologies that emphasize ethnographic studies, longitudinal research, and participatory design.

Chapman & Hall
August 2025 : 264pp
Hb: 978-1-032-38154-1 : **\$110**
* For full contents and more information, visit: www.routledge.com/9781032381541

Floating Point Numerics for Games and Simulations



Nima Badizadegan

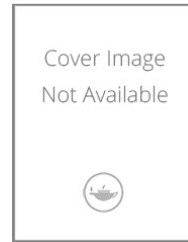
Floating point is ubiquitous in computers, where it is the default way to represent non-integer numbers. However, few people understand it. By the end of the book, you will be able to understand how to work with floating point in a practical sense, from tracking down and preventing error in small calculations to choosing numerical building blocks for complex 3D simulations.

CRC Press
May 2025 : 230pp
Pb: 978-1-032-93355-9 : **\$74.99**
Hb: 978-1-032-93356-6 : **\$180**
eBook: 978-1-003-56554-3

* For full contents and more information, visit: www.routledge.com/9781032933559

Fractional Random Vibrations

Two Volume Set



Ming Li

Series: Fractional Order Thinking in Exploring the Frontiers of STEM

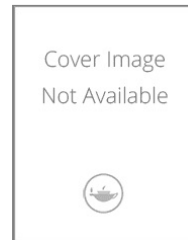
This two-volume set provides a comprehensive study of fractional random vibration from the perspective of theory and practice. Volume I explores the fundamentals of fractional processes and fractional vibration systems. Volume II applies the theories discussed in Volume I to the novel and cutting-edge topic of fractional processes, with special emphasis on fractional vibration systems for marine structures influenced by the Pierson-Moskowitz and von Kármán spectra. The titles will be essential reading for students, mathematicians, physicists, and engineers interested in vibration phenomena driven by fractional processes.

CRC Press
October 2025 : 280pp
Hb: 978-1-041-11174-0 : **\$169.98**

* For full contents and more information, visit: www.routledge.com/9781041111740

Fractional Random Vibrations I

Theories



Ming Li

Series: Fractional Order Thinking in Exploring the Frontiers of STEM

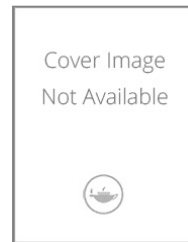
Volume I deals succinctly with the theories of fractional processes and fractional vibration systems. A major focus of fractional vibrations is the derivation of analytical expressions for the frequency transfer functions of seven classes of fractional vibrations using elementary functions. This is considered from the perspective of the functional form of linear vibrations with frequency-dependent mass, damping, or stiffness. The title will be essential reading for students, mathematicians, physicists, and engineers interested in fractional random vibration phenomena.

CRC Press
October 2025 : 120pp
Hb: 978-1-041-11019-4 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781041110194

Fractional Random Vibrations II

Applications



Ming Li

Series: Fractional Order Thinking in Exploring the Frontiers of STEM

Volume II provides the analytical expressions for the responses of seven classes of fractional vibration systems excited by six types of random processes. It examines the responses of seven classes of fractional vibrations driven by five fractional processes, namely, fractional Gaussian noise, generalized fractional Gaussian noise, fractional Brownian motion, fractional Ornstein-Uhlenbeck process, the process with the von Kármán spectrum, and the process with the Pierson-Moskowitz spectrum. The title will be essential reading for students, mathematicians, physicists, and engineers interested in fractional random vibration phenomena.

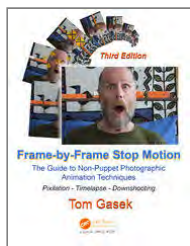
CRC Press
October 2025 : 160pp
Hb: 978-1-041-11021-7 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781041110217

3RD EDITION

Frame-By-Frame Stop Motion

The Guide to Non-Puppet Photographic Animation Techniques



Tom Gasek Rochester Institute of Technology, New York, USA

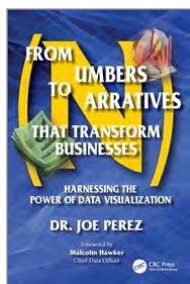
Single frame filmmaking has been around as long as film itself. It is the ancestor to modern day special effects and animation. Despite its age-old practice, single frame film making and stop-motion animation continues to influence media and culture with its magic. Interviews from experts in the field offer not only inspiration but also help readers learn how to apply skills and new applications. The companion website offers further instruction, recommended films, tools and resources for both the novice and the expert.

CRC Press
August 2025 : 264pp
Pb: 978-1-032-81744-6 : **\$64.99**
Hb: 978-1-032-83539-6 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032817446

From Numbers to Narratives that Transform Businesses

Harnessing the Power of Data Visualization



Joe Perez

The book establishes a clear and actionable framework for data storytelling. Each chapter offers practical guidance on crafting compelling data visualizations, interpreting data for informed decisions, and optimizing data-driven processes. Readers will find actionable steps to help implement the concepts immediately. The book is anchored in real-world examples from various industries, showcasing successful applications of data storytelling and highlighting both triumphs and challenges.

CRC Press
May 2025 : 232pp
Pb: 978-1-041-03293-9 : **\$64.99**
Hb: 978-1-041-03294-6 : **\$170**
eBook: 978-1-003-62321-2

* For full contents and more information, visit: www.routledge.com/9781041032939

From Smart Cities to the Metaverse

A Journey through Cybersecurity, AI, and Urban Sustainability



Edited by **Norliza Katuk** School of Computing Universiti Utara, Malaysia, **Noradila Nordin**, **Adib Habbal** Faculty of Engineering, Karabük University

This book offers a comprehensive exploration of the convergence between smart city infrastructure and the emerging metaverse. The motivation for writing this book stems from the author's recognition of the transformative potential of smart cities and the metaverse in creating sustainable, efficient, and inclusive urban environments. By bridging the gap between theoretical research and practical application, the author aims to equip researchers, policymakers, and technologists with the knowledge and tools needed to navigate and shape the future of urban living in a digitally interconnected world.

CRC Press
September 2025 : 238pp
Pb: 978-1-041-02543-6 : **\$66.99**
Hb: 978-1-041-02545-0 : **\$250**

* For full contents and more information, visit: www.routledge.com/9781041025436

Futureshock

Happenings in Computer Science



Edited by **Sebastian Sequoiah-Grayson**

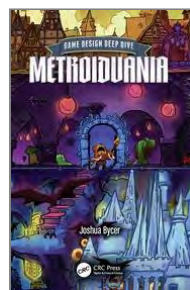
This book provides an accessible introduction to leading edge topics today, from AI ethics and cybersecurity, through to augmented realities, virtual interfaces, and much more. This collection of writings by experts in their respective fields, invites the reader to explore new worlds that race towards us. This book serves like a map that enables the reader to access vantage points of understanding from which the new digital ecosystem may be seen with clarity. It does not presume any in-depth knowledge on behalf of the reader. This book serves the professional working in their fields as they gain further insight into the new digital ecosystem.

CRC Press
August 2025 : 186pp
Pb: 978-1-032-70273-5 : **\$69.99**
Hb: 978-1-032-70274-2 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032702735

Game Design Deep Dive

Metroidvania



Joshua Bycer

Series: Game Design Deep Dive

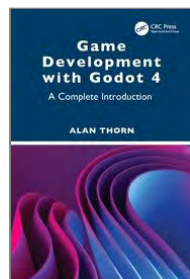
Game Design Critic and expert Josh Bycer is back with another entry in the Game Design Deep Dive series for a look at one of the most popular, and confusing, genres out there. Metroidvania is a genre of high-highs and low-lows, and Josh is taking up the task to explain what a metroidvania is, the very long history and variety of it, and what you need to do to create one yourself.

CRC Press
June 2025 : 144pp
Pb: 978-1-032-94392-3 : **\$64.99**
Hb: 978-1-032-94461-6 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032943923

Game Development with Godot 4

A Complete Introduction



Alan Thorn National Film & Television School, Upminster, UK

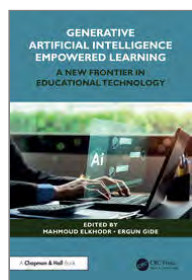
Godot is a rapidly growing free and open-source game engine for creating 2D and 3D games, and interactive applications, on many platforms including desktop and mobile. There has been intense interest in this engine among game developers worldwide. This book explores: nodes, scenes, hierarchies, import workflows, scripting, animations, user interfaces, working with resources and creating gameplay elements, among others.

CRC Press
November 2025 : 376pp
Pb: 978-1-032-75924-1 : **\$66.99**
Hb: 978-1-032-77728-3 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032759241

Generative Artificial Intelligence Empowered Learning

A New Frontier in Educational Technology



Edited by **Mahmoud Elkhodr** Central Queensland University, **Ergun Gide** Central Queensland University

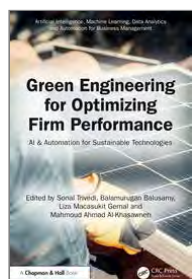
This book explores the integration of Generative AI (GenAI), such as ChatGPT, into educational practices and research methodologies. With the potential to transform traditional learning environments, this book addresses both the opportunities and challenges that come with leveraging GenAI for enhancing teaching and learning experiences. Ideal for educators, researchers, and policymakers, this book serves as a practical resource for those looking to effectively integrate AI into their pedagogical and research efforts. It is an essential reference for anyone interested in staying at the forefront of educational innovation and exploring the future possibilities of AI-empowered learning.

Chapman & Hall
June 2025 : 248pp
Pb: 978-1-032-72751-6 : **\$64.99**
Hb: 978-1-032-72752-3 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032727516

Green Engineering for Optimizing Firm Performance

AI and Automation for Sustainable Technologies



Edited by **Sonal Trivedi**, **Balamurugan Balusamy** Shiv Nadar Uni., **Liza Macasukit Gernal** University of Science and Technology of Fujairah, UAE, **Mahmoud Ahmad Al-Khasawneh**

Series: *Artificial Intelligence, Machine Learning, Data Analytics and Automation for Business Management*

This book offers a detailed examination of how sustainable technologies are reshaping firm performance. Through an integration of empirical research, expert opinions, and case studies, it explores how green management practices are enhancing business outcomes and contributing to sustainable development. It offers an in-depth understanding of how green technologies and practices, such as green engineering, AI/ML applications, green HRM, and green innovation, impact firm performance.

Chapman & Hall
August 2025 : 316pp
Hb: 978-1-041-04034-7 : **\$190**

* For full contents and more information, visit: www.routledge.com/9781041040347

Guardians of Data

A Comprehensive Guide to Digital Data Protection



Nik Zulkarnaen Khidzir, **Shekh Abdullah-Al-Musa Ahmed**

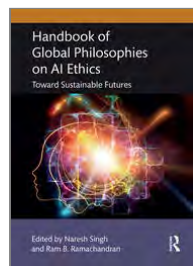
This book explores ways of reducing risks of data loss by monitoring and controlling the flow of sensitive data via the network, email or web. This book also shows the guidance about data protection that data is not corrupted, is accessible for authorized purposes only, and is in compliance with applicable legal or regulatory requirements. The primary goal of data protection is not just to safeguard sensitive information but to ensure that it remains accessible and reliable, thus preserving trust and compliance in data-centric operations. While data protection law sets out what should be done to make sure everyone's data is used properly and fairly.

CRC Press
May 2025 : 200pp
Pb: 978-1-032-99529-8 : **\$64.99**
Hb: 978-1-032-99530-4 : **\$84.99**
eBook: 978-1-003-60467-9

* For full contents and more information, visit: www.routledge.com/9781032995298

Handbook of Global Philosophies on AI Ethics

Toward Sustainable Futures



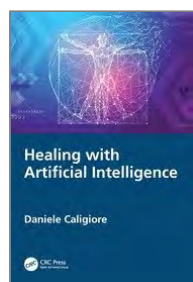
Edited by **Naresh Singh**, **Ram B. Ramachandran**

This book offers an exploration of the diverse perspectives shaping the future of Artificial Intelligence (AI), highlighting the influence of non-Western thinking in its development. Leading voices from around the globe reimagine AI systems that are fair, ethical, and inclusive. It examines how religious, cultural, and social perspectives shape AI's application in industries such as finance, education, and the military, while underscoring the importance of establishing robust ethical guardrails. Whether you're a curious reader, a policy maker, a scholar, or a tech innovator, this is your guide to understanding how different cultural perspectives can redefine AI ethics.

Routledge
July 2025 : 312pp
Hb: 978-1-032-95564-3 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032955643

Healing with Artificial Intelligence



Daniele Caligiore

Artificial Intelligence (AI) is transforming healthcare through innovations like diagnostic imaging, robotic surgery, digital twins, and the metaverse. As AI continues to shape the future of medical care, understanding its potential and challenges is essential for those interested in how technology affects health and well-being. The book also addresses critical ethical and legal concerns, including data security, decision-making, and transparency. The discussion covers how AI can enhance healthcare accessibility, efficiency, and patient outcomes, while raising awareness of risks such as depersonalization, data bias, and the possible replacement of medical staff.

CRC Press
July 2025 : 152pp
Pb: 978-1-032-99146-7 : **\$48.99**
Hb: 978-1-032-99816-9 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032991467

6TH EDITION

How to Cheat in Maya 2026

Tools & Techniques for Animators



Kenny Roy, **Genevieve Freckleton**

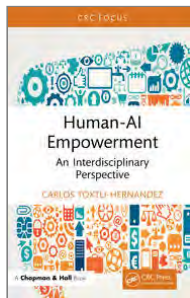
How to Cheat in Maya 2026 is more than a software manual - it's a complete guide to working smarter, animating faster, and thinking like a professional. This edition covers Maya's latest tools and features, but more importantly, it focuses on real-world workflows and the creative process behind great animation. You'll find not just the how, but the why behind each technique, helping you build intuition and confidence in your craft. Whether you're learning the ropes or refining your skills, this book is designed to remove friction, streamline your process, and let you focus on what matters most: crafting compelling animated performances.

CRC Press
October 2025 : 350pp
Pb: 978-1-032-88309-0 : **\$66.99**
Hb: 978-1-032-88337-3 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032883090

Human-AI Empowerment

An Interdisciplinary Perspective



Carlos Toxtli-Hernández

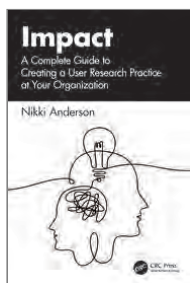
This book provides a timely exploration of strategies for aligning Artificial Intelligence (AI) with long-term human goals, ensuring that AI acts as an empowering force across multiple dimensions. Drawing on interdisciplinary research from fields such as AI, human-computer interaction (HCI), psychology, education, economics, and social science, this book develops comprehensive frameworks for studying and optimizing AI's impact on human empowerment. It investigates empowerment from a human-centered computing (HCC) perspective, examining how AI systems can track and adapt to progressively achieve long-term goals.

Chapman & Hall
November 2025 : 152pp
Hb: 978-1-032-88202-4 : **\$68.99**

* For full contents and more information, visit: www.routledge.com/9781032882024

Impact

A Complete Guide to Creating a User Research Practice at Your Organization



Nikki Anderson

Embark on a transformative journey into the world of user research with Impact by Nikki Anderson. In the realm of product creation, understanding your users is the cornerstone of building life-changing products. This comprehensive guide is your key to establishing a robust user research practice within your organization, ensuring that decisions are rooted in empathy, understanding, and a deep connection with your audience. This book is not just a guide; it's a thought partner, offering a step-by-step approach to navigate the complexities of establishing a research practice, making it accessible even for those new to the field.

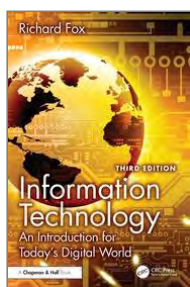
CRC Press
September 2025 : 416pp
Pb: 978-1-041-04642-4 : **\$66.99**
Hb: 978-1-041-04648-6 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781041046424

3RD EDITION

Information Technology

An Introduction for Today's Digital World



Richard Fox Northern Kentucky University, Highland Heights, USA

This book presents an introduction to the field of information technology suitable for any student of an IT-related field or IT professional. Coverage includes such IT topics as IT careers, computer hardware, software, network protocols, binary numbers and Boolean logic, information security, and a look at both Windows and Linux. Many of these topics are covered in depth with numerous examples presented throughout the text. New to this edition are chapters on new trends in technology, including block chain, quantum computing and artificial intelligence, and the negative impact of computer usage, including how computer usage impacts our health, E-waste and concerns over Internet usage.

Chapman & Hall
June 2025 : 702pp
Hb: 978-1-032-86720-5 : **\$100**

* For full contents and more information, visit: www.routledge.com/9781032867205

Intelligent Networks and Systems

Advanced Technologies and Applications



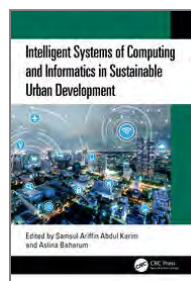
Edited by **Nazmul Siddique** University of Ulster, Magee, UK, **Mohammad Shamsul Arefin**, **Sheak Rashed Haider Noori**, **M Shamim Kaiser** Institute of Information Technology, Jahangirnagar University, Bangladesh

This book explores cutting-edge innovations in intelligent systems and their real-world impact. From smart grids and IoT applications to machine learning-driven network optimization and cybersecurity, this book covers the key technologies shaping modern infrastructure. Balancing technical depth with clear, engaging writing, this book is designed for researchers, industry professionals, and tech enthusiasts alike. It not only unpacks the latest advancements but also examines ethical and regulatory challenges as intelligent networks become more integrated into everyday life.

Chapman & Hall
October 2025 : 408pp
Hb: 978-1-032-64330-4 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032643304

Intelligent Systems of Computing and Informatics in Sustainable Urban Development



Edited by **Samsul Ariffin Abdul Karim**, **Aslina Baharum**

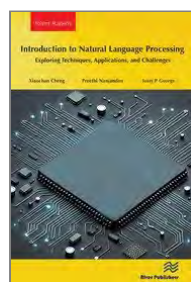
This book explores intelligent systems in computing and informatics, focusing specifically on their role in advancing Sustainable Development Goal (SDG) No. 11 – Sustainable Cities and Communities. Practitioners in urban planning, technology, and related fields can utilize this book as a practical guide for implementing intelligent systems and best practices in making informed decisions. Researchers can also leverage the comprehensive coverage of the topic to inform and substantiate their own studies and investigations.

CRC Press
July 2025 : 226pp
Pb: 978-1-032-84921-8 : **\$64.99**
Hb: 978-1-032-85484-7 : **\$190**

* For full contents and more information, visit: www.routledge.com/9781032849218

Introduction to Natural Language Processing

Exploring Techniques, Applications, and Challenges



Xiaochun Cheng, **Preethi Nanjundan**, **Jossy P George**

Series: River Publishers Series in Rapids in Computing and Information Science and Technology

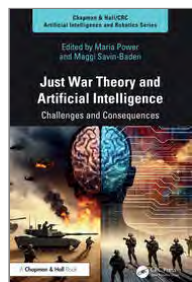
This book provides a thorough and comprehensive introduction to natural language processing (NLP), a critical field at the intersection of artificial intelligence and computational linguistics. It explores key techniques such as sentiment analysis, which enables the detection of emotional tone in text, machine translation, facilitating the conversion of text between languages, and named entity recognition (NER), which identifies and classifies entities like names, dates, and locations within text data.

River Publishers
June 2025 : 170pp
Pb: 978-8-770-04829-3 : **\$85**

* For full contents and more information, visit: www.routledge.com/9788770048293

Just War Theory and Artificial Intelligence

Challenges and Consequences



Edited by **Maria Power**, Maggi Savin-Baden Prof of Higher Education Research at Coventry University, UK

Series: *Chapman & Hall/CRC Artificial Intelligence and Robotics Series*

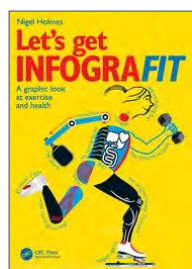
New developments in technology, especially within weapons systems, have challenged our understandings of just war theory as warfare becomes more remote, thus changing the nature of the questions to be asked of and by those engaged in conflict. Covering topics such as drone warfare and the use of wargaming by combatants, this collection seeks to answer those questions with essays from leading experts in the field. It will be a valuable resource for those interested in both the development of artificial intelligence generally and warfare specifically.

Chapman & Hall
August 2025 : 168pp
Hb: 978-1-032-57622-0 : \$120

* For full contents and more information, visit: www.routledge.com/9781032576220

Let's Get Infografit

A Graphic Look at Exercise and Health



Nigel Holmes

In Joyful Infographics, one of the leading graphic designers of recent times shows how a judicious use of humor can make infographics more understandable. Written in non-academic, easy to understand language, and with historical and contemporary visual examples presented throughout, this small book provides a short history of light-hearted graphics; it outlines eight clear ways to make graphics more understandable; it explores the importance of the audience; it shows you how to make information come alive during presentations through live-action 'performance' graphics; it discusses why joy and smiling are good for you; and it shows you how not to overdo it.

CRC Press
October 2025 : 160pp
Pb: 978-1-032-77727-6 : \$63.99
Hb: 978-1-032-80404-0 : \$84.99

* For full contents and more information, visit: www.routledge.com/9781032777276

LiDAR Technology for Intelligent Transportation and Autonomous Systems



Rajalakshmi Pachamuthu, **Bhaskar Anand**, **Abhishek Thakur**, **Parvez Alam**

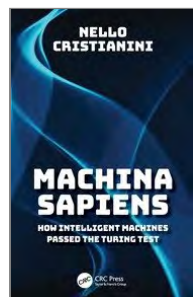
This book explores the critical role of LiDAR technology in autonomous navigation and advanced driver assistance systems (ADAS). It explores the fundamental principles of LiDAR, comparing it with other sensor technologies like radar and cameras while examining the various types of LiDAR systems, including time-of-flight, flash, and frequency-modulated continuous wave systems. It emphasises real-world use cases, including setting up LiDAR data acquisition systems and addressing challenges like sensor calibration, alignment, and integration into autonomous systems.

Chapman & Hall
October 2025 : 264pp
Hb: 978-1-041-04459-8 : \$180

* For full contents and more information, visit: www.routledge.com/9781041044598

Machina Sapiens

How Intelligent Machines Passed the Turing Test



Nello Cristianini

Can machines think? This troubling question, posed by Alan Turing in 1950, has perhaps been answered: today we can converse with a computer without being able to distinguish it from a human being. Is this the secret of knowledge, and is it now in the hands of our creations? As we try to figure out how to share these powers with the "aliens" who now work at our side, we can wonder what else they may learn tomorrow. Cristianini has authored another brilliant book - written like a gripping thriller - explaining the ideas behind a technology destined to change the world. If our worst terror has always stemmed from fear of the unknown, the cure, since time immemorial, is knowledge.

CRC Press
August 2025 : 166pp
Pb: 978-1-032-94911-6 : \$29.99
Hb: 978-1-032-94892-8 : \$150

* For full contents and more information, visit: www.routledge.com/9781032949116

Machine Vision Analysis in Industry 5.0

Fundamentals, Applications, and Challenges



Edited by **Vivek Kumar Singh** Sharda University, **Jitendra Kumar** Maulana Azad National Institute of Technology Bhopal, India, **Deepika Saxena**, **Abhishek Verma** IIITDM Jabalpur, India, **T. Akilan** Lakehead University, Canada, **Ashutosh Kumar Singh** National Institute of Technology, India

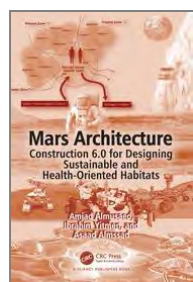
This book is an introduction to fundamental techniques of image analysis with machine vision and their applicability in Industry 5.0. It provides basic and emerging techniques in the field of image analysis and machine vision towards Industry 5.0. It also covers an extensive study of recent related work and research challenges in the field. Further, it discusses some effective solutions to address the challenges of digitally transforming industrial activities and improving their efficiency.

Chapman & Hall
September 2025 : 216pp
Hb: 978-1-032-87449-4 : \$160

* For full contents and more information, visit: www.routledge.com/9781032874494

Mars Architecture

Construction 6.0 for Designing Sustainable and Health-Oriented Habitats



Amjad Almusaed Jönköping University, Sweden, **Ibrahim Yitmen** School of Engineering, Jönköping University, Sweden, **Asaad Almssad**

This book combines Construction 6.0 with AEC principles for designing sustainable, health-focused Martian habitats. It unveils innovative architectural designs ideal for Mars, utilizing 3D printing, autonomous robotics, and regolith, alongside renewable energy and life support systems. With an emphasis on well-being, it integrates biophilic design and digital technologies to enhance operational efficiency.

CRC Press
June 2025 : 300pp
Hb: 978-1-032-96370-9 : \$180
eBook: 978-1-003-58976-1

* For full contents and more information, visit: www.routledge.com/9781032963709

Mastering Character Design

Design with Intent and Purpose



Caroline Hu

This book is a comprehensive guide for artists looking to master character design, no matter their chosen style. It offers practical insights into the core principles used in animated projects, helping you understand how to accurately draw and construct shapes, as well as the key elements of design. With these skills, you'll be able to design characters with intention and draw them in a way that feels both effective and engaging.

CRC Press

August 2025 : 180pp

Pb: 978-1-032-98503-9 : **\$64.99**

Hb: 978-1-032-98505-3 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032985039

Mastering Community Management

Chaos, Compassion, and Connections in Games



Victoria Tran

Game communities are inevitable – in fact, they're one of the main features of a game. How can our online interactions be better, kinder, more productive conversations? Consumers are more inundated with typical marketing schemes than ever, and social media has only become a more powerful, yet chaotic tool over the years. Leave the high-level concepts behind to dig deep and see how community managers can tackle ever-changing algorithms and an entirely digital world.

CRC Press

July 2025 : 264pp

Pb: 978-1-032-54042-9 : **\$58.99**

Hb: 978-1-032-55521-8 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032540429

Mastering Deepfake Technology: Strategies for Ethical Management and Security



Edited by **Sanjay Taneja , Swati Gupta , Mohit Kukreti , Abhishek Singh Chauhan**

Series: River Publishers Series in Digital Security and Forensics

This book offers a comprehensive exploration of the profound challenges and opportunities presented by deepfake technology across industries, society, and governance. It delves into the multifaceted impacts of synthetic media, examining its potential to reshape corporate trust, economic stability, and public discourse while emphasizing strategies to build resilience and ethical frameworks. Mastering Deepfake Technology is an essential guide for academics, professionals, and policymakers seeking to understand and address the complexities of this emerging frontier.

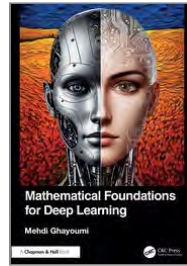
River Publishers

August 2025 : 382pp

Hb: 978-8-743-80113-9 : **\$140**

* For full contents and more information, visit: www.routledge.com/9788743801139

Mathematical Foundations for Deep Learning



Mehdi Ghayoumi University of San Diego

This book bridges the gap between theoretical mathematics and practical applications in artificial intelligence. It delves into the fundamental mathematical concepts that power modern deep learning, equipping readers with the tools and knowledge needed to excel in the rapidly evolving field of AI. Designed for beginners and experts, the book makes mathematical ideas accessible through clear explanations, real-world examples, and targeted exercises. Readers will master core concepts in linear algebra, calculus, and optimization techniques, understand the mechanics of deep learning models, and apply theory to practice using frameworks like TensorFlow and PyTorch.

Chapman & Hall

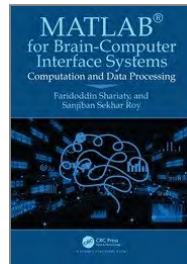
August 2025 : 256pp

Hb: 978-1-032-69073-5 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032690735

MATLAB® for Brain-Computer Interface Systems

Computation and Data Processing



Faridoddin Shariaty Peter the Great St. Petersburg Polytechnic University St. Petersburg, Russia, **Sanjiban Sekhar Roy**

The book discusses the transformative impact of futuristic technologies in modern construction. It includes digital twins for planning, project management, real-time simulation, circular construction, and data-driven decision-making, alongside robotics for automating on-site operations with precision and safety. Bridging these advancements, it highlights the interconnection in enhancing efficiency and innovation. Designed for both experts and enthusiasts, the book offers a comprehensive view of innovations shaping the industry's future.

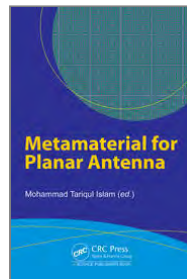
CRC Press

June 2025 : 180pp

Hb: 978-1-032-95154-6 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781032951546

Metamaterial for Planar Antenna



Edited by **Mohammad Tariqul Islam** Uni Kebangsaan, Malaysia

Metamaterials, with their unique ability to control electromagnetic waves, have revolutionized the field of antenna design which enables performance enhancement of antenna that were previously unattainable. This book will be a useful resource for students, engineers, physicists, and other researchers working in wireless communication, microwave engineering, and electromagnetic design. Newcomers will find foundational knowledge about metamaterials and their applications, while seasoned researchers will benefit from in-depth discussions and innovative approaches to antenna design.

CRC Press

August 2025 : 274pp

Hb: 978-1-032-83281-4 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032832814

Modern Technologies in Healthcare

AI, Computer Vision, Robotics



Edited by **Temitope Emmanuel Komolafe**, **Patrice Monkam**, **Blessing Funmi Komolafe**, **Nizhuan Wang**
Series: Analytics and AI for Healthcare

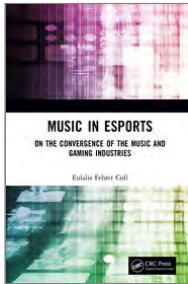
This book comprehensively explores the latest technological advancements in healthcare, with a particular focus on the application of cutting-edge technologies such as artificial intelligence (AI), robotics, and computer vision. The focus extends across crucial domains such as disease diagnosis and monitoring, medical imaging, and the facilitation of remote healthcare services. An essential guide for healthcare professionals, researchers, and enthusiasts eager to understand and actively contribute to shaping the future of healthcare through the integration of AI and other disciplines.

CRC Press
 May 2025 : 347pp
 Pb: 978-1-032-77232-5 : **\$64.99**
 Hb: 978-1-032-77233-2 : **\$180**
 eBook: 978-1-003-48195-9

* For full contents and more information, visit: www.routledge.com/9781032772325

Music in Esports

On the Convergence of the Music and Gaming Industries



Eulalia Febrer Coll

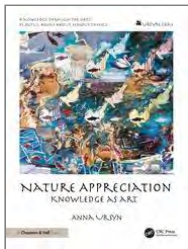
This book invites the reader to expand their idea of esports as an independent niche and consider it an integral part of a growing multi- and transmedia ecosystem that includes the global entertainment industry, where music plays an essential role. This book will be of great interest to researchers and students in the fields of Esports, game design and development, musicology, and media studies.

CRC Press
 July 2025 : 200pp
 Hb: 978-1-032-62535-5 : **\$210**

* For full contents and more information, visit: www.routledge.com/9781032625355

Nature Appreciation

Knowledge as Art



Anna Ursyn University of Northern Colorado

While coding is intertwined into simple facts, Nature Appreciation shows ways we appreciate nature, thus, helping us learn in a playful, nonjudgmental way.

Chapman & Hall
 June 2025 : 360pp
 Pb: 978-1-041-02503-0 : **\$64.99**
 Hb: 978-1-041-02505-4 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781041025030

Network Optimization: An Introduction to the Network Reconstruction Approach

Network Reconstruction Approach to optimization



Elias Munapo, **Santosh Kumar**, **Philimon Nyamugure**, **Trust Tawanda**

Series: River Publishers Series in Communications and Networking

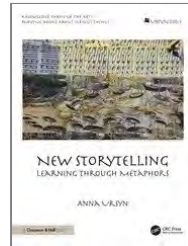
This book is an introduction to reconstruction concepts and their applications for solving some network optimization problems. Networks are a mathematical abstraction of a given physical situation, which are described by using nodes, links (directed or non-directed) and link weights defining some associated properties of that physical system. Reconstruction ideas exploit the mathematical structure of a particular problem and find ways to reach the required solution. It is hoped that these ideas will be explored for other mathematical structures.

River Publishers
 July 2025 : 236pp
 Hb: 978-8-770-04742-5 : **\$130**
 eBook: 978-8-770-04743-2

* For full contents and more information, visit: www.routledge.com/9788770047425

New Storytelling

Learning through Metaphors



Anna Ursyn University of Northern Colorado

This set of story-based learning projects links performances and tasks with computing codes to show how a machine translates our goals into its language

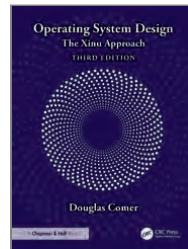
Chapman & Hall
 September 2025 : 356pp
 Pb: 978-1-032-97060-8 : **\$64.99**
 Hb: 978-1-032-97255-8 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032970608

3RD EDITION

Operating System Design

The Xinu Approach



Douglas Comer

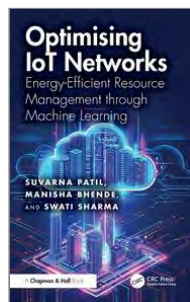
The third edition of Operating System Design expands and extends the text to include new chapters on a pipe mechanism, multicore operating systems, and considerations of operating systems being used in unexpected ways. The text covers all major operating system components, including the key topics of scheduling and context switching, physical and virtual memory management, file systems, device drivers, device-independent I/O, Internet communication, and user interfaces. By the end, readers will appreciate how all the components of an operating system work together to form a unified, integrated platform that allows arbitrary application programs to run concurrently.

Chapman & Hall
 May 2025 : 573pp
 Hb: 978-1-032-98099-7 : **\$105**
 eBook: 978-1-003-59766-7

* For full contents and more information, visit: www.routledge.com/9781032980997

Optimising IoT Networks

Energy-Efficient Resource Management through Machine Learning



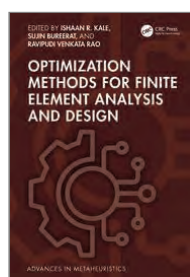
Suvarna Patil , Manisha Bhende Dr D Y Patil Institute of Engineering Management and Research, Akurdi, Pune,
Swati Sharma

The book examines the application of machine learning to enhance resource allocation in IoT networks, with a specific focus on energy efficiency. It discusses various algorithms, including neural networks and reinforcement learning, to optimize resource use and improve network performance. It addresses challenges such as the dynamic behaviour of IoT devices and the need for real-time decision-making. It discusses optimization methods used alongside machine learning to enhance resource allocation efficiency.

Chapman & Hall
June 2025 : 280pp
Hb: 978-1-032-99797-1 : **\$99.99**

* For full contents and more information, visit: www.routledge.com/9781032997971

Optimization Methods for Finite Element Analysis and Design



Edited by **Ishaan R. Kale** Deemed University, Pale, India,
Sujin Bureerat , Ravipudi Venkata Rao

Series: *Advances in Metaheuristics*

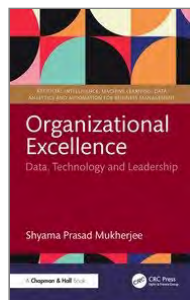
This book describes the recent developments in Finite Element Methods (FEM). It gives brief introduction of the applications of Artificial Intelligence based nature inspired metaheuristic algorithms, at various stages of FEM. The state-of-art application areas are included in this book such as structural analysis and optimization, machinery products, mesh smoothing, prediction of fracture and damage of welded composite joints, etc.

CRC Press
July 2025 : 192pp
Hb: 978-1-032-93210-1 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032932101

Organizational Excellence

Data, Technology and Leadership



Shyama Prasad Mukherjee

Series: *Artificial Intelligence, Machine Learning, Data Analytics and Automation for Business Management*

This book discusses the multifaceted nature of organisational excellence and proceeds to consider the roles played by data, technological advances leading to innovation, and value-based leadership in guiding an organisation in its journey towards excellence. Moving beyond conventional growth metrics, this book presents excellence as a continuous journey of improvement, integrating data-driven decision-making, digital transformation, and value-based leadership. The book highlights the transformative role of AI and advanced digital technologies in optimising processes, fostering innovation, and enhancing performance measurement.

Chapman & Hall
August 2025 : 248pp
Pb: 978-1-032-97022-6 : **\$69.99**
Hb: 978-1-032-97020-2 : **\$115**

* For full contents and more information, visit: www.routledge.com/9781032970226

Playtesting Best Practices

Real World and Online



Chris Backe

Series: *CRC Press Guides to Tabletop Game Design*

Playtesting Best Practices: Real World and Online covers the complete journey of playtesting - the iterative journey to shape and refine tabletop games from raw ideas to balanced and fun games. This step-by-step guide embraces the process and celebrates the purpose of every step, from early self-playtesting to late-stage unguided playtesting, and offers the specific questions and practices the author has refined to perfect his own games.

CRC Press
June 2025 : 164pp
Pb: 978-1-032-81348-6 : **\$64.99**
Hb: 978-1-032-81667-8 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032813486

Postdigital Ethical Futures

Essays in Honour of John Reader



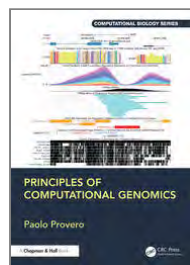
Edited by **Maggi Savin-Baden** Prof of Higher Education Research at Coventry University, UK, **Maria Power**

Postdigital Ethical Futures emerged from the work of the Ethical Futures Network hosted by the William Temple Foundation meeting both online and at Trinity College, Oxford. This book illustrates the research being carried out by some of the members of this network by examining the more practical aspects of the subject of religion and the digital, drawing on a wider range of disciplines and was created in memory of John Reader whose idea the text was, who died suddenly in 2023. The book examines issues of ethics as encountered in both the digital and environmental spheres, and seeks to cross of the boundary between philosophy and theology.

Chapman & Hall
August 2025 : 152pp
Hb: 978-1-032-80654-9 : **\$110**

* For full contents and more information, visit: www.routledge.com/9781032806549

Principles of Computational Genomics



Paolo Provero NC A&T State University, North Carolina, USA

Series: *Chapman & Hall/CRC Computational Biology Series*

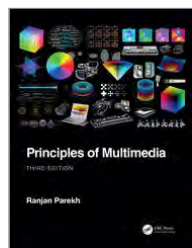
This book aims to provide them with the conceptual framework needed to understand computational genomics enough to be able to follow the arguments in a recent paper, or to collaborate with computational scientist in a research project. In particular, it introduces the mathematical and statistical basis of the methods in some depth, but not their implementation in terms of computer code. The main focus is on the analysis of next-generation-sequencing assays, both for the interpretation of the DNA sequence per se and for the study of gene regulation and epigenomics.

Chapman & Hall
May 2025 : 212pp
Pb: 978-1-032-58399-0 : **\$76.99**
Hb: 978-1-032-58400-3 : **\$160**
eBook: 978-1-003-44992-8

* For full contents and more information, visit: www.routledge.com/9781032583990

3RD EDITION

Principles of Multimedia



Ranjan Parekh

Principles of Multimedia is an ideal textbook for graduate and post-graduate students studying courses on image processing, speech and language processing, signal processing, video object detection and tracking, graphic design and modeling, and related multimedia technologies.

CRC Press
June 2025 : 520pp
Pb: 978-1-032-96110-1 : \$105
Hb: 978-1-032-96109-5 : \$270

* For full contents and more information, visit: www.routledge.com/9781032961101

Python for Excel Users

A Beginner's Guide



Chi-Chun Chou , David Wang

In today's data-driven world, the ability to efficiently analyze and interpret information is more crucial than ever, especially in the business sector. "Python for Excel Users: A Beginner's Guide" is tailored for business students and professionals who are proficient in Microsoft Excel but are ready to embark on their Python journey. As a powerful and versatile programming language, Python has become indispensable in data analysis. This book bridges the gap between Excel and Python by providing parallel exercises that demonstrate how Python can amplify business analytics tasks with unmatched efficiency and flexibility.

Chapman & Hall
October 2025 : 200pp
Pb: 978-1-032-93675-8 : \$64.99
Hb: 978-1-032-93676-5 : \$120

* For full contents and more information, visit: www.routledge.com/9781032936758

Quantum Computing and Artificial Intelligence in Logistics and Supply Chain Management



Edited by **Pushan Kumar Dutta** Amity University Kolkata, **Pronaya Bhattacharya** , **Jai Prakash Verma** , **Ashok Chopra** , **Neel Kanth Kundu** , **Khurshed Aurangzeb**

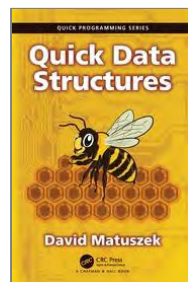
Series: Advances in Digital Technologies for Smart Applications

Quantum Computing in Logistics and Supply Chain Management discusses the transformative potential of quantum computing in reshaping the landscape of supply chain management. It bridges the gap between these two dynamic fields, offering a comprehensive guide to the application of quantum principles in supply chain operations.

Chapman & Hall
July 2025 : 476pp
Hb: 978-1-032-79811-0 : \$190

* For full contents and more information, visit: www.routledge.com/9781032798110

Quick Data Structures



David Matuszek

Series: Quick Programming

The most important thing you need to take your programming skills to the next level is a good grasp of fundamental data structures. This book introduces hash tables, trees and binary trees, priority queues, directed and undirected graphs, and all other data structures to help turn you into an excellent programmer. It provides an understanding of the fundamental building blocks of data structures and describes the construction and use of all structures. The book is ideal for software developers, computer science students, and anyone looking to deepen their understanding of how data structures impact the performance and clarity of their programs.

Chapman & Hall
July 2025 : 169pp
Pb: 978-1-041-03810-8 : \$29.99
Hb: 978-1-041-03813-9 : \$105

* For full contents and more information, visit: www.routledge.com/9781041038108

Recent Advances in Deep Learning Applications

New Techniques and Practical Examples



Edited by **Uche Onyekpe** , **Vasile Palade** , **M. Arif Wani**

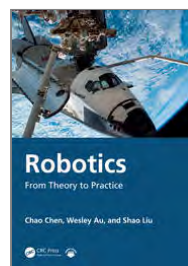
This book presents a collection of extended papers selected from the 22nd IEEE International Conference on Machine Learning and Applications (IEEE ICMLA 2023) and focuses on deep learning architectures and their applications in domains such as health care, security and threat detection, education, fault diagnosis, and robotic control in industrial environments.

Chapman & Hall
August 2025 : 376pp
Hb: 978-1-032-94462-3 : \$160

* For full contents and more information, visit: www.routledge.com/9781032944623

Robotics

From Theory to Practice



Chao Chen Monash University, **Wesley Au** Department of Mechanical and Aerospace Engineering, Monash University, **Shao Liu**

This textbook introduces robotic theories and technologies to audiences, including university students, professionals with engineering backgrounds, and also high school students with interests in building their own robots. We aim to bridge the gap between classic theories and real-world applications of robotic manipulators, which, to date, have far exceeded the domain of conventional industry. A valuable resource to broad readers, including those who have a limited background in general engineering and wish to explore non-conventional applications of robotic manipulators.

CRC Press
July 2025 : 458pp
Pb: 978-1-041-01323-5 : \$64.99
Hb: 978-1-041-01359-4 : \$120

* For full contents and more information, visit: www.routledge.com/9781041013235

Safeguarding 6G: Security and Privacy for the Next Generation



Ramjee Prasad , Ana Koren

Series: River Publishers Series in Digital Security and Forensics

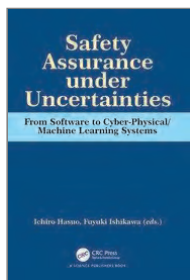
This book provides a comprehensive overview of security and privacy challenges in 6G networks, addressing the urgent need for advanced security frameworks as the next generation of wireless technology emerges. The rapid advancements in quantum computing, AI, and IoT are transforming the digital landscape, introducing both unprecedented opportunities and significant security threats. From AI-driven cyberattacks to the vulnerabilities of IoT devices, this book explores cutting-edge technologies such as quantum key distribution (QKD), post-quantum cryptography, and AI-enabled security systems.

River Publishers
May 2025 : 294pp
Hb: 978-8-770-04794-4 : **\$140**
eBook: 978-8-770-04795-1

* For full contents and more information, visit: www.routledge.com/9788770047944

Safety Assurance under Uncertainties

From Software to Cyber-Physical/Machine Learning Systems



Edited by **Ichiro Hasuo** National Institute of Informatics, Japan, **Fuyuki Ishikawa** National Institute of Informatics, Japan

Modern software systems operate under an unprecedented degree of uncertainties, making them hard to specify, model, test, analyze, and verify. Safety assurance of such systems requires efforts that unite different disciplines such as formal methods, software science, software engineering, control theory, machine learning. The book is the first to give a comprehensive overview of such united efforts. Driven by automated driving systems as a leading example, the book describes high-level intuitions of a variety of techniques from black-box testing to contract-based formal verification. It also comes with plenty of pointers to details of technical developments.

CRC Press
May 2025 : 366pp
Hb: 978-0-367-55401-9 : **\$140**
eBook: 978-1-003-09335-0

* For full contents and more information, visit: www.routledge.com/9780367554019

Scalable Artificial Intelligence for Healthcare

Advancing AI Solutions for Global Health Challenges



Edited by **Houneida Sakly , Ramzi Guetari , Naoufel Kraiem**

Series: Analytics and AI for Healthcare

This edited volume examines the transformative impact of AI technologies on global healthcare systems, with a focus on enhancing efficiency and accessibility. Key topics include data scalability, model deployment, and infrastructure design, highlighting the use of microservices, containerization, cloud computing, and big data technologies in building scalable AI systems. Providing a comprehensive exploration of AI applications in healthcare, this volume serves as a practical and theoretical guide for healthcare professionals, AI researchers, and technology enthusiasts seeking to develop or expand on AI-driven healthcare solutions to address global health challenges effectively.

CRC Press
May 2025 : 164pp
Pb: 978-1-032-76959-2 : **\$64.99**
Hb: 978-1-032-76960-8 : **\$84.99**
eBook: 978-1-003-48059-4

* For full contents and more information, visit: www.routledge.com/9781032769592

Scaling Up with R and Apache Arrow

Bigger Data, Easier Workflows



Nic Crane , Jonathan Keane , Neal Richardson

Scaling Up With R and Arrow provides a guide to working efficiently with larger-than-memory datasets using the arrow R package. As data grows in size and complexity, traditional data analysis methods in R often hit technical limitations. In this book, you'll learn how to overcome these hurdles without needing to set up complex infrastructure. This book also explores practical topics like data manipulation, file formats, working with larger datasets, and optimizing workflows for data in cloud storage. Written by developers of the Arrow R package, this guide is essential for anyone looking to scale their data processing capabilities in R.

Chapman & Hall
June 2025 : 160pp
Pb: 978-1-032-66028-8 : **\$59.95**
Hb: 978-1-032-66320-3 : **\$160**
eBook: 978-1-032-66319-7

* For full contents and more information, visit: www.routledge.com/9781032660288

Security and Privacy Issues for IoT and WSN-based Real-time Applications



Edited by **Manoj Tolani , Arun Balodi** Atria Institute of Technology, Bengaluru, India, **Ambar Bajpai** Atria Institute of Technology, Bengaluru, India, **Vishal Jain** Sharda University, Greater Noida, India, **Piya Kovintavewat** Georgia Institute of Technology, Atlanta, Georgia, USA

Series: Chapman & Hall/CRC Cyber-Physical Systems

This book explores the security and privacy challenges associated with real-time applications of the Internet of Things (IoT) and Wireless Sensor Networks (WSN) technologies. It provides detailed insights into the unique security and privacy concerns, such as malicious attacks, data breaches, insider threats, and privacy breaches, that arise in the context of real-time applications, like in smart homes, smart cities, industrial automation, healthcare, and other time-sensitive domains to offer practical solutions and strategies to mitigate these risks. It is a valuable resource for readers interested in the security and privacy challenges and solutions for real-time applications.

Chapman & Hall
June 2025 : 214pp
Hb: 978-1-032-77668-2 : **\$150**
eBook: 978-1-003-49191-0

* For full contents and more information, visit: www.routledge.com/9781032776682

Sensor Data Analytics for Intelligent Healthcare Delivery



Edited by **G.S. Karthick**

Series: Advances in Digital Technologies for Smart Applications

This book explores the healthcare applications of sensor data analytics and also focuses on real-time and streaming analytics in healthcare. It deals with healthcare data mining issues and analytics applications in both clinical and non-clinical settings. Covering sensor data analytics fundamentals, the book explores sensor data collection and data analysis applications. It also discusses healthcare applications of wearable devices.

Chapman & Hall
October 2025 : 344pp
Hb: 978-1-032-77546-3 : **\$220**

* For full contents and more information, visit: www.routledge.com/9781032775463

Shaping a DesignedUp Organisation

The Journey to Design Maturity



Emma Carter

This book focuses on maturing design capabilities within organisations. It helps designers to spread and scale their influence to help tech organisations and consultancies to become driven by design rather than driving design. Organisations driven by design have been shown outperform those that are not.

Auerbach Publications

June 2025 : 288pp

Pb: 978-1-032-60145-8 : \$49.95

Hb: 978-1-032-57379-3 : \$180

eBook: 978-1-003-45935-4

* For full contents and more information, visit: www.routledge.com/9781032601458

Smart IoT for Sustainable Development



Cover Image
Not Available

Edited by **Mansi Subhedar , Parikshit Mahalle**
Vishwakarma Inst. of Information Tech., India, **Pranav Pawar**

This book explores the role of the Internet of Things (IoT) in achieving Sustainable Development Goals (SDGs). The book provides a comprehensive overview of how IoT technologies enhance energy efficiency, promote clean energy, support environmental monitoring, and facilitate sustainable practices across various sectors. It features real-world case studies, explores key challenges, opportunities, and discusses the integration of machine learning and 5G for sustainable development. This book provides practical insights and real-world case studies on smart IoT applications for sustainable development, making it a valuable resource for researchers, practitioners, engineers, and students.

Chapman & Hall

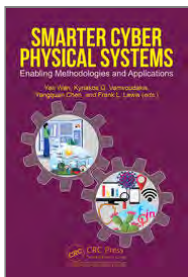
October 2025 : 360pp

Hb: 978-1-032-88769-2 : \$180

* For full contents and more information, visit: www.routledge.com/9781032887692

Smarter Cyber Physical Systems

Enabling Methodologies and Applications



Edited by **Yan Wan , Kyriakos Vamvoudakis , Yangquan Chen**
University of California Merced, USA, **Frank Lewis**

This book highlights the latest advances and explores the new trends in the design and implementation of smarter Cyber-Physical systems (CPS). It introduces integrated model-based and data-driven solutions for CPS that demonstrate both adaptability and interpretability. Key topics include reinforcement learning, digital twins and large-scale networks. The book also presents co-design techniques that address computation, networking, control, and physical constraints.

CRC Press

August 2025 : 628pp

Hb: 978-1-032-15348-3 : \$200

* For full contents and more information, visit: www.routledge.com/9781032153483

Solid Waste Management

Navigating from Fundamentals to Innovation



José María Ponce-Ortega Michoacan Uni of Saint Nicholas of Hidalgo, Mexico, **Rogelio Ochoa-Barragan** Michoacan Uni of Saint Nicholas of Hidalgo, Mexico, **César Ramírez-Márquez** UMSNH, Mexico, **Jose Ezequiel Santibanez-Aguilar** Technological de Monterrey, Mexico, **Aurora del Carmen Munguia-Lopez** University at Buffalo, USA

A comprehensive guide that explores the evolution and innovations in solid waste management. Tailored for students, professionals, and researchers, it offers a fresh perspective on sustainable practices and technologies. The book stands out by bridging theory with practical, up-to-date solutions for the critical challenges facing our environment today.

CRC Press

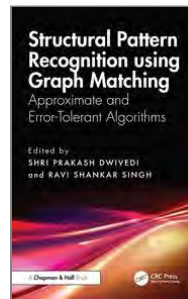
August 2025 : 302pp

Hb: 978-1-032-82635-6 : \$150

* For full contents and more information, visit: www.routledge.com/9781032826356

Structural Pattern Recognition using Graph Matching

Approximate and Error-Tolerant Algorithms



Shri Prakash Dwivedi G. B. Pant University of Agriculture & Technology, India, **Ravi Shankar Singh**

This book presents a comprehensive exploration of structural pattern recognition with a clear understanding of graph representation and manipulation. It explains graph matching techniques, unearthing the core principles of graph similarity measures, subgraph isomorphism, and advanced algorithms tailored to various pattern recognition tasks. It bridges the gap between theory and application by providing case studies, hands-on examples and applications. It is a reference book for academicians, researchers and students working in the fields of structural pattern recognition, computer vision, artificial intelligence, and data science.

Chapman & Hall

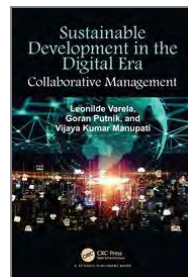
October 2025 : 232pp

Hb: 978-1-032-85034-4 : \$190

* For full contents and more information, visit: www.routledge.com/9781032850344

Sustainable Development in the Digital Era

Collaborative Management



Leonilde Varela University of Minho, Portugal, **Goran Putnik** Universidade do Minho, Portugal, **Manupati Vijaya Kumar** NITIE, Mumbai

The book advanced reviews the advances and provides case studies to assist scientists, practitioners and students in high standard manufacturing management processes and practices, to properly handle daily problems and challenges, with a special focus on the use of recent paradigms and tools to support manufacturing management decision making, through innovative methodologies and approaches for permitting researchers to learn, develop further work, and become advanced practitioners and promoters of collaborative management.

CRC Press

August 2025 : 196pp

Hb: 978-1-032-64454-7 : \$170

* For full contents and more information, visit: www.routledge.com/9781032644547

Sustainable Dual-Track Development

The Future of Software Engineering for Co-located, Remote, and Hybrid Teams



Todd Sedano , Paul Ralph

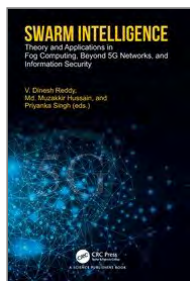
This book advances dual-track development as a unifying framework for the best way of designing great products (user-centered design), the best way of delivering software efficiently (agile methods), and strategies for balancing present and future needs (sustainable development).

CRC Press
August 2025 : 272pp
Pb: 978-1-032-98310-3 : **\$66.99**
Hb: 978-1-032-98409-4 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781032983103

Swarm Intelligence

Theory and Applications in Fog Computing, Beyond 5G Networks, and Information Security



Edited by **V. Dinesh Reddy** SRM University, India, **Md Muzakkir Hussain** SRM Uni, India, **Priyanka Singh** SRM Uni, India

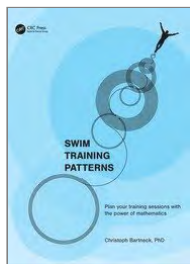
This book provides an overview of the theory and practical applications of swarm intelligence in fog computing, beyond 5G networks, and information security. It provides practical techniques such as computation offloading, task scheduling, resource allocation, wireless caching, joint resource optimization, energy management, UAV placement, and intelligent routing. It also discusses the applications of swarm intelligence in optimizing parameters for information transmission, data encryption, and secure transmission in edge networks, multi-cloud systems, and beyond 5G networks.

CRC Press
May 2025 : 258pp
Hb: 978-1-032-67697-5 : **\$160**
eBook: 978-1-032-69321-7

* For full contents and more information, visit: www.routledge.com/9781032676975

SWIM TRAINING PATTERNS

Plan your Training Sessions with the Power of Mathematics



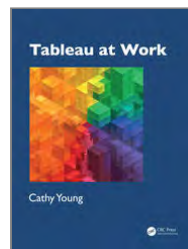
Christoph Bartneck University of Canterbury, New Zealand

This pioneering book integrates mathematics into swim training to create an intellectual journey into patterns. Exercise your body and mind with over 35 training programs derived from mathematical ideas. Dive into the history of mathematics and computer science to discover structures that will enrich your exercise routine. You don't need prior knowledge of mathematics or programming, just a curious mindset and the desire to swim interesting programs. This book will gently introduce you to the tools and knowledge you need to create programmatic training sessions.

CRC Press
July 2025 : 248pp
Pb: 978-1-032-88007-5 : **\$64.99**
Hb: 978-1-032-88008-2 : **\$84.99**

* For full contents and more information, visit: www.routledge.com/9781032880075

Tableau at Work



Cathy Young

With data and AI increasingly at the forefront of business today, you have a significant advantage when you can manage data, and uncover and communicate data insights effectively. By thoroughly cataloging, indexing, and cross-referencing material, this book aims to flatten the steep Tableau learning curve to start you on your data journey, and serves as a reference and study guide. Tableau at Work is the perfect book for anyone who wants a comprehensive guide and reference to Tableau, from beginners and novices all the way to advanced and professional users.

CRC Press
June 2025 : 390pp
Pb: 978-1-032-93418-1 : **\$64.99**
Hb: 978-1-032-93564-5 : **\$160**
eBook: 978-1-003-56645-8

* For full contents and more information, visit: www.routledge.com/9781032934181

Taking Video Out of the Game

A Game Developer's Guide to Total Blind Accessibility



Brandon Cole

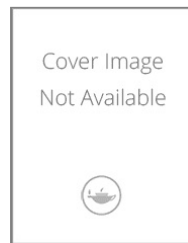
This book aims to provide information and in-routes to one of the most complex forms of video game accessibility. It promises to explain how a developer might make their game accessible to the totally blind. It will break down what that means and provide plenty of examples and ideas for how developers might achieve total blind accessibility, even in the largest, most complex games. As an experienced accessibility consultant who has worked on multiple AAA titles, the author brings a wealth of practical experience to the reader.

CRC Press
September 2025 : 144pp
Pb: 978-1-032-55739-7 : **\$69.99**
Hb: 978-1-032-56076-2 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032557397

Teaching Computers to Read

Effective Best Practices in Building Valuable NLP Solutions



Rachel Wagner-Kaiser

Building Natural Language Processing (NLP) solutions that deliver ongoing business value is not straightforward. This book provides clarity and guidance on how to design, develop, deploy, and maintain NLP solutions that address real-world business problems. Through providing best practices across the lifecycle of NLP development, this handbook will help organizations – particularly technical teams – use critical thinking to understand how, when, and why to build NLP solutions, what the common challenges are, and how to address or avoid them. By doing so, they'll deliver consistent value to their stakeholders and deliver on the promise of AI and NLP.

Chapman & Hall
November 2025 : 232pp
Pb: 978-1-032-48435-8 : **\$64.99**
Hb: 978-1-032-48437-2 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032484358

Telemedicine and E-Health Essentials



Edited by **Punit Kumar Singh, Salman Akhtar**

"Telemedicine and E-Health Essentials" presents a comprehensive analysis of virtual healthcare systems transforming modern medicine. From basic telephone consultations to advanced digital platforms, this book explores how remote healthcare technologies are improving medical access and patient outcomes. Through evidence-based examples, it examines successful applications in emergency care, specialist consultations, and remote monitoring while addressing key implementation challenges in data security, provider training, and regulatory compliance. The COVID-19 pandemic's influence on accelerating virtual care adoption is analyzed with practical insights.

CRC Press

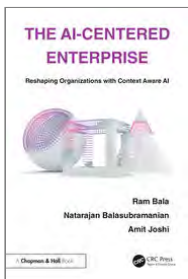
July 2025 : 216pp

Hb: 978-1-032-71565-0 : \$160

* For full contents and more information, visit: www.routledge.com/9781032715650

The AI-Centered Enterprise

Reshaping Organizations with Context Aware AI



Ram Bala, Natarajan Balasubramanian, Amit Joshi

Most organizations are adding AI tools to their existing systems without rethinking their overall processes. However, to fully unlock the potential of AI, companies will eventually need to build their operations around it. Over time, businesses will transform into AI-Centered Enterprises (ACEs), using this advanced technology to create new value in internal marketplaces. Understanding this transformation requires a basic understanding of how businesses work. It also means recognizing the limits of AI and knowing where human expertise is still essential. This book offers that knowledge, along with real-life examples and practical tips to help businesses navigate this transformation.

Chapman & Hall

July 2025 : 192pp

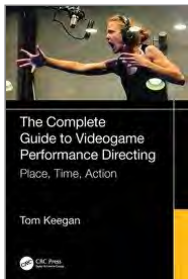
Pb: 978-1-032-89170-5 : \$29.99

Hb: 978-1-032-89243-6 : \$84.99

* For full contents and more information, visit: www.routledge.com/9781032891705

The Complete Guide to Videogame Performance Directing

Place, Time, Action



Tom Keegan

This book teaches the complex, sometimes confounding, and often beautiful art of directing live performance for videogames. Starting from a clear and comprehensive introduction to the nuts and bolts of directing on the motion capture floor and in the voiceover booth, the book dives deeper with concrete examples from the author's 25-year career directing seminal games from the early years to today's blockbusters. This book is sure to be an essential resource for directors, actors, voice-over artists, and game developers who want to master videogame performance.

CRC Press

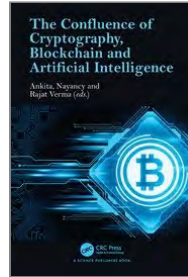
July 2025 : 202pp

Pb: 978-1-032-91454-1 : \$66.99

Hb: 978-1-032-90619-5 : \$170

* For full contents and more information, visit: www.routledge.com/9781032914541

The Confluence of Cryptography, Blockchain and Artificial Intelligence



Edited by **Ankita Sharma** Pranveer Singh Ins of Tech, India, **Nayancy** Pranveer Singh Ins of Tech, India, **Rajat Verma** Pranveer Singh Ins of Tech, India

This book explores the integration of Cryptography, Blockchain, and Artificial Intelligence (AI) in areas like Big Data, bioinformatics, IoT, 5G, and Industry 4.0. It highlights how these technologies drive the digital revolution, enabling multi-agent systems, autonomous models, and enhanced security. With blockchain underpinning cryptocurrencies and improving IoT security, the book covers blockchain's evolution (1.0 to 4.0) and its applications. It also introduces AI, discussing its development, paradigms, and industry-wide impact.

CRC Press

May 2025 : 272pp

Hb: 978-1-032-69317-0 : \$180

eBook: 978-1-032-71151-5

* For full contents and more information, visit: www.routledge.com/9781032693170

The Definitive Game Narrative Guide



Brian Kindregan, Diandra Anne Lasrado

The Definitive Game Narrative Guide is the ultimate start and end point for storytelling in video games. Whether you're an aspiring writer or a seasoned game developer, this book offers an in-depth, comprehensive look at the entire narrative process. An essential tool for anyone looking to level up their understanding of game narrative. This book will help you bring unforgettable stories to life in interactive form.

CRC Press

September 2025 : 288pp

Pb: 978-1-041-03689-0 : \$66.99

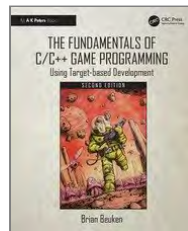
Hb: 978-1-041-03691-3 : \$180

* For full contents and more information, visit: www.routledge.com/9781041036890

2ND EDITION

The Fundamentals of C/C++ Game Programming

Using Target-based Development



Brian Beuken

This book gives novice coders an understanding of the methods and techniques used in professional games development. Projects are designed to help develop and strengthen problem solving and basic C/C++ skills. The book also helps to develop familiarity with Microsoft Visual Studio's ability to target and use fixed/restricted hardware, which are key skills in console development. This second edition has been fully updated in line with recent hardware changes, with new and updated cross platform code examples hosted at the companion website. This book will be useful to all novice coders looking to learn the fundamentals of C/C++ game programming.

A K Peters/CRC Press

October 2025 : 464pp

Pb: 978-1-032-86380-1 : \$82.99

Hb: 978-1-032-86472-3 : \$220

* For full contents and more information, visit: www.routledge.com/9781032863801

The Humanized Internet

Dignity, Digital Identity and Democracy



Akram Alfawakheeri , Monique J. Morrow

In reading this book, there are key themes that are constant such as the notion of identity and identity sets; e-sovereignty and privacy and most importantly the function of an Internet that is inclusive, not "controlled" by a few organizations for their own profitability. Certainly, "enterprising" the Internet has been a process over these past years and there is no intent to set judgement here but rather pause for a moment and reflect on the impact of these technologies to individuals.

River Publishers

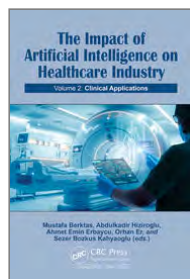
August 2025 : 162pp

Hb: 978-8-770-22032-3 : \$130

* For full contents and more information, visit: www.routledge.com/9788770220323

The Impact of Artificial Intelligence on Health Industry

Volume 2: Clinical Applications



Edited by **Sezer Bozkus Kahyaoglu** Uni of South Africa Financial Gov Dep, South Africa, **Orhan ER** Izmir Bakircay Uni, Turkey, **Abdulkadir Hizirolu** , **Ahmet Emin Erbaycu** Izmir Bakircay Uni, Turkey, **Mustafa Bertkas**

The health sector is highly dependent on technological innovations, much more than most other industries. The positive side is the potential to implement these technological innovations for major improvements and benefits. There has been a significant increase in the use of artificial intelligence techniques in clinical and non-clinical areas in the healthcare. The chapters in this book are presented by professionals who are experts in healthcare and have academic experience. The aim of this volume is to add to the literature and to present the current state of clinical and non-clinical applications in the healthcare industry and areas open to development.

CRC Press

August 2025 : 308pp

Hb: 978-1-032-83051-3 : \$180

* For full contents and more information, visit: www.routledge.com/9781032830513

The Object-Oriented Approach to Problem Solving and Machine Learning with Python



Sujith Samuel Mathew University of Adelaide, Australia, **Mohammad Amin Kuhail** , **Maha Hadid** , **Shahbano Farooq**

This book is a comprehensive guide suitable for beginners and experienced developers alike. It teaches readers how to master object-oriented programming (OOP) with Python and use it in real-world applications. Each chapter is designed for hands-on learning. You'll solidify your understanding with case studies, exercises, and projects that apply your newfound knowledge to real-world scenarios. The progressive structure ensures mastery, with each chapter building on the previous one, reinforced by exercises and projects. This book is your one-stop shop for mastering OOP with Python and venturing into the exciting world of machine learning and data science.

Chapman & Hall

May 2025 : 314pp

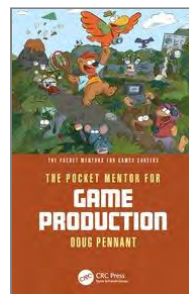
Pb: 978-1-032-66831-4 : \$64.99

Hb: 978-1-032-66833-8 : \$120

eBook: 978-1-032-66832-1

* For full contents and more information, visit: www.routledge.com/9781032668314

The Pocket Mentor for Game Production



Doug Pennant

Series: The Pocket Mentors for Games Careers

Want to work as a producer in the video games industry? This is the book for you. This book provides all the essential information and guidance you need to understand the industry and get your foot on the ladder. It covers everything from basics you'll need to understand, how to look for and apply for job opportunities, as well as the studio interview process itself. It also includes advice for what to do once you're in the role, with chapters covering the day-to-day of working as a game producer, how to set goals for future career progression, as well as interviews with top tips from experts in the industry. It will be of great interest to all beginner and aspiring game producers.

CRC Press

June 2025 : 196pp

Pb: 978-1-032-78560-8 : \$48.99

Hb: 978-1-032-85626-1 : \$125

eBook: 978-1-003-51906-5

* For full contents and more information, visit: www.routledge.com/9781032785608

The Smart Life Revolution

Embracing AI and IoT in Society



Edited by **Connie Tee** , **Thian Song Ong** , **Md Shohel Sayeed**

This book explores the integration of Artificial Intelligence (AI) across areas such as IoT, Big Data, healthcare, business, economics, and security, and improving the quality of life (QoL) in smart cities today. This book serves as a valuable resource for both undergraduate and postgraduate students in the study of AI applications in society. The book may be used for researchers and communities to identify the different challenges associated with key technologies for building new applications in improving quality of lives in smart cities.

CRC Press

June 2025 : 292pp

Pb: 978-1-032-83408-5 : \$64.99

Hb: 978-1-032-83405-4 : \$110

* For full contents and more information, visit: www.routledge.com/9781032834085

The Video Game Writer's Guide to Surviving an Industry That Hates You



Richard Dansky

There have been many books written about how to write for games, but just as important as creating the deliverables is knowing how to do the job itself. By turns humorous, horrifying, and hopeful, this is a user's manual to a role that is frequently misunderstood and underappreciated. Drawing on over two decades' experience in the game writing trenches, Richard Dansky takes you on a journey through the things you must know in order to survive and thrive as a game writer.

CRC Press

August 2025 : 152pp

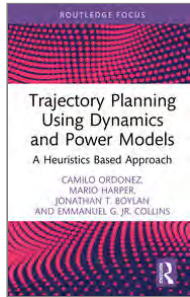
Pb: 978-1-032-97261-9 : \$69.99

Hb: 978-1-032-97262-6 : \$160

* For full contents and more information, visit: www.routledge.com/9781032972619

Trajectory Planning Using Dynamics and Power Models

A Heuristics Based Approach



Camilo Ordonez, Mario Harper, Jonathan T. Boylan, Emmanuel G. Collins, Jr.

This book shows how to plan trajectories (i.e. time-dependent paths) for autonomous robots using a dynamic model within the A* framework. It develops a paradigm called Sampling Based Model Predictive Optimization (SBMPO), which generates graph trees through input sampling of a dynamic model, enabling A*-type algorithms to find optimal trajectories. It covers various robotic platforms and tasks, including manipulators lifting heavy loads, mobile robots navigating steep hills, and climbing robots in obstacle-rich environments, among others. It is aimed at researchers, engineers, and advanced students in motion planning and control for robotic and autonomous systems.

Chapman & Hall
June 2025 : 136pp
Hb: 978-1-041-03440-7 : **\$68.99**

* For full contents and more information, visit: www.routledge.com/9781041034407

Turing's Vision

How AI is Shaping the World



Pietro Perconti Dept. of cognitive science, University of Messina, Italy, **Alessio Plebe** University of Messina, Italy

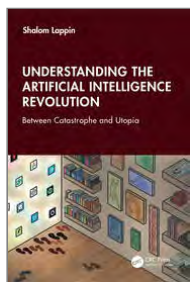
The book argues that, thanks to the recent technological revolution driven by deep learning and generative artificial intelligence, Alan Turing's "vision" is reshaping the world. This vision rests on the idea that intelligence is not an intrinsic property of human beings, but an attribute we are naturally inclined to ascribe to certain entities when their behavior elicits this deeply rooted attitude, which is fundamentally tied to the interpretative practice of language.

CRC Press
July 2025 : 158pp
Hb: 978-1-032-56121-9 : **\$69.99**

* For full contents and more information, visit: www.routledge.com/9781032561219

Understanding the Artificial Intelligence Revolution

Between Catastrophe and Utopia



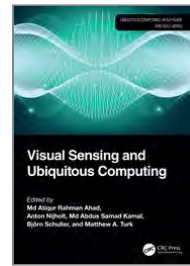
Shalom Lappin Queen Mary University of London, UK

The book is unique in combining an overview of the history of AI, and a discussion of the main engineering concepts that have produced the current technological revolution, with a detailed discussion of the dangers of AI, imagined and real. It addresses both the benefits and actual dangers of AI within the context of current public policy debates on possible regulatory regimes for this technology.

CRC Press
June 2025 : 138pp
Pb: 978-1-041-03507-7 : **\$29.99**
Hb: 978-1-041-03668-5 : **\$150**
eBook: 978-1-003-62479-0

* For full contents and more information, visit: www.routledge.com/9781041035077

Visual Sensing and Ubiquitous Computing



Edited by Md Atiqur Rahman Ahad, Anton Nijholt, Md Abdus Samad Kamal, Björn Schuller, Matthew A. Turk

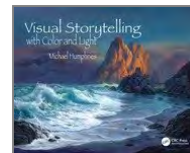
Series: Ubiquitous Computing, Healthcare and Well-being

The book will be related to applied machine learning and deep learning in the field of sensing, vision and sensor-based applications. Apart from a series of methodologies, it will have some- original methods,- exploration of new applications,- presentations on relevant datasets,- challenging applications,- ideas and future scopes with some guidelines. The editors are top experts in these arenas and published many papers and books so far. All chapters are reviewed by experts (2 to 4 reviews). After multiple rebuttals and editing, authors, globally, related to this domain will submit the final chapters.

CRC Press
August 2025 : 192pp
Hb: 978-1-032-76650-8 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032766508

Visual Storytelling with Color and Light



Michael Humphries

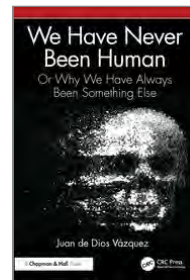
In the world today—where digital is considered king—new artists often forego training in traditional mediums, only to find their art suffering down the road. Visual Storytelling with Color and Light offers behind-the-scenes secrets of gouache, an opaque watercolor painting technique that naturally leads its practitioners to a deeper understanding of the color theory, composition, and lighting principles they need to succeed in the industry. With insider information on best gouache practices, Photoshop enhancements, and developing a signature style, this new guide has everything you need to take your paintings and backgrounds to the next level.

CRC Press
June 2026 : 280pp
Pb: 978-0-367-86067-7 : **\$66.99**
Hb: 978-0-415-72064-9 : **\$180**

* For full contents and more information, visit: www.routledge.com/9780367860677

We Have Never Been Human

Or Why We Have Always Been Something Else



Juan de Dios Vázquez

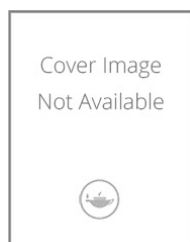
We Have Never Been Human boldly reimagines what it means to be human, challenging the traditional notions that bind our identity to biology and culture. From ancient mythologies to modern technologies, this book reveals a dynamic, ever-evolving human identity shaped by external forces and technological advancements. Blending insights from philosophy, technology studies, anthropology, and cultural critique, We Have Never Been Human offers an interdisciplinary exploration of our constructed identities and what they portend for the future of society.

Chapman & Hall
June 2025 : 232pp
Pb: 978-1-041-03670-8 : **\$39.99**
Hb: 978-1-041-03673-9 : **\$100**

* For full contents and more information, visit: www.routledge.com/9781041036708

Winning the AI Arms Race

Defeating China and Russia, Re-establishing American Superpower for Global Prosperity and the Greater Good with Artificial Intelligence



Rishi Kumar

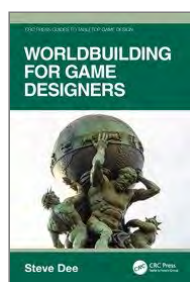
Series: River Publishers Series in Computing and Information Science and Technology

The book is structured around three pivotal themes: strengthening and safeguarding America's superpower status, countering the threats posed by malicious actors, and harnessing AI for the greater global good. This book is essential reading for policy makers navigating the complexities of AI's future and business leaders aiming to position themselves for success in the AI-driven world. It's an indispensable resource for anyone looking to understand and influence the future of AI.

River Publishers
May 2025 : 380pp
Pb: 978-8-743-80184-9 : **\$64.99**
Hb: 978-8-743-80089-7 : **\$140**
eBook: 978-8-743-80090-3

* For full contents and more information, visit: www.routledge.com/9788743801849

Worldbuilding for Game Designers



Steve Dee

Series: CRC Press Guides to Tabletop Game Design

Our modern world is dominated by giant media companies, and increasingly they don't so much sell story, characters or gameplay as they do their setting. It also provides a deeper understanding of the how and why of world creation, and why worlds have so much power over us as players and as people.

CRC Press
June 2025 : 298pp
Pb: 978-1-032-85681-0 : **\$64.99**
Hb: 978-1-032-86229-3 : **\$160**
eBook: 978-1-003-52191-4

* For full contents and more information, visit: www.routledge.com/9781032856810

2ND EDITION

A Concise Introduction to Geometric Numerical Integration



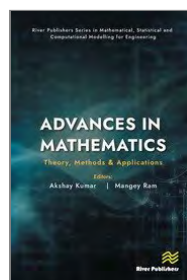
Sergio Blanes Universitat Politècnica de València, València, Spain, **Fernando Casas** Universitat Jaume I, Castellón, Spain

A Concise Introduction to Geometric Numerical Integration, Second Edition presents the main themes, techniques, and applications of geometric integrators for researchers in mathematics, physics, astronomy, and chemistry who are already familiar with numerical tools for solving differential equations.

Chapman & Hall
November 2025 : 248pp
Hb: 978-1-032-86246-0 : \$120

* For full contents and more information, visit: www.routledge.com/9781032862460

Advances in Mathematics: Theory, Methods & Applications



Edited by **Akshay Kumar**, **Mangey Ram**

Series: *River Publishers Series in Mathematical, Statistical and Computational Modelling for Engineering*

This book is an excellent collection of various topics of mathematics which include numerical methods, integral equations, and differential equations. The book is recommended to readers to refresh their understanding of applied mathematics with theory and applications. It will be useful to students, researchers, and practitioners working in applied and computational mathematics.

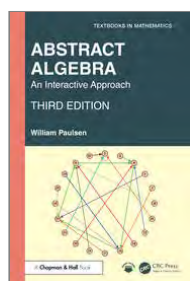
River Publishers
June 2025 : 242pp
Hb: 978-8-770-04669-5 : \$140
eBook: 978-8-770-04670-1

* For full contents and more information, visit: www.routledge.com/9788770046695

3RD EDITION

Abstract Algebra

An Interactive Approach



William Paulsen

Series: *Textbooks in Mathematics*

Abstract Algebra: An Interactive Approach is a new concept in learning modern algebra. Although all the expected topics are covered thoroughly and in the most popular order, the text does offer much flexibility. Perhaps more significantly, it gives professors and students the option of including technology in the course. Each chapter in the textbook has a corresponding interactive Mathematica notebook and an interactive SageMath workbook which can be used either in the classroom, or outside of the classroom.

Chapman & Hall
May 2025 : 439pp
Hb: 978-1-032-98540-4 : \$120
eBook: 978-1-003-59976-0

* For full contents and more information, visit: www.routledge.com/9781032985404

An Invitation to Real Analysis



Andrew D. Hwang

Series: *Textbooks in Mathematics*

Adopting a student-centered approach, this book anticipates and addresses the common challenges that students face when learning abstract concepts like limits, continuity, and inequalities.

Chapman & Hall
October 2025 : 480pp
Pb: 978-1-032-98714-9 : \$69.99
Hb: 978-1-032-98913-6 : \$170

* For full contents and more information, visit: www.routledge.com/9781032987149

6TH EDITION

Advanced Engineering Mathematics with MATLAB®



Dean G. Duffy US Naval Academy, Annapolis, Maryland, USA

Series: *Advances in Applied Mathematics*

This edition continues to refine a smaller, easier to read, and useful version of this classic textbook. While competing textbooks continue to grow, the book presents a slimmer, more practical option to align with the expectations of today's students. The new edition of the author's classic textbook continues on a path to create the best possible learning resource for instructors and students alike. Through extensive class testing over five previous editions, including the author's current course at the US Naval Academy, the book has been steadily improved.

Chapman & Hall
June 2025 : 661pp
Hb: 978-1-041-01858-2 : \$120

* For full contents and more information, visit: www.routledge.com/9781041018582

Borel Games



Eilon Solan

Borel Games are multiplayer games with infinite horizon and general payoff functions.

Chapman & Hall
November 2025 : 288pp
Hb: 978-1-032-94865-2 : \$99.99

* For full contents and more information, visit: www.routledge.com/9781032948652

Chord Transformations in Higher-Dimensional Networks



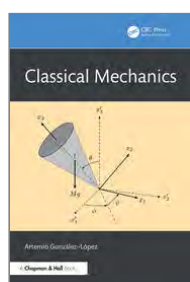
Rafael Cubarsi

The book proposes an in-depth formal framework for generalized Tonnetz, takes an algebraic approach and studies systems of k -chords in n -TET scales derived from a given k -mode through mode permutations and chord root translations by combining key ideas of the neo-Riemannian Tonnetz theories with serial approaches to chordal structures. It provides the generalization of the neo-Riemannian P , R , L transformations via the notion of 'drift' operator and builds the formal framework covering many details, with special attention to trichords and tetrachords, which allow the geometric visualization of their structure.

Chapman & Hall
June 2025 : 144pp
Hb: 978-1-032-98290-8 : \$220
eBook: 978-1-003-59796-4

* For full contents and more information, visit: www.routledge.com/9781032982908

Classical Mechanics



Artemio González-López

Classical Mechanics is a textbook for undergraduate students majoring in Physics (or Mathematics and Physics).

Chapman & Hall
July 2025 : 280pp
Pb: 978-1-032-98797-2 : \$69.99
Hb: 978-1-032-98796-5 : \$180

* For full contents and more information, visit: www.routledge.com/9781032987972

Computational Methods for Transition States and Pathways in Rare Events



Shuting Gu

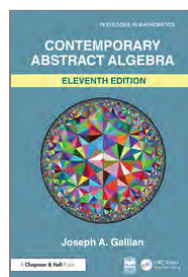
Based on the calculation of transition states and the identification of transition paths, the book aims to provide a comprehensive guide to understanding and simulating rare events. It is written for researchers and practitioners in fields such as applied mathematics, physics, chemistry and computational science who are interested in the underlying mechanisms of rare events and their transition processes.

CRC Press
May 2025 : 148pp
Hb: 978-1-032-99647-9 : \$69.99
eBook: 978-1-003-60565-2

* For full contents and more information, visit: www.routledge.com/9781032996479

11TH EDITION

Contemporary Abstract Algebra



Joseph Gallian

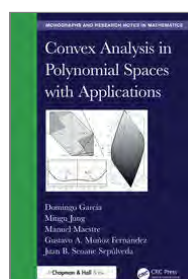
Series: Textbooks in Mathematics

Contemporary Abstract Algebra, 11e is for a course to enable students to do computations and write proofs. This text stresses the importance of obtaining a solid introduction to the traditional topics, while at the same time presenting abstract algebra as a contemporary and very much active subject which is currently being used by working physicists, chemists, and computer scientists. For more than three decades, this classic text has been widely appreciated by instructors and students alike. The book offers an enjoyable read and conveys and develops enthusiasm for the beauty of the topics presented. It is comprehensive, lively, and engaging.

Chapman & Hall
June 2025 : 556pp
Hb: 978-1-032-77891-4 : \$105
eBook: 978-1-003-48802-6

* For full contents and more information, visit: www.routledge.com/9781032778914

Convex Analysis in Polynomial Spaces with Applications



Domingo García, Mingu Jung, Manuel Maestre, Gustavo A. Muñoz Fernández UCM, Spain, Juan B. Seoane Sepúlveda UCM, Spain

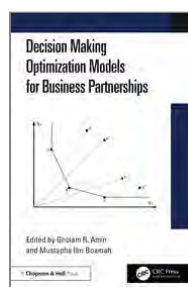
Series: Chapman & Hall/CRC Monographs and Research Notes in Mathematics

Convex Analysis in Polynomial Spaces with Applications is intended to serve a broad audience of undergraduate and graduate students, junior and senior researchers, and as a general self-study guide for anyone who wishes to get acquainted with geometry of Banach spaces of polynomials with applications.

Chapman & Hall
October 2025 : 216pp
Hb: 978-1-032-96765-3 : \$220

* For full contents and more information, visit: www.routledge.com/9781032967653

Decision Making Optimization Models for Business Partnerships



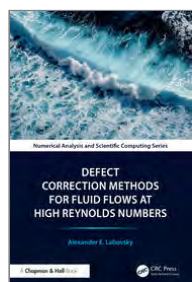
Edited by Gholam R. Amin, Mustapha Ibn Boamah

Decision Making Optimization Models for Business Partnerships extends non-parametric Data Envelopment Analysis (DEA) and parametric econometrics approaches to better understand how economic efficiency and market competitiveness is achieved for different types of partnerships and strategic alliances.

Chapman & Hall
June 2025 : 374pp
Hb: 978-1-032-38248-7 : \$140

* For full contents and more information, visit: www.routledge.com/9781032382487

Defect Correction Methods for Fluid Flows at High Reynolds Numbers



Alexander E. Labovsky

Series: Chapman & Hall/CRC Numerical Analysis and Scientific Computing Series

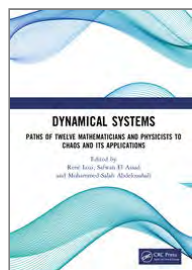
Defect Correction Methods for Fluid Flows at High Reynolds Numbers presents the mathematical development of defect correction methods (DCM) in application to fluid flow problems in various settings.

Chapman & Hall
July 2025 : 152pp
Hb: 978-1-032-41043-2 : \$160

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Dynamical Systems

Paths of Twelve Mathematicians and Physicists to Chaos and Its Applications



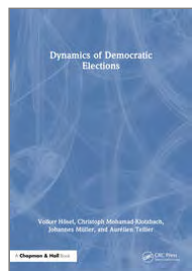
Edited by René Lozi, Safwan El Assad, Mohammed-Salah Abdelouahab

This book offers a captivating exploration of the intersection between mathematics, chaos theory, and dynamical systems through the personal journeys of twelve renowned mathematicians and physicists from China, Europe, Russia, and the USA. It will be of great value to students and researchers in mathematics, physics, engineering, and related disciplines seeking to deepen their understanding of chaotic dynamical systems and their applications. This book includes a revised introduction and a new chapter. The remaining chapters were originally published in Journal of Difference Equations and Applications.

CRC Press
June 2025 : 340pp
Hb: 978-1-032-94029-8 : \$190
eBook: 978-1-003-56860-5

* For full contents and more information, visit: www.routledge.com/9781032940298

Dynamics of Democratic Elections



Johannes Müller, Volker Hösel, Aurélien Tellier, Christoph Mohamad-Klotzbach

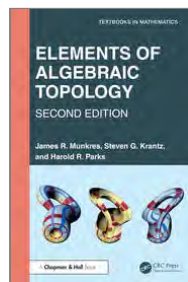
Dynamics of Democratic Elections explores modeling approaches to democratic elections and opinion dynamics at the intersection of mathematics, political science, and computational modeling.

Chapman & Hall
November 2025 : 432pp
Pb: 978-1-032-79912-4 : \$79.99
Hb: 978-1-032-79188-3 : \$250

* For full contents and more information, visit: www.routledge.com/9781032799124

2ND EDITION

Elements of Algebraic Topology



James R. Munkres, Steven G. Krantz, Harold R. Parks

Series: Textbooks in Mathematics

Elements of Algebraic Topology provides the most concrete approach to the subject. With coverage of homology and cohomology theory, universal coefficient theorems, Künneth theorem, duality in manifolds, and applications to classical theorems of point-set topology, this book is perfect for communicating complex topics and the fun nature of algebraic topology for beginners. This edition retains the essential features of the original book. Most of the notation and terminology is the same. There are some useful additions. There is a new introduction to homotopy theory. A new Index of Notation is included. Many new exercises are added.

Chapman & Hall
May 2025 : 583pp
Hb: 978-1-032-76554-9 : \$125

* For full contents and more information, visit: www.routledge.com/9781032765549

Entropies and Fractionality

Entropy Functionals, Small Deviations, Related Integral Equations



Yuliya Mishura, Kostiantyn Ralchenko

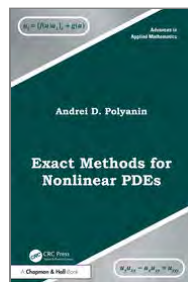
Series: Chapman & Hall/CRC Numerical Analysis and Scientific Computing Series

Entropies and Fractionality: Entropy Functionals, Small Deviations, Related Integral Equations starts with a systematization and calculation of various entropies (Shannon, Rényi and some others) of selected absolutely continuous probability distributions.

Chapman & Hall
October 2025 : 272pp
Hb: 978-1-041-07478-6 : \$220

* For full contents and more information, visit: www.routledge.com/9781041074786

Exact Methods for Nonlinear PDEs



Andrei D. Polyamin

Series: Advances in Applied Mathematics

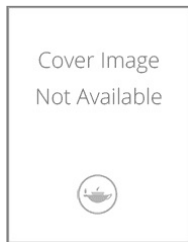
The book describes and illustrates how to apply effective analytical methods to obtain exact solutions to nonlinear differential equations of mathematical physics and other partial differential equations. Nonlinear partial differential equations of the second and higher orders, including nonlinear equations of mathematical physics, are commonly encountered in various fields of mathematics, physics, mechanics, chemistry, and biology and in numerous applications. Finding a general solution to these equations is only possible in exceptional cases.

Chapman & Hall
July 2025 : 437pp
Hb: 978-1-032-71051-8 : \$150

* For full contents and more information, visit: www.routledge.com/9781032710518

Free Random Variables

Free Distributions Dictated by the Semicircular Law



Ilwoo Cho Saint Ambrose University, Iowa

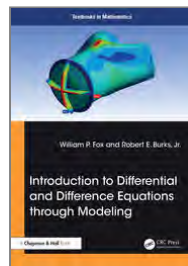
Series: Chapman & Hall/CRC Monographs and Research Notes in Mathematics

Free Random Variables: Free Distributions Dictated by the Semicircular Law is particularly concerned with operators which are not self-adjoint, but whose free distributions are dictated by the semicircular law.

Chapman & Hall
November 2025 : 128pp
Hb: 978-1-041-10346-2 : \$220

* For full contents and more information, visit: www.routledge.com/9781041103462

Introduction to Differential and Difference Equations through Modeling



William P. Fox, Robert E. Burks, Jr.

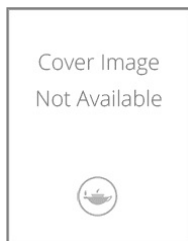
Series: Textbooks in Mathematics

This book presents an opportunity to learn difference and differential equations through a modelling-first approach. The text is meant as an introduction to those equations and not as a text only for modelling courses. No previous exposure to these equations is expected. Modeling is presented as the vehicle for learning difference and differential equations. The presentation starts with a model (or several models) and presents the solution with minor discussions. Then, methods to obtain those solutions are presented and show these same models and others again in more detail.

Chapman & Hall
July 2025 : 355pp
Hb: 978-1-032-94900-0 : \$120

* For full contents and more information, visit: www.routledge.com/9781032949000

Fuzzy Impulsive Dynamic Equations on Time Scales



Svetlin Georgiev, Khaled Zennir Qassim University

Series: Advances in Applied Mathematics

This book presents the main tools for investigations of the existence and uniqueness of as well as the existence of multiple solutions for initial- and boundary-value problems for fuzzy impulsive dynamic equations on time scales. This book is intended for researchers and students in engineering and science. There are eight chapters in this book. The chapters in the book are organized in a way that is pedagogically accessible.

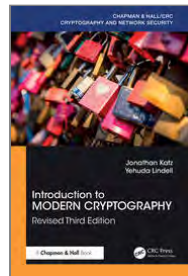
Chapman & Hall
November 2025 : 512pp
Hb: 978-1-041-10060-7 : \$220

* For full contents and more information, visit: www.routledge.com/9781041100607

4TH EDITION

Introduction to Modern Cryptography

Fourth Edition



Jonathan Katz University of Maryland, College Park, USA,
Yehuda Lindell Bar-Ilan University, Ramat Gan, Israel

Series: Chapman & Hall/CRC Cryptography and Network Security Series

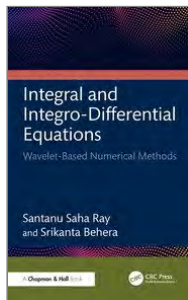
Introduction to Modern Cryptography is the most relied-upon source in the field. The book provides a mathematically rigorous yet accessible treatment of this fascinating subject. This is an updated edition of the most widely used introduction to cryptography textbook. The authors have kept this book as up-to-date and with the feedback from instructors and students alike, the presentation is refined, current, and accurate. The book's focus is on modern cryptography, which is distinguished from classical cryptography by its emphasis on definitions, precise assumptions, and rigorous proofs of security.

Chapman & Hall
June 2025 : 640pp
Hb: 978-1-032-49679-5 : \$140
eBook: 978-1-003-39813-4

* For full contents and more information, visit: www.routledge.com/9781032496795

Integral and Integro-Differential Equations

Wavelet-Based Numerical Methods



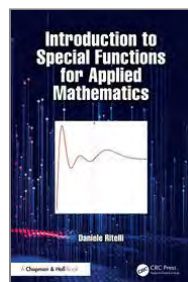
Santanu Saha Ray, Srikanta Behera

This book provides a comprehensive study of numerical techniques for solving integral and integro-differential equations using wavelet-based approximation methods. It combines both theoretical insights and practical applications, focusing on integer- and fractional-order equations, including those with weakly singular kernels. Starting with key definitions and theorems from integral equations and fractional calculus, the book establishes a clear mathematical framework. It then introduces wavelet-based schemes for approximating solutions, with a particular focus on convergence, stability, and error analysis.

Chapman & Hall
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Daniele Ritelli

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James R. Kirkwood Sweet Briar College, Virginia, USA

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Hb: 978-1-041-01313-6 : \$130

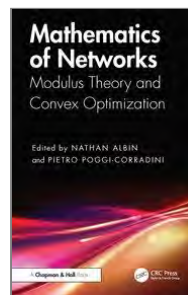
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Nathan Albin, Pietro Poggi-Corradini

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Integro-Differential Nonlinear Equations

Miroslaw Lachowicz

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Hongwei Chen Department of Mathematics, Christopher Newport University, **Roberto Tauraso**

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Chapman & Hall

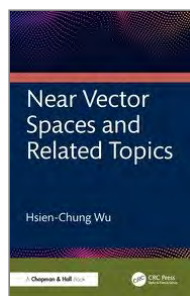
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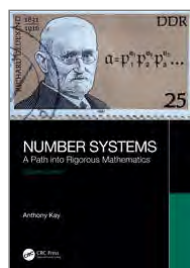
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Number Systems

A Path into Rigorous Mathematics



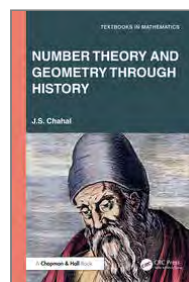
Anthony Kay

Number Systems: A Path into Rigorous Mathematics aims to introduce number systems to an undergraduate audience in a way that emphasises the importance of rigour, and with a focus on providing detailed but accessible explanations of theorems and their proofs.

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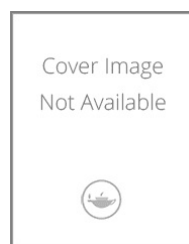
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Methods and Applications



Bilal M. Ayyub University of Maryland, College Park, USA,
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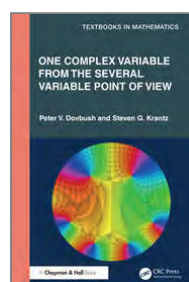
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Peter V. Dovbush, **Steven G. Krantz** Washington University, St. Louis, Missouri, USA

Series: Textbooks in Mathematics

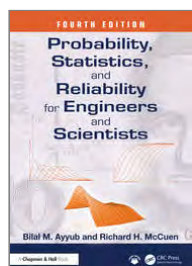
Traditionally speaking, those who study the function theory of one complex variable spend little or no time thinking about several complex variables. Conversely, experts in the function theory of several complex variables do not consider one complex variable. One complex variable is the inspiration and testing ground for several complex variables, and several complex variables is the natural generalization of one complex variable. The authors' thesis here is these two subject areas have much in common. They can gain a lot by learning to communicate. These two fields are logically connected, and each can be used to explain and to put the other into context.

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Python for Mathematics



Vincent Knight

Series: *Chapman & Hall/CRC The Python Series*

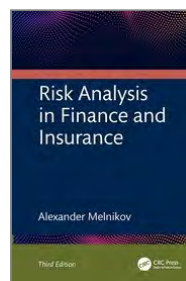
Python for Mathematics introduces readers to effective methods for doing mathematics using the Python programming language

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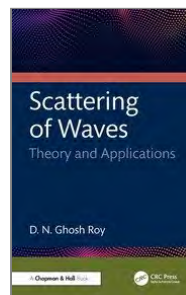
Series: *Chapman and Hall/CRC Financial Mathematics Series*

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Scattering of Waves

Theory and Applications



D. N. Ghosh Roy (816)Utah Center For Advanced Imaging Research (UCAIR), Salt Lake City, USA

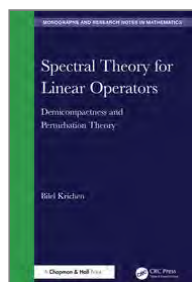
Scattering of Waves: Theory and Applications explores the underlying concepts, physics and mathematics of wave scattering and wave field structures and self-consistently introduces a range of topics in scalar acoustics and quantum and vector electromagnetic scattering. Primarily aimed at advanced students of physics, engineering and applied mathematics, this text will also be valuable to researchers and faculties in electromagnetics, acoustics and quantum mechanics.

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Spectral Theory for Linear Operators

Demicompactness and Perturbation Theory



Bilel Krichen

Series: Chapman & Hall/CRC Monographs and Research Notes in Mathematics

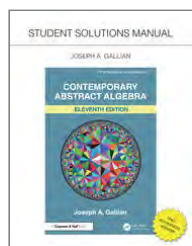
This book focuses on spectral theory for linear operators involving bounded or unbounded demicompact linear operators acting on Banach spaces.

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Joseph A. Gallian

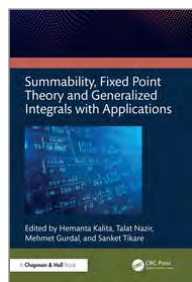
Series: Textbooks in Mathematics

Redesigned for the 11th edition of Contemporary Abstract Algebra, Student Solutions Manual, written by the author, has comprehensive solutions for all odd-numbered exercises and a large number of even-numbered exercises. This Manual also offers many alternative solutions to those appearing in the text. These will provide the student with a better understanding of the material. This is the only available student solutions manual prepared by the author of Contemporary Abstract Algebra, Eleventh Edition and the only official one. It is designed to supplement the text and the author's original approach to instruction.

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Summability, Fixed Point Theory and Generalized Integrals with Applications



Edited by Hemanta Kalita, Talat Nazir, Mehmet Gurdal, Sanket Tikare University of South Africa

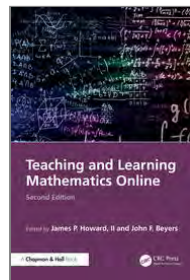
This book presents contemporary mathematical concepts and techniques including theories of summability, fixed point and non-absolute integration and applications, providing an overview of recent developments in the foundations of the field as well as its applications. It discusses the recent results of double sequence spaces as the four-dimensional forward difference matrix in double sequence spaces, several new fixed point on Hadamard type fractional integral and differential operator related to the qualitative properties of solutions like, existence and uniqueness, stability, continuous dependence, controllability, oscillations, etc.

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Teaching and Learning Mathematics Online



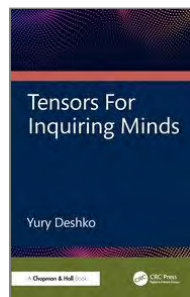
Edited by James P. Howard, II Johns Hopkins Applied Physics Laboratory, USA, *John F. Beyers* University of Maryland Global Campus, USA

Teaching and Learning Mathematics Online, Second Edition continues to present meaningful and practical solutions for teaching mathematics and statistics online. It focuses on the problems observed by mathematics instructors currently working in the field who strive to hone their craft and share best practices with the community. The book provides a set of standard practices, improving the quality of online teaching and the learning of mathematics. With nine brand new chapters exploring new technological opportunities and reflecting on the lessons of COVID-19, instructors will benefit from learning new techniques and approaches to delivering content.

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Yury Deshko

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The Analyst's Gambit

A Second Course in Functional Analysis



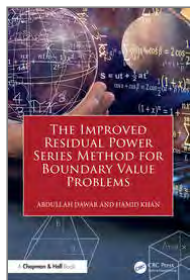
Orr Moshe Shalit

The Analyst's Gambit: A Second Course in Functional Analysis is a textbook written to serve a graduate course in Functional Analysis. It provides a sequel to the author's other volume, A First Course in Functional Analysis, but it is not necessary to have read one in order to make use of the other.

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The Improved Residual Power Series Method for Boundary Value Problems



Abdullah Dawar , Hamid Khan

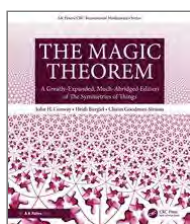
This book introduces a semi-analytical method, Improved Residual Power Series Method (IRPSM) for solving boundary value problems (BVPs). Unlike traditional numerical and analytical techniques, Improved Residual Power Series Method (IRPSM) offers quick convergence and minimal computational time, avoiding the pitfalls of round-off errors, linearization, perturbation, and discretization. This innovative approach has been rigorously compared with existing methods, demonstrating superior accuracy and efficiency. The book is meant for scholars, researchers, and students in mathematics, engineering, and physics.

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The Magic Theorem

A Greatly-Expanded, Much-Abridged Edition of The Symmetries of Things



John H. Conway , Heidi Burgiel , Chaim Goodman-Strauss

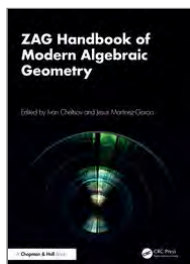
Series: AK Peters/CRC Recreational Mathematics Series

The Magic Theorem: a Greatly-Expanded, Much-Abridged Edition of The Symmetries of Things presents a wonderfully unique re-imagining of the classic book, The Symmetries of Things. Begun as a standard second edition by the original author team, it changed in scope following the passing of John Conway. This version of the book fulfils the original vision for the project: an elementary introduction to the orbifold signature notation and the theory behind it.

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ZAG Handbook of Modern Algebraic Geometry



Edited by **Ivan Cheltsov , Jesus Martinez-Garcia**

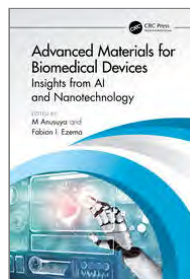
ZAG Handbook of Algebraic Geometry provides an expansive collection of extended summaries of all the research talks given at the worldwide ZAG (Zoom Algebraic Geometry) Seminar as well as contributed short notes.

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Asim Gangopadhyaya Loyola University Chicago, USA,
Constantin Rasinariu Loyola University Chicago, USA

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AI Robotics

Ethics, Algorithms, and Technology of Artificial Intelligence-Powered Robots



Vinod Kumar Khanna CSIR-Central Electronics Engineering Research Institute, India

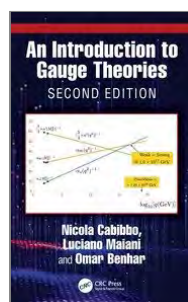
AI robots can learn from their experiences, make decisions in real-time, understand natural language and human gestures, and utilize computer vision to perceive and comprehend their environment. Beginning with the rudimentary concepts of artificial intelligence, *AI Robotics: Ethics, Algorithms, and Technology of Artificial Intelligence-Powered Robots* explores the intersection of robotics and physics and emphasizes the need for strict adherence to ethical principles in relation to overall progress and the development of humankind.

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Luciano Maiani University of Rome, La Sapienza, and INFN Rome, Italy, **Omar Benhar** INFN, Roma, Italy

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Applications of Contemporary Nanomaterials for Advanced Energy Storage and Conversion



Kingsley Eghonghon Ukhurebor, Uyiosa Osagie Aigbe

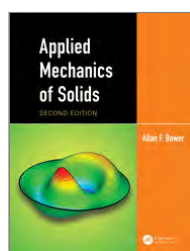
Applications of Contemporary Nanomaterials for Advanced Energy Storage and Conversion discusses the applications of contemporary nanomaterials for advanced energy storage and conversion such as supercapacitors, Li-ion batteries, and fuel cells. Due to their unique properties and structure, including high surface area, electron conductivity, capacitance, energy density, charge-discharge, cycle stability and power conversion efficiency, contemporary nanomaterials applications as essential efficient energy devices have advanced over the years. Contemporary nanomaterials also offer better thermal constancy, mechanical robustness, and microstructure properties.

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Applied Mechanics of Solids



Allan F. Bower Brown University, Providence, Rhode Island, USA

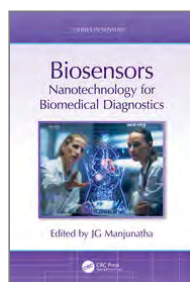
The second edition of Applied Mechanics of Solids provides a concise description of all the concepts needed to predict how solid materials deform and fail under stress. With its companion volume of solved example problems, it is an invaluable class textbook or reference for personal study or review. With the aid of computer simulations, design engineers can predict failure in structural, mechanical, and bio-mechanical components with a few keystrokes. But simulations are built on sophisticated mathematics, physics, and numerical methods, and always involve some judicious approximations. This book contains all the theory needed to make the best use of their simulations.

CRC Press
July 2025 : 600pp
Hb: 978-1-041-01995-4 : \$120

* For full contents and more information, visit: www.routledge.com/9781041019954

Biosensors

Nanotechnology for Biomedical Diagnostics



Edited by **JG Manjunatha**

Series: Series in Sensors

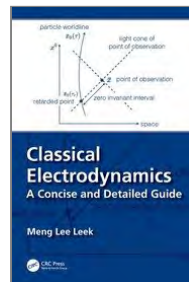
Biosensors: Nanotechnology for Biomedical Diagnostics provides a comprehensive overview of the transformative role played by nanotechnology in the development of biosensors for biomedical applications. Highlighting interdisciplinary collaboration and technological innovation, this book demonstrates how to accelerate the translation of nanotechnology-enabled biosensors from the laboratory to the clinic, ultimately improving patient outcomes and quality of life.

CRC Press
October 2025 : 408pp
Hb: 978-1-032-87341-1 : \$220

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Classical Electrodynamics

A Concise and Detailed Guide



Meng Lee Leek

Classical Electrodynamics: A Concise and Detailed Guide covers the essential theoretical foundations of electrodynamics from the vector calculus formulation to the classical gauge field theory. The essential theoretical formalism of electrodynamics is covered with all mathematical derivations provided. The derivations are uniquely presented with inline, line-by-line explanations which makes every derivation easy to follow. The reader can focus on pondering over the physical content and implications of the derived results. The content is supplemented with numerous exercises with their complete solutions included.

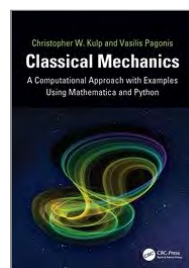
CRC Press
May 2025 : 174pp
Hb: 978-1-032-84831-0 : \$69.99
eBook: 978-1-003-51521-0

* For full contents and more information, visit: www.routledge.com/9781032848310

2ND EDITION

Classical Mechanics

A Computational Approach with Examples Using Mathematica and Python



Christopher W. Kulp Lycoming College, Williamsport, PA, USA, **Vasilis Pagonis** McDaniel College, Westminster, MD, USA

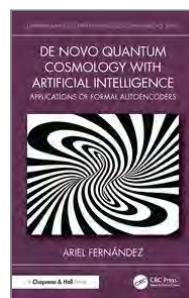
Classical Mechanics: A Computational Approach with Examples using Python and Mathematica provides a unique introduction to classical mechanics, with a focus on computational methods by providing clear and thorough coverage of key topics and includes integrated instructions and treat and ents of computation. The newly updated second edition include two new appendices instructing the reader in both the Python and Mathematica languages. All worked example problems contain both Python and Mathematica code. New end-of-chapter problems explore the application of computational methods to classical mechanics problems.

CRC Press
August 2025 : 608pp
Pb: 978-1-032-59051-6 : \$99.99
Hb: 978-1-032-59475-0 : \$250

* For full contents and more information, visit: www.routledge.com/9781032590516

De Novo Quantum Cosmology with Artificial Intelligence

Applications of Formal Autoencoders



Ariel Fernández

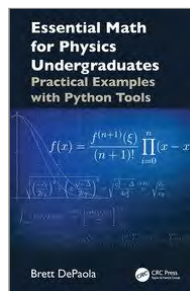
Series: Chapman & Hall/CRC Artificial Intelligence and Robotics Series

Experiments attempting to recreate the big bang and measurements in deep space point to the tantalizing possibility that our universe may be the relic of something simple, powerful and highly symmetric. The evidence suggests an entity where matter and energy cannot be told apart and the four fundamental forces are unified into one. Empowered by artificial intelligence this book seeks to unravel the mystery as it searches for an encompassing physical picture where it all falls into place at the aftermath of creation from a quantum void.

CRC Press
July 2025 : 250pp
Hb: 978-1-041-04503-8 : \$130
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Essential Math for Physics Undergraduates

Practical Examples with Python Tools



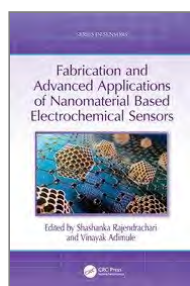
David D. DePaola

Essential Math for Physics Undergraduates: Practical Examples with Python Tools covers basic applied Math and entry-level programming. A gap often exists in the Physics student's Math curriculum, between the Math taught by the Math departments and the Math taught either in a "Math Methods" or advanced Physics courses, such as introduction to quantum mechanics, classical mechanics, thermal and statistical physics, and electromagnetic theory. This text plugs that gap and provides the new Physics student with the necessary tools to succeed in their Physics curriculum.

CRC Press
October 2025 : 112pp
Pb: 978-1-032-98376-9 : **\$39.99**
Hb: 978-1-032-97098-1 : **\$120**

* For full contents and more information, visit: www.routledge.com/9781032983769

Fabrication and Advanced Applications of Nanomaterial Based Electrochemical Sensors



Edited by **Shashanka Rajendrachari, Vinayak Adimule**

Series: Series in Sensors

Fabrication and Advanced Applications of Nanomaterial Based Electrochemical Sensors helps students understand the concept of nanomaterials based electrochemical sensors through simple examples and illustrations. Electrochemical sensors can determine various bioactive compounds, organic molecules, but the further addition of nanomaterials into the electrode can increase their detection limit due to their electrical, chemical properties and huge surface area. These sensors can also detect toxic waste, thereby reducing risk of waterborne diseases, thus this book also enhances environmental awareness and explains how electrochemical sensors contribute to sustainable living.

CRC Press
September 2025 : 472pp
Hb: 978-1-032-84256-1 : **\$140**

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First Steps in Space-Time

A Brief Introduction to Special Relativity



Ed Macaulay

Series: Discovering Physics

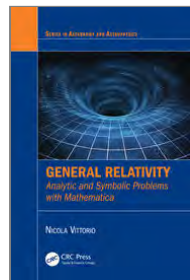
This book provides an accessible, authentic, and readable introduction to the theory of special relativity. The academic level of the book builds only on skills that would be covered in a GCSE maths course, such as Pythagoras's theorem and rearranging equations, and no prior knowledge of relativity (or physics) is assumed. It allows the reader to discover and appreciate that relativity is not an intractable esoteric curiosity, but a beautiful theory that profoundly shaped the course of history and our interpretation of our day-to-day lives. It is ideal for readers with an interest in physics and a little working knowledge of maths, who have studied mathematics at A-level standard.

CRC Press
June 2025 : 104pp
Pb: 978-1-032-90838-0 : **\$36.99**
Hb: 978-1-032-91479-4 : **\$250**
eBook: 978-1-003-56355-6

* For full contents and more information, visit: www.routledge.com/9781032908380

General Relativity

Analytic and Symbolic Problems with Mathematica



Nicola Vittorio Università di Roma Tor Vergata, Roma, Italy

Series: Series in Astronomy and Astrophysics

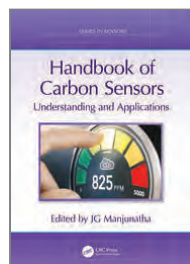
This book provides General Relativity problems to be tackled both analytically and symbolically-numerically with the Mathematica software. In the first case, the reader is guided in setting up the appropriate solutions. In the second case, the reader is provided with very illustrative notebooks to carry out the steps necessary to solve a General Relativity problem.

CRC Press
June 2025 : 296pp
Pb: 978-1-032-65527-7 : **\$66.99**
Hb: 978-1-032-67484-1 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781032655277

Handbook of Carbon Sensors

Understanding and Applications



Edited by **JG Manjunatha**

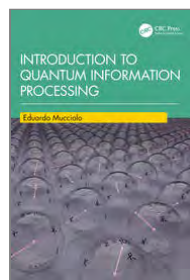
Series: Series in Sensors

In an era dominated by environmental challenges and technological advancements, the need for precise and efficient monitoring tools has become paramount. Among these tools, carbon sensors stand as vanguards, revolutionizing our approach to sensing and detection. "Handbook of Carbon Sensors: Understanding and Applications" provides readers with a comprehensive and accessible guide to the world of carbon sensing.

CRC Press
May 2025 : 370pp
Hb: 978-1-032-81208-3 : **\$260**
eBook: 978-1-003-50032-2

* For full contents and more information, visit: www.routledge.com/9781032812083

Introduction to Quantum Information Processing



Eduardo Mucciolo

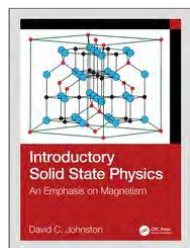
This book introduces quantum computing and quantum communications at the undergraduate level for students in the physical sciences, engineering, and mathematics, assuming no prior knowledge of quantum mechanics. It is a self-contained guide assuming only that the reader is familiar with physics at the college level, calculus (up to and including ordinary differential equations), and some matrix algebra and complex numbers. The book brings the reader up to speed with fundamental concepts in quantum information processing and builds a working knowledge of basic quantum algorithms, quantum error correction, and quantum communication protocols.

CRC Press
September 2025 : 264pp
Pb: 978-1-032-77589-0 : **\$64.99**
Hb: 978-1-032-77863-1 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032775890

Introductory Solid State Physics

An Emphasis on Magnetism



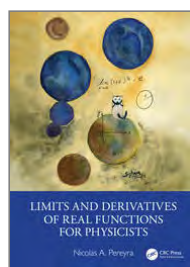
David C. Johnston

Introductory Solid State Physics: An Emphasis on Magnetism acts as a supplement to students tackling solid state physics at both the undergraduate and graduate level. The BCS theory of superconductivity is not included in undergraduate-level books, because the theory is derived at the graduate level. However, this book uses the equations derived by BCS to calculate the thermodynamic properties of superconductors such as the temperature dependence of the heat capacity using techniques accessible to undergraduates.

CRC Press
May 2025 : 188pp
Hb: 978-1-032-98263-2 : \$105
eBook: 978-1-003-60685-7

* For full contents and more information, visit: www.routledge.com/9781032982632

Limits and Derivatives of Real Functions for Physicists



Nicolas A. Pereyra

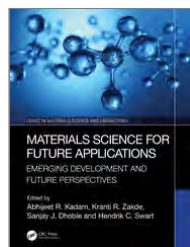
This book provides an in-depth introduction to the limits and derivatives of real functions, with a strong emphasis on practical applications in physics. The book demystifies the "why" behind calculus principles, making advanced mathematical concepts accessible without sacrificing rigor. This text provides precise definitions and properties of limits, continuity, and derivatives, ensuring a solid mathematical foundation. By emphasizing the connection between calculus and its applications in physics, students gain a deeper appreciation of the material and its relevance to their studies.

CRC Press
August 2025 : 622pp
Hb: 978-1-032-96709-7 : \$120

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Material Science for Future Applications

Emerging Development and Future Perspectives



Edited by **Abhijeet R. Kadam , Kranti Zakde , Sanjay J. Dhoble , Hendrik C. Swart**

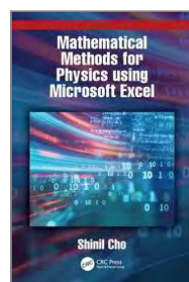
Series: *Series in Materials Science and Engineering*

Materials Science for Future Applications: Emerging Development and Future Perspectives offers an overview of the materials used for progressive energy systems, such as solar cells, luminescent energy, sensors and detectors and energy storage devices. Today's worldwide energy and materials production is going through important changes which are developing novel prospects. These developments and innovative technologies are changing the way energy is manufactured, transported and spent.

CRC Press
June 2025 : 422pp
Hb: 978-1-032-79308-5 : \$260

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Mathematical Methods for Physics using Microsoft EXCEL



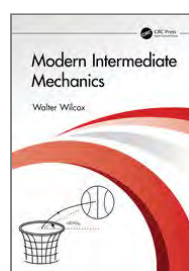
Shinil Cho

In Mathematical Methods for Physics using Microsoft EXCEL, readers will investigate topics from classical to quantum mechanics, which are often omitted from the course work. Some of these topics include rocket propulsion, Rutherford scattering, and boundary value problems and associated special functions as orthonormal bases. Recent topics such as Lagrange point of the James Webb Space Telescope, and information entropy and H-function are also discussed and analysed. Additional interdisciplinary topics, such as self-avoiding random walk for polymer length are also described. This book will allow readers to reproduce the data and experiments often found in Physics textbooks.

CRC Press
June 2025 : 220pp
Hb: 978-1-032-84454-1 : \$120
eBook: 978-1-003-51634-7

* For full contents and more information, visit: www.routledge.com/9781032844541

Modern Intermediate Mechanics



Walter Wilcox Baylor University, Waco, Texas, USA

Modern Intermediate Mechanics (MIM) covers all the basic concepts of classical mechanics. It can serve as a foundational text for a one-semester course or a complete two-semester sequence for intermediate-level undergraduate students in physics or engineering. It includes a comprehensive coverage of the ideas at a basic level (Part I) and at an advanced level (Part II).

CRC Press
May 2025 : 486pp
Hb: 978-1-032-64996-2 : \$120
eBook: 978-1-032-65002-9

* For full contents and more information, visit: www.routledge.com/9781032649962

Nano-Dimensional Zinc Oxide for Energy Harvesting, Sensing, and Environmental Remediation



Edited by **Nupur Aggarwal** Chandigarh University, India, **Naveen Kumar** Chandigarh University, India, **Shivani Singla** Chandigarh University, India

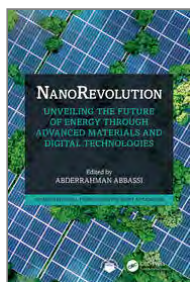
Zinc oxide (ZnO) nanostructures have gained significant attention in recent years due to their applications in various fields. The book provides a comprehensive overview of the recent advances in ZnO-based nanostructures for energy harvesting, sensing, and environmental remediation applications. It covers advanced aspects of application-based research on ZnO nanostructures. The book also includes biosynthesized ZnO nanostructures and their role in targeted drug delivery.

Chapman & Hall
June 2025 : 240pp
Hb: 978-1-032-73445-3 : \$210
eBook: 978-1-003-46490-7

* For full contents and more information, visit: www.routledge.com/9781032734453

NanoRevolution

Unveiling the Future of Energy through Advanced Materials and Digital Technologies



Edited by **Abderrahman Abbassi**

Series: *Advances in Digital Technologies for Smart Applications*

As the global push toward energy accelerates, NanoRevolution: Unveiling the Future of Energy through Advanced Materials and Digital Technologies brings forward a powerful vision of how advanced materials and digital technologies are redefining energy solutions. This comprehensive resource navigates the frontiers of nanotechnology, artificial intelligence, and IoT applications within the renewable energy sector, presenting innovative strategies that address today's most pressing energy challenges.

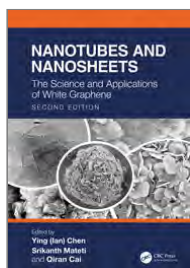
CRC Press
June 2025 : 334pp
Hb: 978-1-032-81410-0 : \$140
eBook: 978-1-003-49973-2

* For full contents and more information, visit: www.routledge.com/9781032814100

2ND EDITION

Nanotubes and Nanosheets

The Science and Applications of White Graphene



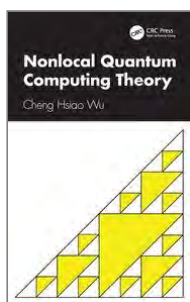
Edited by **Ying (Ian) Chen** Deakin University, **Srikanth Mateti**, **Qiran Cai**

This book focuses on the research and development of the renowned two-dimensional nanomaterial, white graphene, also known as boron nitride nanosheets. It covers a comprehensive range of topics, including their structures, production methods, properties, and exciting applications in energy storage, thermal management, and environmental solutions. This well-structured arrangement aims to cater to a wide readership, attracting both university researchers in chemistry, materials science, and energy storage, as well as engineers from various industries.

CRC Press
August 2025 : 384pp
Hb: 978-1-041-08977-3 : \$200

* For full contents and more information, visit: www.routledge.com/9781041089773

Nonlocal Quantum Computing Theory



Cheng Hsiao Wu

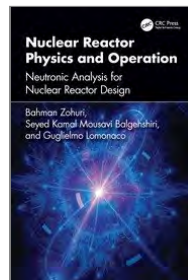
Provides beginners with a comprehensive overview of the fundamentals of quantum computing theory from a non-local computation point of view.

CRC Press
August 2025 : 144pp
Hb: 978-1-032-89265-8 : \$220

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Nuclear Reactor Physics and Operation

Neutronic Analysis For Nuclear Reactor Design



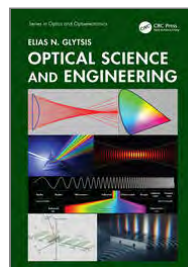
Bahman Zohuri, **Seyed Kamal Mousavi Balgehshiri**, **Guglielmo Lomonaco**

This book serves as a thorough reference for students, researchers, and professionals in nuclear engineering and reactor physics, offering a detailed exploration of the core principles behind nuclear reactor theory, neutron transport, neutronic analysis, and reactor core design and calculations. Each chapter includes at least one example to illustrate the topics covered, and the latter half focuses on key areas relevant to operating reactors—reactor kinetics/dynamics and in-core fuel management.

CRC Press
August 2025 : 336pp
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Elias N. Glytsis

Series: *Series in Optics and Optoelectronics*

Optical Science and Engineering explores the fundamental principles and advanced topics within the field of optical science and engineering.

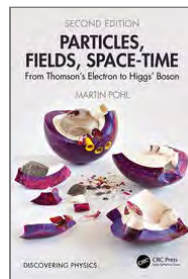
CRC Press
October 2025 : 960pp
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2ND EDITION

Particles, Fields, Space-Time

From Thomson's Electron to Higgs' Boson



Martin Pohl CERN, Geneva

Series: *Discovering Physics*

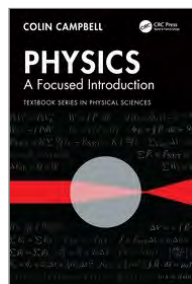
Particles, Fields, Space-Time: From Thomson's Electron to Higgs' Boson explores the concepts, ideas, and experimental results that brought us from the discovery of the first elementary particle in the end of the 19th century to the completion of the Standard Model of particle physics in the early 21st century. For this second edition, the complete text has been thoroughly revised. A description of plans for new accelerator facilities has been added, as well as new results on cosmic ray physics, dark matter and dark energy. The usage of natural units has been abandoned in favour of SI units throughout the text.

CRC Press
June 2025 : 316pp
Pb: 978-1-032-85668-1 : \$66.99
Hb: 978-1-032-85958-3 : \$180
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Physics

A Focused Introduction



Colin Campbell

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Physics: A Focused Introduction provides a thorough introduction to the principles and practical applications of introductory undergraduate physics. Featuring a streamlined narrative, it encourages active engagement between fundamental concepts and fully worked examples. Major topics such as motion (kinematics, forces, and conservation of momentum and energy), thermodynamics, waves, optics, electricity and magnetism are covered, in addition to the foundations of modern physics. This textbook is suitable for students of science and engineering who require a concise introduction to the field, as well as students of both algebra-based and calculus-based courses.

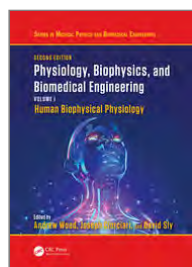
CRC Press
November 2025 : 750pp
Pb: 978-1-032-94588-0 : \$82.99
Hb: 978-1-032-94587-3 : \$240

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2ND EDITION

Physiology, Biophysics, and Biomedical Engineering, Volume I

Human Biophysical Physiology



Edited by **Andrew W. Wood** Swinburne University of Technology, Australia, **Joseph Ciorciari**, **David Sly**

Series: Series in Medical Physics and Biomedical Engineering

Fully updated throughout, this second edition of Physiology, Biophysics and Biomedical Engineering provides a multidisciplinary understanding of biological phenomena and the instrumentation for monitoring these phenomena. Now split into two volumes, it provides a comprehensive introduction for undergraduate courses emphasising the application of the physical sciences to human physiology in a medical context. Volume 1 tackles human biophysical physiology, whilst volume 2 explores biomedical engineering and instrumentation.

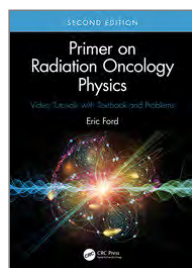
CRC Press
September 2025 : 336pp
Hb: 978-0-367-56767-5 : \$240

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2ND EDITION

Primer on Radiation Oncology Physics

Video Tutorials with Textbook and Problems



Eric Ford Department of Radiation Oncology, University of Washington, Seattle, WA, USA

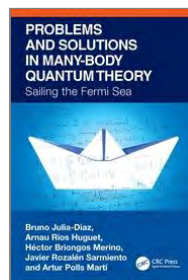
Primer on Radiation Oncology Physics: Video Tutorials with Textbook and Problems, now in its Second Edition, provides over 60 tutorial videos (each 15-20 minutes in length) with a companion text and is the most complete and effective introduction to medical physics available. The textbook and videos are an outgrowth of decades of Dr. Ford's teaching experience with a variety of learners from different backgrounds. They have rapidly become a must-have resource in the field and are valuable both for early learners and as a refresher for those in practice.

CRC Press
May 2025 : 480pp
Pb: 978-1-032-38291-3 : \$110
Hb: 978-1-032-38538-9 : \$270
eBook: 978-1-003-34553-4

* For full contents and more information, visit: www.routledge.com/9781032382913

Problems and Solutions in Many-Body Quantum Theory

Sailing the Fermi Sea



Bruno Julia-Diaz, **Arnau Rios Huguet**, **Héctor Briongos Merino**, **Javier Rozalén Sarmiento**

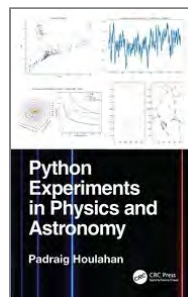
This practical guidebook provides a comprehensive set of exercises which illustrate the most relevant concepts in a first course on quantum many-body theory as part of advanced undergraduate or graduate courses. The problems come with detailed solutions which can easily be followed either by professors or students. Quantum many-body theory is relevant in several fields, from condensed matter to astrophysics.

CRC Press
October 2025 : 184pp
Pb: 978-1-032-01355-8 : \$64.99
Hb: 978-1-032-04296-1 : \$160

* For full contents and more information, visit: www.routledge.com/9781032013558

Python Experiments in Physics and Astronomy

Padraig Houlahan



Python Experiments in Physics and Astronomy acts as a resource for science and engineering students or faculty who would like to see how a diverse selection of topics can be analyzed and simulated using Python programs. The book also provides Python solutions that can be learned from and modified as needed.

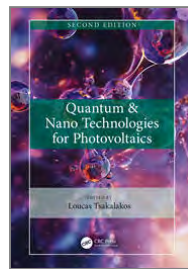
CRC Press
May 2025 : 214pp
Hb: 978-1-032-98189-5 : \$105
eBook: 978-1-003-60004-6

* For full contents and more information, visit: www.routledge.com/9781032981895

2ND EDITION

Quantum & Nano Technologies for Photovoltaics

Edited by **Loucas Tsakalacos**



Ongoing concerns regarding greenhouse gas-related environmental effects, energy security, and the rising costs of conventional energy sources has led to sustained interest and growth in solar energy in general, and photovoltaics in particular. Exploring state-of-the-art developments from a practical point of view, Quantum and Nanotechnology for Photovoltaics is the 2nd Edition of the book and examines issues in increasing efficiency, decreasing costs, and how these two goals can be achieved in a single photovoltaic device leveraging emergent quantum and nanoscale phenomena.

CRC Press
May 2025 : 382pp
Hb: 978-0-367-69318-3 : \$105
eBook: 978-1-003-15321-4

* For full contents and more information, visit: www.routledge.com/9780367693183

Room Temperature Photon Detectors



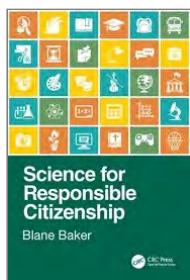
Antoni Rogalski, Weida Hu, Piotr Martyniuk

Room Temperature Photon Detectors provides an overview of the performance of emerging new generation of room temperature photodetectors generally called low-dimensional solid (LDS) photodetectors among which the most important are two-dimensional (2D) materials, perovskites, and quantum dots (QDs)/nanowires (NWs) operating in a wide spectral range from the ultraviolet (UV), visible (VIS), far infrared (FIR) to terahertz (THz). The LDS reported performance at room temperature is even better than that presented for standard commercial photodetectors.

CRC Press
June 2025 : 448pp
Hb: 978-1-032-74571-8 : \$260

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Science for Responsible Citizenship



Blane Baker

Science for Responsible Citizenship helps the reader to understand how science works and how science can help us develop reasonable and logical solutions to worldwide problems. Basic science knowledge and possible solutions based on scientific reasoning are explored, with a focus on interdisciplinary topics including disease transmission, energy, and climate change.

CRC Press
June 2025 : 118pp
Pb: 978-1-032-83218-0 : \$66.99
Hb: 978-1-032-84159-5 : \$250
eBook: 978-1-003-51147-2

* For full contents and more information, visit: www.routledge.com/9781032832180

Self-Healing Structures, Machines, and Systems



Dryver R. Huston

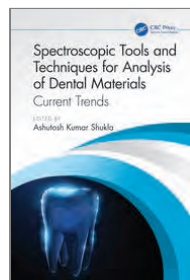
This book describes the behavior, underlying principles and design of self-healing materials, structures, machines, and systems. Self-healing is a ubiquitous phenomenon that appears in many systems ranging from the molecular scale up through to large macroscale systems and in domains ranging from materials such as self-healing polymers, to self-sealing tires, water distribution networks, and information systems including control systems for damaged aircraft. Self-healing extends performance and endurance in ways that are just not possible otherwise.

CRC Press
June 2025 : 478pp
Hb: 978-1-032-48849-3 : \$250

* For full contents and more information, visit: www.routledge.com/9781032488493

Spectroscopic Tools and Techniques for Analysis of Dental Materials

Current Trends



Edited by **Ashutosh Kumar Shukla**

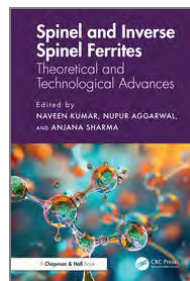
This book introduces the dental materials and spectroscopic techniques applied for the analysis of such materials, including ceramic, metallic, polymeric and composites. The individual chapters are primarily based on particular spectroscopic techniques and their applications, including X-ray Spectroscopy, Ultraviolet & visible spectroscopy, Fourier Transfer Infrared Spectroscopy, Raman Spectroscopy and Mass spectrometry. Different oral diseases, caries, calculus, periodontitis and oral mucosal diseases such as oral cancer, will be discussed as well. This is an ideal book for dental professionals, researchers and students interested in the analysis of dental materials.

CRC Press
June 2025 : 244pp
Hb: 978-1-032-82582-3 : \$130
eBook: 978-1-003-50680-5

* For full contents and more information, visit: www.routledge.com/9781032825823

Spinel and Inverse Spinel Ferrites

Theoretical and Technological Advances



Edited by **Naveen Kumar** Chandigarh University, India,
Nupur Aggarwal Chandigarh University, India, **Anjana Sharma** Chandigarh University, India

This comprehensive book explores spinel and inverse spinel ferrites, focusing on their synthesis methods, structural characteristics, magnetic properties, and diverse applications. It offers a valuable resource for understanding how these materials are transforming fields such as electronics, energy conversion, sensing, biomedicine, agriculture, and environmental management. The book provides practical insights into synthesis methods, fabrication techniques, and the scale-up processes required to move these materials toward commercial applications.

Chapman & Hall
May 2025 : 202pp
Hb: 978-1-032-66455-2 : \$200
eBook: 978-1-032-66565-8

* For full contents and more information, visit: www.routledge.com/9781032664552

Teaching Introductory Physics to Visually Impaired Learners



Marcio Velloso da Silveira, Antonio Carlos Fontes dos Santos

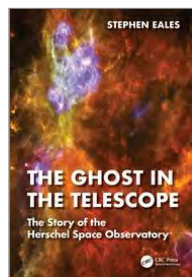
Teaching Introductory Physics to Visually Impaired Learners provides a gateway to understanding the difficulties encountered by this audience and provides ways for teachers to embrace this challenge. The concept of inclusion is discussed in light of the historical evolution of the achievements of people with disabilities and the development of reading and writing in Braille, in addition to other more modern tools, such as cell phone applications. The remaining chapters present methodologies for teaching mechanics, waves, electrodynamics, optics and modern physics in classes where there are one or more students with visual impairments.

CRC Press
October 2025 : 208pp
Pb: 978-1-032-82971-5 : \$54.99
Hb: 978-1-032-83583-9 : \$130

* For full contents and more information, visit: www.routledge.com/9781032829715

The Ghost in the Telescope

The Story of the Herschel Space Observatory



Stephen Eales

The Ghost in the Telescope is an insider's account of the Herschel Space Observatory, which was built to answer the questions of how stars and galaxies were born. Written in an engaging manner for a general audience, the book tells the stories of the telescope itself, the discoveries it made, and the engineers and astronomers who made and used it. The book, based on the author's own experience and interviews with the key astronomers and engineers, tells the story of the mission, from its original concept on a piece of paper in Venice to the moment after the end of the mission when the engineers had to decide whether to crash the spacecraft into the Moon.

CRC Press

August 2025 : 264pp

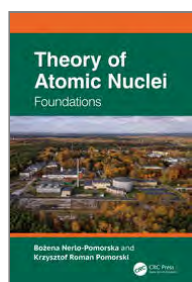
Pb: 978-1-032-04382-1 : \$26.99

Hb: 978-1-032-04949-6 : \$110

* For full contents and more information, visit: www.routledge.com/9781032043821

Theory of Atomic Nuclei

Foundations



Bożena Nerlo-Pomorska, Krzysztof Roman Pomorski

Theory of Atomic Nuclei: Foundations selects some fundamental problems of the theory of atomic nuclei at low energy. It reviews specific nuclear physics issues in terms of historical development and evolution into more extended theories, which nowadays constitute complete parts of nuclear science. The book allows the reader to understand the structure of the nucleus, i.e., the mechanism that rules in this subatomic world. The book is intended for graduate physics students at universities and nuclear sciences and engineering students at technical universities. It can also be helpful for PhD students and junior researchers in nuclear physics.

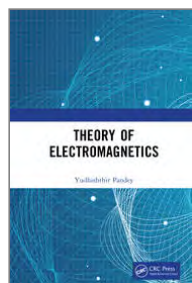
CRC Press

October 2025 : 264pp

Hb: 978-1-041-07484-7 : \$120

* For full contents and more information, visit: www.routledge.com/9781041074847

Theory of Electromagnetism



Yudhishtir Pandey

This book details the fundamental principles and applications of electromagnetism. It discusses their theoretical aspects as well as practical applications to provide a comprehensive overview and understanding of the field. The subject matter of this book also covers: Fundamentals of Vector Theory Conductors, Dielectrics, and Capacitance Poisson's and Laplace's Equations and their Applications Reflection, Refraction, and Dispersion of Plane Waves Transmission Lines Print edition not for sale in South Asia (India, Sri Lanka, Nepal, Bangladesh, Pakistan or Bhutan)

CRC Press

May 2025 : 320pp

Hb: 978-1-041-02318-0 : \$140

eBook: 978-1-003-61871-3

* For full contents and more information, visit: www.routledge.com/9781041023180

Universe, Human Species, Reality

A Physicalist Approach



Jacques Vanier Université de Montréal, Québec, Canada

Series: Discovering Physics

This book describes the functioning of the material universe with the use of intermediate mathematical language. The book is based entirely on physical phenomena, on reality, and develops the argument that the principle of least action plays the most important role in the functioning of the universe and that, if we extend our study, our work on Lagrangians could provide an answer to our search of the nature of the interactions that seem to take place in the physics involved in the unanswered questions regarding the nature of the intellect, the intellect-brain gap and the nature of mathematics.

CRC Press

August 2025 : 300pp

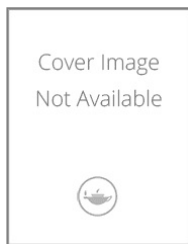
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2ND EDITION

5G LTE Narrowband Internet of Things

With Satellite Connectivity and Artificial Intelligence



Hossam Fattah

Broadband wireless communication has transformed dramatically, leading to advanced technologies like 5G. 5G LTE Narrowband Internet of Things: With Satellite Connectivity and Artificial Intelligence focuses on one crucial aspect of 5G – Narrowband Internet of Things (NB-IoT). Since the first edition in 2019, NB-IoT has evolved with new features introduced in 3GPP Releases 15–18. This edition explores its architecture, protocol stack, and latest enhancements, including satellite connectivity, AI/ML integration, and cloud-based infrastructure. Designed as an accessible reference, it simplifies complex concepts while providing valuable insights into this growing technology.

CRC Press

November 2025 : 280pp

Hb: 978-1-041-02087-5 : \$140

* For full contents and more information, visit: www.routledge.com/9781041020875

A Practical Approach to Open Source Intelligence (OSINT) - Volume 1



Akashdeep Bhardwaj University of Petroleum and Energy Studies

This book delves into the fascinating world of Open-Source Intelligence (OSINT), empowering you to leverage the vast ocean of publicly available information to gain valuable insights and intelligence.

CRC Press

August 2025 : 265pp

Pb: 978-1-032-80596-2 : \$64.99

Hb: 978-1-032-80222-0 : \$160

* For full contents and more information, visit: www.routledge.com/9781032805962

Advanced AI and Data Science Applications



Edited by D. Sivabalaselvamani , G Revathy , Ranjit Singh Sarban Singh

Series: Advances in Computational Collective Intelligence

The book explores advancements in Artificial Intelligence (AI) and data science for various domains. Looking at these technologies' transformative impact for engineering, the book blends theory and practice to serve as a roadmap for understanding how these technologies are applied to practices in a range of fields from healthcare to finance. The book focuses on innovating for enhanced problem-solving in interdisciplinary realms

Auerbach Publications

September 2025 : 344pp

Hb: 978-1-032-89465-2 : \$200

* For full contents and more information, visit: www.routledge.com/9781032894652

Advanced Intelligent Applications



Edited by Sanjay Misra , Amit Jain , Manju Kaushik , Chitresh Banerjee , Rakhi Mutha

Emphasizing practical implementation, this book features real-world use cases, industry applications, and success stories. It examines how intelligent applications are transforming industries such as healthcare, finance, manufacturing, and transportation. By delving into the innovative approaches and emerging trends in advanced intelligent applications, the book examines innovation and leveraging emerging technologies to drive intelligent solutions across diverse domains. Providing a wide-ranging overview of the field, the book helps researchers to navigate the rapidly evolving landscape of advanced intelligent applications.

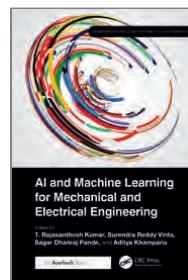
Routledge

October 2025 : 264pp

Hb: 978-1-032-70918-5 : \$210

* For full contents and more information, visit: www.routledge.com/9781032709185

AI and Machine Learning for Mechanical and Electrical Engineering



Edited by T. Rajasanthosh Kumar , Surendra Reddy Vinta , Sagar Dhanraj Pande VIT-AP University, Andhra Pradesh, India, **Aditya Khamparia**

Series: Innovations in Intelligent Internet of Everything (IoE)

The book examines issues involved in the transition from traditional mechanical and electrical engineering and their management systems to the new engineering paradigms created by the application of smart systems. Exploring how AI and machine learning can play a crucial role in enhancing productivity and innovation, the book covers applications, methods to transition to smart engineering and management, and associated ethical implications.

Auerbach Publications

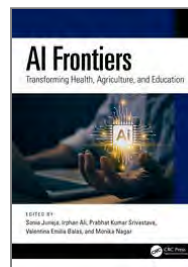
September 2025 : 312pp

Hb: 978-1-032-75948-7 : \$210

* For full contents and more information, visit: www.routledge.com/9781032759487

AI Frontiers

Transforming Health, Agriculture, and Education



Edited by Sonia Juneja , Irphan Ali , Prabhat Kumar Srivastava , Valentina Emilia Balas Aurel Vlaicu University of Arad, Romania, **Monika Nagar**

AI Frontiers: Transforming Health, Agriculture, and Industry delves into how cutting-edge AI innovations are addressing some of the world's most pressing challenges. This comprehensive volume explores the transformative impact of AI across healthcare, agriculture, and industrial landscapes, offering insights into practical applications, emerging trends, and future opportunities. By blending theoretical foundations with real-world case studies, this book empowers readers with actionable knowledge to leverage AI effectively

CRC Press

October 2025 : 312pp

Hb: 978-1-032-99149-8 : \$150

* For full contents and more information, visit: www.routledge.com/9781032991498

AI-Driven Cybersecurity

Revolutionizing Threat Detection and Defence Systems



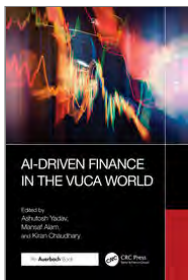
Edited by **Hooman Razavi, Mariya Ouaisa, Mariyam Ouaisa, Haifa Nakouri, Ahmed Abdelgawad**

This book delves into the revolutionary ways in which AI-driven innovations are enhancing every aspect of cybersecurity, from threat detection and response automation to risk management and endpoint protection.

CRC Press
September 2025 : 344pp
Hb: 978-1-041-05033-9 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781041050339

AI-Driven Finance in the VUCA World



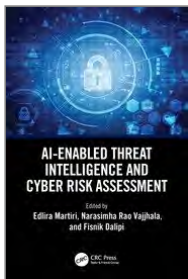
Edited by **Ashutosh Yadav, Mansaf Alam** Jamia Millia Islamia University, New Delhi, **Kiran Chaudhary** Shivaji College, University of Delhi

In today's world, characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), traditional finance is no longer sufficient to meet the challenges of fast-paced and interconnected global markets. To thrive in this dynamic environment, financial institutions, professionals, and policymakers are increasingly turning to artificial intelligence (AI), which has shown promise lately. The book explores this intersection, offering a comprehensive look at how AI is becoming ever more critical in the financial industry. It provides real-world case studies, practical applications, and ethical considerations, making this book a guide for professionals, researchers, and students.

Auerbach Publications
August 2025 : 312pp
Pb: 978-1-032-77270-7 : **\$64.99**
Hb: 978-1-032-75898-5 : **\$250**

* For full contents and more information, visit: www.routledge.com/9781032772707

AI-Enabled Threat Intelligence and Cyber Risk Assessment



Edited by **Edlira Martiri, Narasimha Rao Vajjhala, Fisnik Dalipi** Linnaeus University, Sweden

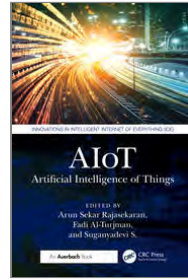
The book covers a broad spectrum of topics, including AI-driven fraud prevention in digital marketing, strategies for building customer trust through data privacy, and the role of AI in enhancing educational and healthcare cybersecurity systems. Through in-depth analyses and case studies, it highlights the barriers to AI adoption, the legal and ethical considerations, and the development of resilient cybersecurity frameworks.

CRC Press
June 2025 : 202pp
Pb: 978-1-032-82519-9 : **\$59.99**
Hb: 978-1-032-82104-7 : **\$140**
eBook: 978-1-003-50497-9

* For full contents and more information, visit: www.routledge.com/9781032825199

AIoT

Artificial Intelligence of Things



Edited by **Arun Sekar Rajasekaran, Fadi Al-Turjman** Near East University, Turkey, **Suganyadevi S**

Series: Innovations in Intelligent Internet of Everything (IoE)

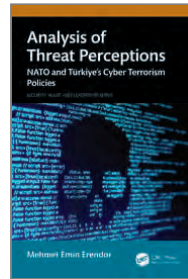
The book provides a comprehensive exploration of the intersection between AI and the Internet of Things (IoT) and offers an in-depth understanding of this rapidly evolving field. The book provides an insight on the integration of AI capabilities into everyday objects and devices, that are then enabled to become more intelligent, autonomous, and responsive. With a wide-ranging scope, the book covers various aspects of AIoT from fundamental concepts to advanced applications. It begins with an introduction to AI, IoT, and their synergistic relationship, explaining how AI technologies enhance the capabilities of IoT devices.

Auerbach Publications
May 2025 : 420pp
Pb: 978-1-032-77301-8 : **\$100**
Hb: 978-1-032-76368-2 : **\$250**
eBook: 978-1-003-48233-8

* For full contents and more information, visit: www.routledge.com/9781032773018

Analysis of Threat Perceptions

NATO and Türkiye's Cyber Terrorism Policies



Mehmet Emin Erendor

Series: Security, Audit and Leadership Series

The main purpose of this book is to analyze and evaluate what has been carried out regarding NATO's operational arrangements and its Cyber Defense approach, and, secondly, to explain this in the lens of Game Theory. Furthermore, it will demonstrate why the web is paramount to NATO's system-driven operations, and why it requires a Cyber Defense arrangement.

CRC Press
August 2025 : 232pp
Pb: 978-1-032-80442-2 : **\$64.99**
Hb: 978-1-032-80228-2 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032804422

Applying Blockchain Technology

Concepts and Trends



Edited by **Javaid Iqbal, Alwi Bamhdi, Bilal Ahmad Pandow, Faheem Syeed Masoodi**

The book offers an in-depth overview of the benefits and challenges of using blockchain in various industries, including healthcare, finance, real estate, government, and supply chain management. It also covers ethical considerations associated with blockchain and how to design and implement blockchain solutions ethically. The book also explores applying blockchain to such applications as IoT, smart grids, and cloud computing. With practical examples and case studies, the book also provides a clear and accessible introduction to the concepts supporting blockchain technology and to help readers gain a deeper understanding of blockchain technology.

Auerbach Publications
June 2025 : 288pp
Pb: 978-1-032-63703-7 : **\$82.99**
Hb: 978-1-032-63966-6 : **\$200**

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Artificial Intelligence and Cloud Computing Applications in Biomedical Engineering

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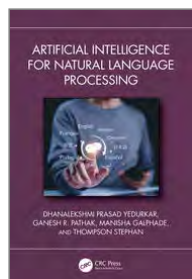
Edited by **Madhusudhan H S** Vidyavardhaka College of Engineering, India, **Punit Gupta** Pandit DeenDayal Energy University, India, **Pradeep Singh Rawat**, **Dinesh Kumar Saini** Texas Tech University, USA

Biomedical engineering is undergoing a transformation due to AI and cloud computing, which are allowing creative solutions that enhance patient outcomes, diagnosis, treatment planning, and healthcare delivery. This work examines these two computing paradigms in biomedical engineering, highlighting its practical applications and new directions. The book covers such applications as genome sequence and visualization, AI- and cloud-based detection of diseases, nature inspired algorithms for disease identification, and frameworks employed for disease classification.

Auerbach Publications
September 2025 : 264pp
Pb: 978-1-041-01926-8 : **\$64.99**
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Artificial Intelligence for Natural Language Processing



Dhanalekshmi Prasad Yedurkar, **Ganesh R. Pathak**, **Manisha Galphade**, **Thompson Stephan**

Artificial Intelligence for Natural Language Processing offers a comprehensive exploration of how advanced computational methods are transforming the way machines understand human language. This book delves into the core principles of Natural Language Processing (NLP) through an engaging progression—from fundamental word-level analysis to complex discourse and pragmatic analysis—integrating linguistic theory with cutting-edge AI methodologies.

CRC Press
September 2025 : 102pp
Pb: 978-1-032-54532-5 : **\$59.99**
Hb: 978-1-032-54530-1 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032545325

Artificial Intelligence Learning Facilitators

Creating Smart Education Systems

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Edited by **Fadi Al-Turjman** Near East University, Turkey

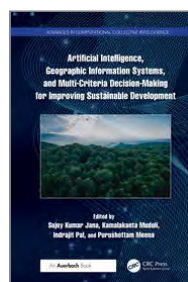
Series: *Innovations in Intelligent Internet of Everything (IoE)*

This book explores future learning systems and analyses the role of AI in revolutionizing smart educational systems. It presents use cases for an AI-based teaching system as well as research on AI-based learning and teaching.

Auerbach Publications
October 2025 : 416pp
Hb: 978-1-041-02716-4 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781041027164

Artificial Intelligence, Geographic Information Systems, and Multi-Criteria Decision-Making for Improving Sustainable Development



Edited by **Sujoy Kumar Jana**, **Kamalakanta Muduli** The Papua New Guinea University of Technology, **Indrajit Pal**, **Purushottam Meena**

Series: *Advances in Computational Collective Intelligence*

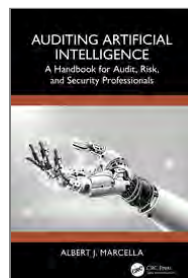
The book looks at how artificial intelligence (AI), geographic information systems (GISs), and multi-criteria decision-making (MCDM) could be used to come up with strategies for building resilience and achieving sustainable development in the Asia-Pacific region. It aims to serve as a valuable resource for researchers, practitioners, and decision-makers in GIS, environmental science, economics, and social science, among other fields. The book seeks to contribute to ongoing education and research efforts in geoinformatics, emergency preparedness, and operations management.

Auerbach Publications
August 2025 : 228pp
Hb: 978-1-032-66997-7 : **\$200**

* For full contents and more information, visit: www.routledge.com/9781032669977

Auditing Artificial Intelligence

A Handbook for Audit, Risk, and Security Professionals



AI Marcella

Artificial Intelligence (AI) is revolutionizing industries, yet its rapid evolution presents unprecedented challenges in governance, ethics, and security. Auditing Artificial Intelligence is an essential guide for IT auditors, information security experts, and risk management professionals seeking to understand, evaluate, and mitigate AI-related risks.

CRC Press
September 2025 : 328pp
Pb: 978-1-041-08675-8 : **\$59.99**
Hb: 978-1-041-07879-1 : **\$140**

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Awakening Leadership

The Journey to Conscious Influence



Mark Bojeun, PhD

The book serves as a comprehensive guide, blending time-honored leadership principles with contemporary insights to offer a transformative pathway to becoming a more effective, authentic, and impactful leader. It provides not just theoretical understanding but also practical tools and actionable strategies. The book is structured to take the reader on a journey of self-discovery and growth. Starting with foundational principles of conscious leadership, subsequent chapters delve into the core attributes that make up a conscious leader. Each chapter is enriched with case studies, self-assessment tools, and practical exercises to help readers internalize the concepts and apply them.

Auerbach Publications
September 2025 : 192pp
Pb: 978-1-032-78613-1 : **\$34.99**
Hb: 978-1-032-77551-7 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032786131

Behavioral Insights in Cybersecurity

A Guide to Digital Human Factors

Dustin S. Sachs

Series: Security, Audit and Leadership Series

Behavioral Insights in Cybersecurity: A Guide to Digital Human Factors by Dr. Dustin S. Sachs is a timely and essential resource for cybersecurity professionals, leaders, and organizational strategists seeking to understand the powerful role of human behavior in shaping digital security outcomes. Bridging the gap between behavioral science and cybersecurity, this book challenges the traditional reliance on purely technical defenses and explores why human error accounts for up to 95% of cybersecurity breaches.

CRC Press
October 2025 : 264pp
Pb: 978-1-032-99853-4 : **\$59.99**
Hb: 978-1-032-99826-8 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032998534

Business Transformation and Digital Innovation in the Service Sector



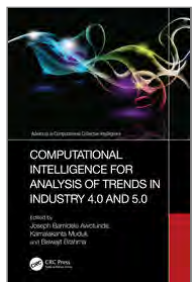
Edited by Pankaj Kumar Tyagi, Ajit Kumar Singh, Keshav Kaushik UPES, Dehradun, India, Vipin Nadda

This book explores digital innovation in the service sector and its potential for driving business transformation. It provides a technical examination of the various ways in which digital technologies are revolutionizing service-oriented industries and offers practical insights and strategies for organizations looking to leverage these advancements. By examining case studies, industry trends, and emerging technologies, this book equips business leaders, managers, and professionals with the knowledge and tools they need to navigate the digital landscape and achieve sustainable success in the service sector.

Auerbach Publications
September 2025 : 328pp
Hb: 978-1-032-76414-6 : **\$200**

* For full contents and more information, visit: www.routledge.com/9781032764146

Computational Intelligence for Analysis of Trends in Industry 4.0 and 5.0



Edited by JOSEPH BAMIDELE AWOTUNDE, Kamalakanta Muduli Papua New Guinea University of Technology, BISWAJIT BRAHMA

Series: Advances in Computational Collective Intelligence

The book offers a comprehensive exploration of cutting-edge computational intelligence techniques tailored for the industrial revolution background. The book explores trends at the intersection of cutting-edge technologies and industrial trends. Researching Artificial Intelligence, machine learning, and data analytics, the book showcases innovative applications driving the evolution from Industry 4.0 to 5.0. With insights for researchers and practitioners, it illuminates the transformative potential of computational intelligence in shaping the future of manufacturing and services.

Auerbach Publications
June 2025 : 484pp
Hb: 978-1-032-86923-0 : **\$260**
eBook: 978-1-003-53302-3

* For full contents and more information, visit: www.routledge.com/9781032869230

Cyber Insecurity

Examining the Past, Defining the Future



Vladas Leonas

Series: Security, Audit and Leadership Series

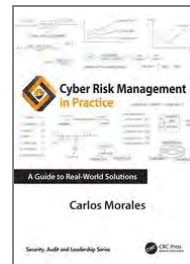
Cyber Insecurity: Examining the Past, Defining the Future deals with the multifaceted world of cybersecurity, starting with the premise that while perfection in cybersecurity may be unattainable, significant improvements can be made through understanding history and fostering innovation. The author, Dr. Leonas, shares his journey from Moscow to Australia, highlighting his academic and professional milestones.

CRC Press
June 2025 : 367pp
Pb: 978-1-032-67257-1 : **\$64.99**
Hb: 978-1-032-67256-4 : **\$160**
eBook: 978-1-032-67260-1

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Cyber Risk Management in Practice

A Guide to Real-World Solutions



Carlos Morales

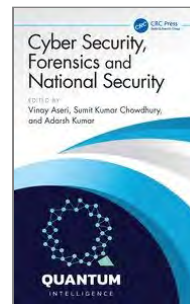
Series: Security, Audit and Leadership Series

Cyber Risk Management in Practice: A Guide to Real-World Solutions is your companion in the ever-changing landscape of cybersecurity. Whether you're expanding your knowledge or looking to sharpen your existing skills, this book demystifies the complexities of cyber risk management, offering clear, actionable strategies to enhance your organization's security posture. With a focus on real-world solutions, this guide balances practical application with foundational knowledge.

CRC Press
June 2025 : 360pp
Pb: 978-1-032-90113-8 : **\$59.99**
Hb: 978-1-032-84238-7 : **\$140**
eBook: 978-1-003-54620-7

* For full contents and more information, visit: www.routledge.com/9781032901138

Cyber Security, Forensics and National Security



Edited by Vinay Aseri, Sumit Kumar Choudhary, Adarsh Kumar UPES Dehradun, India.

Series: Advances in Digital Technologies for Smart Applications

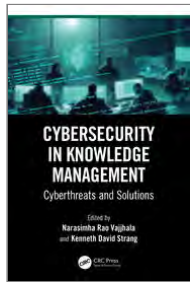
The book serves two very important purposes. One the concept and vulnerabilities due to cyber attacks in all walks of lives are explained along with how to detect and reduce the risk through digital forensics. Secondly, how such threats at a larger proportion puts entire national security on stake. Thus, there are lot of take-aways as the book discusses for the first-time various dimensions of national security, the risks involved due to cyber threats and ultimately the prevention & detection through cyber forensics and cyber security architectures.

CRC Press
August 2025 : 376pp
Hb: 978-1-032-80237-4 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032802374

Cybersecurity in Knowledge Management

Cyberthreats and Solutions



Edited by **Narasimha Rao Vajjhala** University of New York Tirana, Albania, **Kenneth David Strang**

The book explores the intersection of knowledge management and cybersecurity, offering an in-depth examination of the strategies, technologies, and frameworks necessary to safeguard organizational knowledge systems. As cyber threats grow more sophisticated, particularly within sectors such as digital marketing, supply chains, and higher education, this book examines methods for enhancing cybersecurity while maintaining the agility needed to foster innovation. By incorporating perspectives from AI, machine learning, and human factors, this work provides a holistic approach to securing knowledge in today's interconnected landscape.

CRC Press

May 2025 : 240pp

Hb: 978-1-032-80231-2 : \$150

* For full contents and more information, visit: www.routledge.com/9781032802312

Cybersecurity of Industrial Internet of Things (IIoT)



Atdhe Buja

While the Industrial Internet of Things (IIoT) continues to redefine industrial infrastructure, the need for thriving Cybersecurity measures has never been more pressing. Cybersecurity of the Industrial Internet of Things (IIoT) contends the critical question of how to secure IIoT systems against the intensifying risks posed by cyber threats and attacks. This book is a fundamental guide for industrial leaders and professionals pursuing to understand and implement effective Cybersecurity solutions. It covers the fundamentals of Cyber-Physical Systems (CPS), IIoT, and IT systems, while handing insights into prevailing and emerging cyber threats targeting industrial environments.

CRC Press

July 2025 : 160pp

Pb: 978-1-032-46783-2 : \$59.99

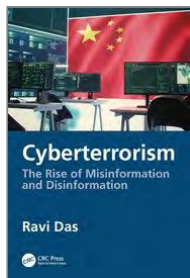
Hb: 978-1-032-46781-8 : \$140

eBook: 978-1-003-38325-3

* For full contents and more information, visit: www.routledge.com/9781032467832

Cyberterrorism

The Rise of Misinformation and Disinformation



Ravi Das Apollo Biometrics, Inc., Chicago, Illinois, USA

The world today is becoming more interconnected than ever before. Because of this, the spread of Misinformation and Disinformation is literally like wildfire, especially with the use of the social media platforms.

CRC Press

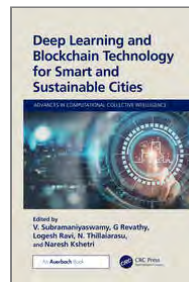
September 2025 : 104pp

Pb: 978-1-041-07831-9 : \$64.99

Hb: 978-1-041-07737-4 : \$140

* For full contents and more information, visit: www.routledge.com/9781041078319

Deep Learning and Blockchain Technology for Smart and Sustainable Cities



Edited by **Subramaniaswamy V**, **G Revathy**, **Logesh Ravi**, **N. Thillaiarasu** REVA University, Bengaluru, **Naresh Kshetri**

Series: *Advances in Computational Collective Intelligence*

In this age of digitization, a "smart city" has the potential to evolve into an intelligent society through the application of recent technological advancements. This book examines the paradigm shift towards a new digital smart city ecosystem brought about by the rapid adoption of deep learning, which has been combined with blockchain technology. Deep learning and blockchain applications cover a wide range of domains, ranging from risk management and financial services to cryptocurrency and public and social services, which this book explores.

Auerbach Publications

May 2025 : 381pp

Hb: 978-1-032-74857-3 : \$240

eBook: 978-1-003-47604-7

* For full contents and more information, visit: www.routledge.com/9781032748573

Defending the Metaverse

Cybersecurity Strategies for the Next Generation Internet



Edited by **Ravi Sheth**, **Mariya Ouaisa**, **Mariyam Ouaisa**, **Edeh Michael Onyema** Coal City university, Nigeria, **Chandresh Parekha**

Series: *Advances in Cybersecurity Management*

The book is aimed at a diverse audience including students, researchers, academicians, cybersecurity professionals, IT managers, Metaverse developers, business leaders, policymakers, and tech enthusiasts. This book is for everyone—from beginners to experts, researchers, and students. It offers insights and tools suitable for people with different levels of knowledge, making it accessible to a wide range of readers.

CRC Press

June 2025 : 354pp

Hb: 978-1-032-94683-2 : \$140

eBook: 978-1-003-58165-9

* For full contents and more information, visit: www.routledge.com/9781032946832

Digital Transformation in Customs and Taxation

A Catalyst for Economic Resilience



Edited by **Khaled Hussainey**, **Nasser Salim Albaimani**, **Aziza Abdallah Al Qamashouhi**

Given the technological challenges and structural issues faced by trade, customs and taxation in recent years, governments are looking for innovative ways to transform the traditional to digital. To encourage sustainable practices in trade, customs, and taxation, there is an increasing tendency towards service delivery using digital platforms. This book is thought-provoking platform for researchers, research scholars, practitioners, students, and industrialists to discover recent trends, challenges, methods, models, case studies and structural issues of the global digital transformation of customs and taxation.

Auerbach Publications

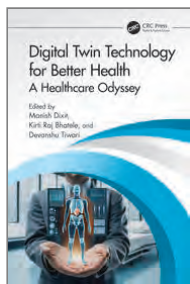
August 2025 : 272pp

Hb: 978-1-032-79629-1 : \$200

* For full contents and more information, visit: www.routledge.com/9781032796291

Digital Twin Technology for Better Health

A Healthcare Odyssey



Edited by **Manish Dixit**, **Kirti Raj Bhatele**, **Devanshu Tiwari**

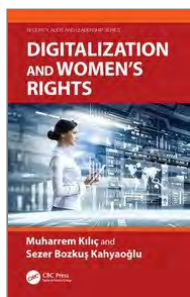
Digital twin technology generally refers to the development of virtual replicas of physical entities. The functioning of healthcare systems is being transformed using this technology. Its applications lie in personalized treatment plans, predicting diagnostics results, optimized workflows in hospitals, and aid in the drug discovery process.

CRC Press
August 2025 : 304pp
Hb: 978-1-032-80234-3 : \$150

* For full contents and more information, visit: www.routledge.com/9781032802343

Digitalization and Women's Rights

Volume 1



Edited by **Muharrem Kılıç** Human Rights and Equality Institution of Türkiye, Turkey, **Sezer Bozkus Kahyaoglu** Uni of South Africa Financial Gov Dep, South Africa

Series: Security, Audit and Leadership Series

It is essential to recognize the discrimination and emerging challenges that women will face, although these issues may not be explored in sufficient detail. This work has been thoughtfully created to fill that gap, serving as a crucial reference for those who care about these matters. By shedding light on existing deficiencies, this research promises to enrich future studies and provide invaluable insights for researchers who investigate and evaluate related works.

CRC Press
August 2025 : 320pp
Hb: 978-1-032-82347-8 : \$160

* For full contents and more information, visit: www.routledge.com/9781032823478

Edge Intelligence and Analytics for Internet of Things



Edited by **Govind P. Gupta** NIT, Raipur, India, **Brij B. Gupta** Director, International Center for AI & CCRI, **Kumkum Garg**, **Kwok Tai Chui** Hong Kong Metropolitan University

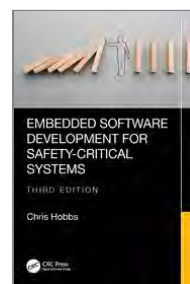
Analysis of the network traffic and IoT data at the Edge nodes with help of various latest AI techniques will address various issues such as anomaly detection in IoT data, data poisoning attacks, and other security and privacy issues of the IoT system. In this book, we will provide an overview of the fundamental concepts of Edge Computing, Edge intelligence using advanced machine and deep learning models, architecture of Edge computing based IoT system, and edge computing based cyber threat intelligence solutions for IoT systems.

CRC Press
September 2025 : 328pp
Hb: 978-1-032-82349-2 : \$150

* For full contents and more information, visit: www.routledge.com/9781032823492

3RD EDITION

Embedded Software Development for Safety-Critical Systems



Chris Hobbs QNX Software Systems, Canada

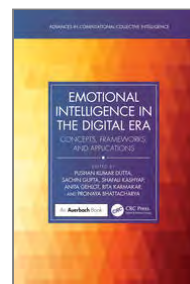
The third edition of Embedded Software Development for Safety-Critical Systems is about the creation of dependable embedded software. It is written for system designers, implementers and verifiers who are experienced in general embedded software development, but who are now facing the prospect of developing a software-based system for safety-critical applications.

CRC Press
October 2025 : 368pp
Pb: 978-1-032-98037-9 : \$59.99
Hb: 978-1-032-98335-6 : \$140

* For full contents and more information, visit: www.routledge.com/9781032980379

Emotional Intelligence in the Digital Era

Concepts, Frameworks, and Applications



Edited by **Pushan Kumar Dutta** Amity University Kolkata, **Sachin Gupta**, **Shafali Kashyap**, **Anita Gehlot**, **Rita Karmakar**, **Pronaya Bhattacharya**

Series: Advances in Computational Collective Intelligence

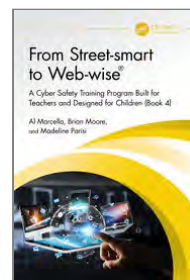
This edited book aims to bring together the latest research in the field of human psychology, emotional intelligence, and technology. The book is a platform for experts to share their knowledge and insights, presenting various perspectives on how virtual technology and techniques can be used to promote mental health, emotional intelligence, and overall well-being in the post-pandemic world. It discusses the potential role of technology in improving human psychological perspectives and emotional intelligence.

Auerbach Publications
June 2025 : 454pp
Hb: 978-1-032-70369-5 : \$240
eBook: 978-1-032-71537-7

* For full contents and more information, visit: www.routledge.com/9781032703695

From Street-smart to Web-wise®

A Cyber Safety Training Program Built for Teachers and Designed for Children (Book 4)



Al Marcella, **Brian Moore**, **Madeline Parisi**

Parents consider educators their partners to create cyber-secure spaces. This book stands as a framework of commitment to that partnership whether you are in an elementary school environment or a child-serving agency. It confirms proactive steps in equipping our young learners with the awareness and skills they need to tread the digital world securely are being taken.

CRC Press
August 2025 : 328pp
Pb: 978-1-032-73864-2 : \$64.99
Hb: 978-1-032-73179-7 : \$160

* For full contents and more information, visit: www.routledge.com/9781032738642

From Web1 to Web3

Understanding the Past, Present, and Future of the Internet



Ollie Bell , Nabil Hadi , Daniel Strode

The book provides not only a historical perspective but also practical insights for businesses and individuals alike. Through case studies featuring leading global brands and actionable guides on navigating decentralized applications (dApps), readers gain an understanding of how businesses and individuals are already using Web3 technologies to drive innovation and create value.

CRC Press

September 2025 : 200pp

Pb: 978-1-041-01809-4 : **\$59.99**

Hb: 978-1-041-01268-9 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781041018094

Generative AI and Creativity

From Theory to Practice



Edited by **R Elakkiya , Subramaniaswamy V**

This guide goes step-by-step journey from the fundamentals of Generative AI to advanced applications. It unravels the complexities of generative models, delves into such key techniques as GANs (Generative Adversarial Networks) and VAEs (Variational Autoencoders), and provides a solid foundation for readers to understand the underlying principles. Offering insight into real-world applications of Generative AI in art and music readers gain practical skills through coding examples, case studies, and collaborative projects.

Auerbach Publications

November 2025 : 376pp

Pb: 978-1-032-87510-1 : **\$99.99**

Hb: 978-1-032-86737-3 : **\$250**

* For full contents and more information, visit: www.routledge.com/9781032875101

Green Computing for Sustainable Development



Edited by **Niharika Singh** UPES, **Thipendra P Singh** Bennett University, Greater Noida, India., **Amar Ramdane-Cherif**, **Ravi Tomar** Persistent Systems, Bangalore, India, **Richa Choudhary**

The book examines the connection between computers and sustainability. It covers a variety of eco-friendly computing-related subjects, such as power management, virtualization, cloud computing, data center optimization, green software development, and more. Each topic is discussed with best practices, concrete instances of effective implementation, and in-depth explanations of the underlying ideas. Computer scientists, environmentalists, business executives, policymakers, and anyone else interested in the nexus between technology and sustainability are among the target audience for the book.

Auerbach Publications

June 2025 : 286pp

Hb: 978-1-032-73772-0 : **\$200**

* For full contents and more information, visit: www.routledge.com/9781032737720

Guardians of the Digital Age

Securing the Future



Elçin Biren

Series: Security, Audit and Leadership Series

A thrilling bridge between past and future, this book introduces parents and teens to the evolution of the internet and the most essential skill of our time—digital security.

CRC Press

September 2025 : 200pp

Pb: 978-1-032-81839-9 : **\$64.99**

Hb: 978-1-032-80224-4 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032818399

Hacking the Boardroom

Tips and Tools to Make Your Board Survivable



Ralph Ward

It's scary in the boardroom. Global board members now face punishing hand's-on oversight demands for risk, technology, liability, diversity and sustainability. Yet the "board of directors" system, our universal governance model, was never designed for such a demanding, tactical role. Board members urgently need solid tips, tools, and advice to make this exploding governance transition survivable. Ralph's new book gathers these first-hand, best-practice "boardroom hacks" from around the world -- intelligence that boards must have now to do a better oversight job, with less time, less effort, and fewer legal dangers.

CRC Press

September 2025 : 246pp

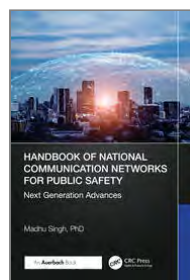
Pb: 978-1-032-99856-5 : **\$66.99**

Hb: 978-1-032-99831-2 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032998565

Handbook of National Communication Networks for Public Safety

Next Generation Advances



Madhu Singh

The U.S. Department of Homeland Security created the FirstNet Authority for the purpose of building and operating a nationwide public safety broadband network. The book covers the evolution of National Public Safety Broadband Network (NPSBN): its planning, designing of network and services, deployment, operations and enhancements covering all states and territories of the United States. It contains the technical details of the NPSBN and services accessible to public safety personnel over dedicated and secure LTE/5G networks. Additionally, the book contains future challenges and feasible approaches for successful resolutions anywhere and anytime using the enhanced devices.

Auerbach Publications

October 2025 : 264pp

Pb: 978-1-032-90389-7 : **\$69.99**

Hb: 978-1-032-85899-9 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781032903897

Healthcare Informatics Innovation Post COVID-19 Pandemic



Edited by **Philip Eappen , Narasimha Rao Vajjhala**
University of New York Tirana, Albania

The book examines the unique challenges and opportunities that emerged because of the pandemic. It provides a comprehensive roadmap for healthcare institutions seeking to leverage digital solutions for improved patient care, public health, and crisis response. It offers a well-balanced blend of theoretical insights and practical applications, making it an invaluable resource for academics, practitioners, and decision-makers. By presenting evidence-based best practices and examining the lessons learned from the pandemic, the book empowers readers to make informed decisions in a rapidly changing healthcare landscape.

Auerbach Publications
June 2025 : 318pp
Pb: 978-1-032-77969-0 : \$79.99
Hb: 978-1-032-77540-1 : \$220

* For full contents and more information, visit: www.routledge.com/9781032779690

Information Security Governance using Artificial Intelligence of Things in Smart Environments



Edited by **Mariyam Ouaisa , Mariya Ouaisa , Tarik Hidar , Ram Chandra Sachan , Akhil Mittal , Sanjay Poddar**

The book explores the integration of Artificial Intelligence (AI) with the Internet of Things (IoT) to address security challenges in smart environments. It delves into how AI enhances the governance of information security by automating processes, detecting threats, and ensuring the protection of data in interconnected IoT systems.

CRC Press
June 2025 : 264pp
Hb: 978-1-032-99814-5 : \$140

* For full contents and more information, visit: www.routledge.com/9781032998145

Integrated Assurance

Unified Risk Strategy



Patrick Hayes

Series: Security, Audit and Leadership Series

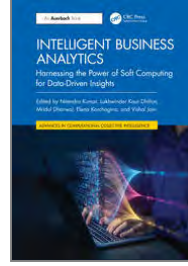
In a world where most guidance is geared toward mid-sized environments, Integrated Assurance fills a critical gap by addressing the realities of large, complex enterprises where traditional security practices break down. This book introduces a strategic, business-aligned model for integrating cybersecurity and IT operations that acknowledges the friction between legacy systems and modern demands, global operations and local control, innovation and compliance. It reframes security as an embedded operational function, not an isolated overlay.

CRC Press
October 2025 : 312pp
Pb: 978-1-032-91253-0 : \$59.99
Hb: 978-1-032-91073-4 : \$140

* For full contents and more information, visit: www.routledge.com/9781032912530

Intelligent Business Analytics

Harnessing the Power of Soft Computing for Data-Driven Insights



Edited by **Nitendra Kumar , Lakhwinder Kaur Dhillon , Mridul Dharwal , Elena Korchagina , Vishal Jain**

Series: Advances in Computational Collective Intelligence

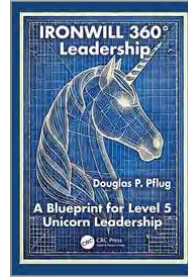
The book provides comprehensive and in-depth exploration of how soft computing techniques can be applied in the domain of business analytics. Soft computing is a subfield of AI and encompasses such methodologies such as fuzzy logic, neural networks, genetic algorithms, and swarm intelligence. The book shows these methods can be leveraged to extract valuable insights from vast and complex datasets to enable businesses to make data-driven decisions for improved performance and competitive advantage.

Auerbach Publications
August 2025 : 312pp
Hb: 978-1-032-75178-8 : \$210

* For full contents and more information, visit: www.routledge.com/9781032751788

Ironwill 360° Leadership

A Blueprint for Level 5 Unicorn Leadership



Douglas P. Pflug

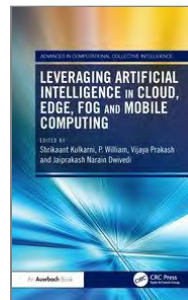
Series: Security, Audit and Leadership Series

This is a battle-tested, high-performance leadership manual forged from decades of elite experience in policing, coaching, and executive mentorship. Inside, you'll find the real-world strategies, hard-won lessons, and non-negotiable mindsets required to master Level 5 Leadership—the rare balance of professional will and personal humility that defines the most exceptional leaders.

CRC Press
October 2025 : 216pp
Pb: 978-1-041-07397-0 : \$34.99

Hb: 978-1-041-07040-5 : \$140
* For full contents and more information, visit: www.routledge.com/9781041073970

Leveraging Artificial Intelligence in Cloud, Edge, Fog and Mobile Computing



Edited by **Shrikaant Kulkarni** Victorian Institute of Technology, Melbourne, Australia, **P. William , Vijaya Prakash , Jaiprakash Narain Dwivedi**

Series: Advances in Computational Collective Intelligence

This book examines harnessing the potential of AI in cloud, edge and mobile computing. It covers devices, architecture, networking in cloud and edge environments in isolation as well as by using both in tandem. Focusing on hardware and software requirements in the changing scenario on incorporation of edge AI in cloud, edge and mobile computing, it presents ways to enhance response time, stability, agility, computational power, lowering latency and providing rapid, customer-friendly service.

Auerbach Publications
September 2025 : 352pp
Hb: 978-1-032-69952-3 : \$230

* For full contents and more information, visit: www.routledge.com/9781032699523

Mastering Cybersecurity

A Practical Guide to Cyber Tools and Techniques (Volume 2)



Akashdeep Bhardwaj University of Petroleum and Energy Studies

Mastering Cybersecurity – A Practical Guide to Cyber Tools & Techniques (Volume 2) offers a hands-on, real-world approach to developing modern cybersecurity skills. This volume builds on foundational concepts to provide readers with practical techniques and toolsets that are essential in today's evolving threat landscape. Each chapter dives into a critical area of cybersecurity, emphasizing applied learning through real-world scenarios, case studies, and step-by-step exercises.

CRC Press

October 2025 : 336pp

Pb: 978-1-032-89392-1 : **\$59.99**

Hb: 978-1-032-88743-2 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032893921

Metaverse Platform Implementation

AI, Security, and Applications



Edited by Fei Hu University of Alabama, Tuscaloosa, USA,
Shengting Cao, **Xiali Hei** University of Louisiana at Lafayette, USA

Metaverse Platform Implementation: AI, Security, and Applications provides a comprehensive exploration of the engineering and scientific principles behind the metaverse, a 3D digital world designed to replicate and enhance physical reality through some advanced technologies like Extended Reality (xR), Artificial Intelligence (AI), blockchain, 5G/6G, and computer vision. The book delves into the hardware (sensors, headsets, edge/cloud servers) and software (3D scene reconstruction, synchronization, AI processing) components that form the backbone of metaverse platforms, addressing critical aspects such as security, privacy, and social implications.

CRC Press

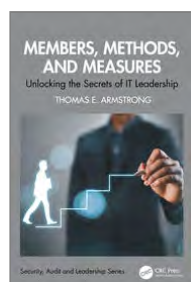
August 2025 : 328pp

Hb: 978-1-032-66355-5 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781032663555

Members, Methods, and Measures

Unlocking the Secrets of IT Leadership



Thomas E. Armstrong

Series: Security, Audit and Leadership Series

In Members, Methods, and Measures, Thomas E. Armstrong delivers the guide he wishes he had when he was thrust into management—without a roadmap, training, or support.

CRC Press

August 2025 : 224pp

Pb: 978-1-032-91254-7 : **\$59.99**

Hb: 978-1-032-91054-3 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032912547

Mobile Penetration Testing

A Hands-On Approach



Sabyasachi Paul, Sajal Saha

As mobile applications become prime targets for cyber threats, Mobile Penetration Testing – A Hands-On Approach provides a comprehensive, practical guide to assessing and securing Android applications. This book follows industry-standard methodologies, covering key topics such as Android architecture, OWASP Mobile Top 10, reversing, traffic interception, and real-world hacking scenarios.

CRC Press

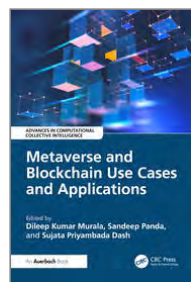
October 2025 : 192pp

Pb: 978-1-032-58517-8 : **\$64.99**

Hb: 978-1-032-58515-4 : **\$160**

* For full contents and more information, visit: www.routledge.com/9781032585178

Metaverse and Blockchain Use Cases and Applications



Edited by Dileep Kumar Murala, Sandeep Panda ICFAI Foundation for Higher Education, India, **Priyambada Dash**

Series: Advances in Computational Collective Intelligence

This book analyzes blockchain in the metaverse ecosystem and its future, starting with clear definitions of AI, blockchain, and metaverse. It details the origins of Bitcoin, Ethereum, and NFTs, explores successful blockchain implementations, and examines regulatory practices. The book discusses the evolution of the metaverse and participation strategies. Key topics include government involvement, the potential of blockchain to compete with major tech platforms, and the fundamentals of cryptocurrency. It offers insights on NFTs, virtual real estate investment, trending metaverse initiatives, and emerging security concerns from the convergence of blockchain, Web3, and the metaverse.

Auerbach Publications

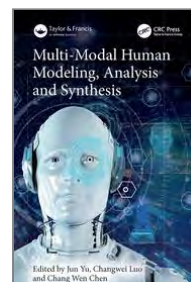
July 2027 : 360pp

Pb: 978-1-032-90693-5 : **\$64.99**

Hb: 978-1-032-90332-3 : **\$200**

* For full contents and more information, visit: www.routledge.com/9781032906935

Multi-Modal Human Modeling, Analysis and Synthesis



Edited by Jun Yu, Changwei Luo, Chang Wen Chen

Multi-modal Human Modeling, Analysis and Synthesis aims to adopt a structured perspective, building a comprehensive technical framework for multi-modal human modeling, analysis, and synthesis—progressing from local details to holistic perspectives, and from face features to body dynamics. It also explains how multi-modal data can drive realistic face and body synthesis. A standout feature is its focus on Huawei's MindSpore framework, bridging the gap between algorithms and engineering through practical case studies. Designed for researchers and engineers in computer vision and AI, this book balances theoretical foundations with industry-ready technical details.

CRC Press

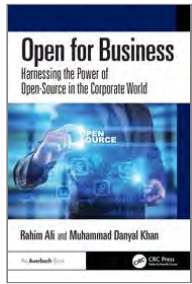
September 2025 : 352pp

Hb: 978-1-032-52764-2 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032527642

Open for Business

Harnessing the Power of Open-Source in the Corporate World



Rahim Ali , Muhammad Danyal Khan

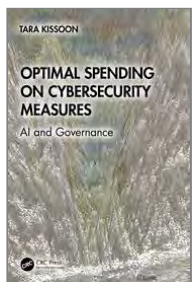
In an era where corporate giants and technological behemoths wield unprecedented power over the digital landscape, this book is a call for autonomy, security, and innovation through open-source software. At the heart of this book lies the conviction that true technological freedom and strategic advantage are attainable through embracing open-source solutions. It is not merely a theoretical discourse but a practical guide that lays out foundational strategies for integrating open-source solutions into a corporate IT infrastructure. It offers a step-by-step framework for building cloud citadels, networking nexuses, and data sanctuaries with robust open-source tools.

Auerbach Publications
October 2025 : 352pp
Pb: 978-1-032-88123-2 : **\$59.99**
Hb: 978-1-032-88127-0 : **\$180**

* For full contents and more information, visit: www.routledge.com/9781032881232

Optimal Spending on Cybersecurity Measures

AI and Governance



Tara Kissoon

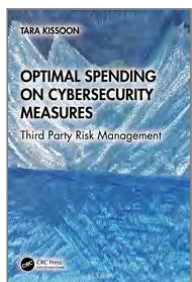
Optimal Spending on Cybersecurity Measures: AI and Governance The aim of this book is to demonstrate the use of business driven risk assessments to address government regulations and guidelines specific to AI risks, as AI systems often require access to personal data. All aspects of AI, machine learning models, continuous learning, generalization, predictive and descriptive analytic are dependent on massive data sets.

CRC Press
May 2025 : 274pp
Pb: 978-1-032-96013-5 : **\$59.99**
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Optimal Spending on Cybersecurity Measures

Third Party Risk Management



Tara Kissoon

Optimal Spending on Cybersecurity Measures: Third Party Risk Management introduces the cyber risk investment model, and the cybersecurity risk management framework used within business-driven risk assessments to address government regulations, industry standards and applicable Laws. This can be used by various stakeholders who are involved in the implementation of cybersecurity measures to safeguard sensitive data. This framework facilitates an organization's risk management decision-making process to demonstrate the mechanisms in place to fund cybersecurity measures and demonstrates the application of the process showcasing three case studies.

CRC Press
May 2025 : 238pp
Pb: 978-1-032-96014-2 : **\$59.99**
Hb: 978-1-032-95935-1 : **\$140**
eBook: 978-1-003-58757-6

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Optimizing Edge and Fog Computing Applications with AI and Metaheuristic Algorithms



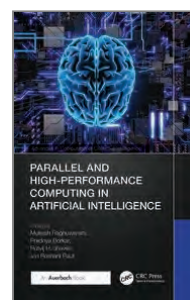
Edited by **Madhusudhan H S** Vidyavardhaka College of Engineering, India, **Punit Gupta** , **Dinesh Kumar Saini**

The book covers resource management techniques to enhance resource optimization, security mechanisms and predictive computing in fog and edge computing. Machine learning (ML) can leverage the distributed nature of these fog and edge architectures to perform computation and analysis closer to the data source. The book explores designing ML algorithms that are aware of the resource constraints at the edge and fog layers to ensure efficient use of computational resources. It also examines such security issues as implementing ML algorithms and models to prevent adversarial attacks and ensure data privacy.

Auerbach Publications
September 2025 : 248pp
Hb: 978-1-041-00354-0 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781041003540

Parallel and High-Performance Computing in Artificial Intelligence



Edited by **Mukesh Raghuwanshi** , **Pradnya Borkar** Symbiosis International University Symbiosis Institute of Technology, Pune, **Rutvij H. Jhaveri** , **Roshani Raut** Pimpri Chinchwad College of Engineering, Pune, India

Series: Advances in Computational Collective Intelligence

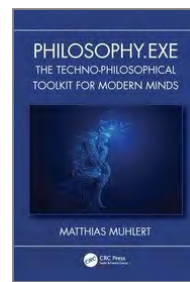
The book explores high-performance architectures for data-intensive applications, as well as efficient analytical strategies, to speed up data processing in applications in automation, machine learning, deep learning, bioinformatics, natural language processing, and vision intelligence. The book first covers high-performance architectures, multicore architectures, parallel computing techniques in high-performance computing with various APIs. It then examines dependence analysis that should be taken care of during parallel computing. It also presents GPU acceleration techniques used in Big Data applications as well as hardware acceleration.

Auerbach Publications
May 2025 : 340pp
Hb: 978-1-032-54087-0 : **\$220**
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Philosophy.exe

The Techno-Philosophical Toolkit for Modern Minds



Matthias Muhlert

Series: Security, Audit and Leadership Series

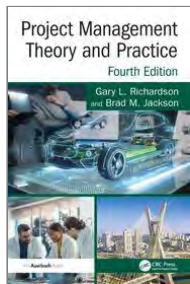
Blending classical philosophy, cognitive science, AI ethics, and behavioral psychology, this book provides an adaptive framework for understanding the world.

CRC Press
August 2025 : 424pp
Pb: 978-1-041-07396-3 : **\$59.99**
Hb: 978-1-041-07037-5 : **\$140**

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4TH EDITION

Project Management Theory and Practice



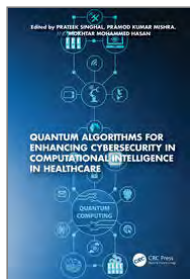
Gary L. Richardson University of Houston, Texas, USA,
Brad M. Jackson

With a new section on improving the reality view of project planning and analysis, the fourth edition of Project Management Theory and Practice combines academic theory and real-world project experience that gives the textbook its unique perspective. Its five major sections cover the broad landscape of project management: the project environment, the life cycle mechanics for building project plans, supporting processes, and project planning and analysis. It covers agile, critical chain, earned value, simulation, and hybrid models. The text concludes with a look to the future of project management and a discussion of the role of artificial intelligence.

Auerbach Publications
October 2025 : 528pp
Pb: 978-1-032-86739-7 : **\$64.99**
Hb: 978-1-032-86227-9 : **\$170**

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Quantum Algorithms for Enhancing Cybersecurity in Computational Intelligence in Healthcare



Edited by **Prateek Singhal**, **Pramod Kumar Mishra**
Banaras Hindu University, **Mokhtar Mohammed Hasan**

This book explores the exciting field of quantum computing, which is changing how we approach computation. It covers the basics, cybersecurity aspects, advanced machine learning techniques, and the many ways quantum computing can be used. Quantum computing is much more powerful than traditional computing. The book starts by explaining the core concepts like qubits, quantum gates, superposition, entanglement, quantum memory, and quantum parallelism.

CRC Press
October 2025 : 336pp
Hb: 978-1-032-98050-8 : **\$140**

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Recent Advances in Internet of Things Security



Edited by **Mourade Azroul** Moulay Ismail University of
Meknes, Morocco, **Jamal Mabrouki**

Recent Advances in Internet of Things Security discusses the critical importance of robust security frameworks to protect Internet of Things ecosystems against various cyber threats. It highlights the security risks associated with Internet of Things devices and applications and present a variety of potential solutions. It's essential to remain aware of these challenges to effectively safeguard Internet of Things systems. This book delves into the complexities of IoT security, exploring a range of vulnerabilities across different layers of the IoT architecture.

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May 2025 : 230pp
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Role of Plug-in Electric Vehicles in Grid Management Services



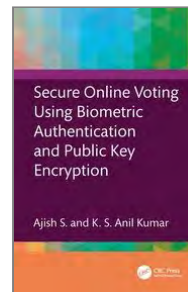
Edited by **Ark Dev**, **Vineet Kumar**, **Vivek Prakash**

Provides a comprehensive exploration of how PEVs are transforming modern power networks, offering solutions for demand-side management, vehicle-to-grid (V2G) integration, and energy storage.

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Secure Online Voting Using Biometric Authentication and Public Key Encryption



Ajish S, **K S Anil Kumar**

This book provides a comprehensive exploration of the technologies, methodologies, and potential applications of biometric systems in internet voting. From understanding the different types of biometric data to examining the advantages and challenges of implementing such systems on a global scale, it lays out both the theoretical and practical aspects of building a secure online voting infrastructure. The exploration of cryptographic solutions and the legal and ethical implications of biometric data collection also form a critical part of the narrative.

CRC Press
October 2025 : 216pp
Hb: 978-1-032-55931-5 : **\$150**

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Securing Talent

Building and Retaining High-Performance Cybersecurity Teams



Kevin Lynn McLaughlin

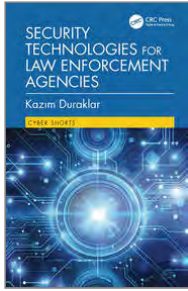
Series: Security, Audit and Leadership Series

Securing Talent: Building and Retaining High-Performance Cybersecurity Teams by Dr. Kevin Lynn McLaughlin, PhD, offers a comprehensive and insightful exploration into the critical role culture plays in the cybersecurity field.

CRC Press
July 2025 : 104pp
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Security Technologies for Law Enforcement Agencies



Kazim Duraklar

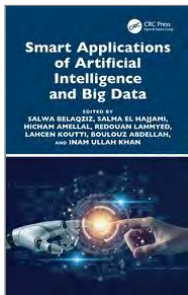
Series: Cyber Shorts

Readers will discover how technologies such as night vision cameras, thermal imaging, and unmanned aerial vehicles (UAVs) are revolutionizing urban security and crime prevention. From facial recognition systems to advanced biometric authentication, the book provides striking insights into how controlled access technologies protect sensitive spaces.

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Hb: 978-1-032-98032-4 : **\$64.99**
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* For full contents and more information, visit: www.routledge.com/9781032980324

Smart Applications of Artificial Intelligence and Big Data



Edited by **Salwa Belaqqiz** Ibn Zohr University, Morocco, **Salma El Hajjami** Computer Science Dept., Faculty of Science, Ibn Zohr Univ., **Hicham Amellal**, **Redouan Lahmyed**, **Lahcen Koutti**, **Boulouz Abdellah**, **Inam Ullah Khan**

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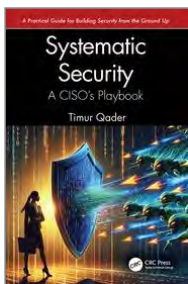
Smart Applications of Artificial Intelligence and Big Data highlights cutting-edge research on AI and big data, including novel algorithms, tools, and techniques. It discusses the challenges and opportunities of using AI and big data to develop smart applications and provides recommendations for the development of responsible and transparent AI-based systems. Therefore, this book is a valuable resource for researchers and professionals looking to stay up-to-date with the latest advancements in AI and big data and how they can be applied to solve real-world challenges.

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Systematic Security

A CISO's Playbook



Timur Qader

In today's rapidly evolving digital landscape, safeguarding critical data and systems has never been more vital—or more challenging. Systematic Security: A CISO's Playbook by Timur Qader offers a groundbreaking guide to building a resilient and scalable security practice from the ground up. Blending real-world experience with practical insights, this book lays out a phased approach to security implementation.

CRC Press
July 2025 : 204pp
Pb: 978-1-041-01812-4 : **\$59.99**
Hb: 978-1-041-01273-3 : **\$140**
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The CISO 3.0

A Guide to Next-Generation Cybersecurity Leadership



Walt Powell

Series: Security, Audit and Leadership Series

The CISO 3.0 isn't just a book; it's a roadmap for the next generation of cybersecurity leadership. In an era where cyber threats are more sophisticated and the stakes are higher than ever, CISOs can no longer rely solely on technical expertise. They must evolve into strategic business leaders who can seamlessly integrate cybersecurity into the very fabric of their organizations.

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The Effects of Cyber Supply Chain Attacks and Mitigation Strategies



Ravindra Das President, HTG Solutions, IL, USA

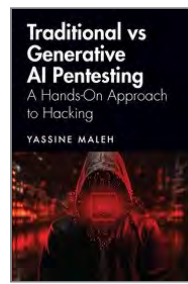
The world of Cybersecurity today is becoming increasingly complex. There are many new Threat Variants that are coming out, but many of them are just tweaked versions of some of the oldest ones, such as Phishing and Social Engineering. In today's world, Threat Variants are becoming much complex, stealthier, and covert.

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June 2025 : 120pp
Hb: 978-1-032-95531-5 : **\$64.99**

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Traditional vs Generative AI Pentesting

A Hands-On Approach to Hacking



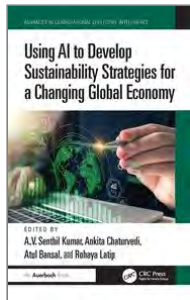
Yassine Maleh National School of Applied Sciences

Traditional vs Generative AI Pentesting: A Hands-On Approach to Hacking explores the evolving landscape of penetration testing, comparing traditional methodologies with the revolutionary impact of Generative AI. This book provides a deep dive into modern hacking techniques, demonstrating how AI-driven tools can enhance reconnaissance, exploitation, and reporting in cybersecurity assessments.

CRC Press
September 2025 : 280pp
Pb: 978-1-041-07399-4 : **\$59.99**
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Using AI to Develop Sustainability Strategies for a Changing Global Economy



Edited by **A.V. Senthil Kumar , Ankita Chaturvedi , ATUL BANSAL , Rohaya Latip**

Series: Advances in Computational Collective Intelligence

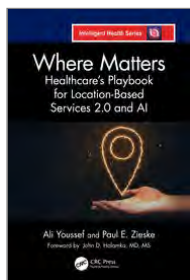
The book explores the innovations, disruptions and changes that are required to adapt in a fast-evolving landscape due to the extraordinary circumstances triggered by climate change. It highlights the meaningful overall impact on industry globally by addressing key issues, trends, and future perspectives for sustainable development using Artificial Intelligence.

Auerbach Publications
September 2025 : 336pp
Hb: 978-1-032-57279-6 : \$200

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Where Matters

Healthcare's Playbook for Location-Based Services 2.0 and AI



Ali Youssef , Paul E Zieske

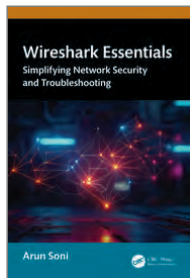
In "Where Matters," this vision becomes reality through Care Traffic Control (CTC), a revolutionary framework that brings the precision and reliability of aviation traffic control to healthcare operations. Drawing from decades of experience in both aviation and healthcare, the authors reveal how location-based services and digital twin technologies can transform healthcare operations from reactive to predictive, from fragmented to orchestrated, from inefficient to optimized.

CRC Press
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Pb: 978-1-041-03812-2 : \$59.99
Hb: 978-1-041-03808-5 : \$140

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Wireshark Essentials

Simplifying Network Security and Troubleshooting



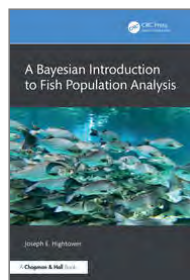
Arun Soni

Dive into the capabilities of Wireshark with "Wireshark Essentials," a concise guide focused on utilizing packet analysis for network security and troubleshooting. This book is ideal for IT professionals, network administrators, and cybersecurity enthusiasts.

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Pb: 978-1-032-88709-8 : \$59.99
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A Bayesian Introduction to Fish Population Analysis



Joseph E. Hightower NC State University, U.S.A

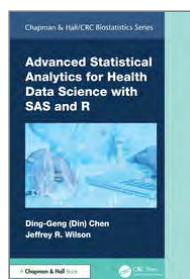
Series: Chapman & Hall/CRC Applied Environmental Statistics

A Bayesian Introduction to Fish Population Analysis is aimed at advanced undergraduate and graduate students as well as working professionals interested in a hands-on introduction to Bayesian approaches for fitting fisheries models. Chapters address key aspects of population dynamics: abundance, mortality, growth, and recruitment. The book includes complete R code for simulating each study design and JAGS Bayesian code for model fitting; code files are also available online. No prior knowledge of R or JAGS is assumed and new commands are introduced gradually through the sequence of examples.

Chapman & Hall
August 2025 : 216pp
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Advanced Statistical Analytics for Health Data Science with SAS and R



Ding-Geng (Din) Chen University of North Carolina, USA,
Jeffrey Wilson

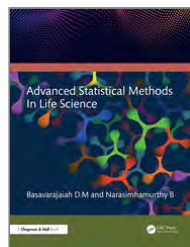
Series: Chapman & Hall/CRC Biostatistics Series

Serves as a comprehensive reference for health data scientists, bridging fundamental statistical principles with advanced analytical techniques. By providing clear explanations of statistical theory and its application to real-world health data.

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Advanced Statistical Methods In Life Science



Basavarajaiah D.M KVAFSU, Bengaluru,
Narasimhamurthy B National Health Mission, MOH&FW,
Govt. of India

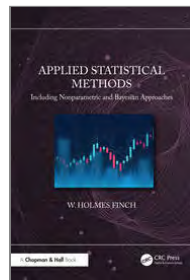
This book introduces the principles and foundations of advanced statistical methods for designing experiments and testing hypotheses in Life sciences. Advanced statistical methods like testing of hypotheses, recent methods of sample size determination/ imputation, estimation techniques, probability distributions and univariate analysis as demonstrated by real data, and their integration into life sciences are included in the book. Advanced topics are presented with sufficient conceptual depth and examples to explain the use of recent statistical techniques and to demonstrate what conclusions can be drawn at the right time using modelling in life science research.

Chapman & Hall
July 2025 : 350pp
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Applied Statistical Methods

Including Nonparametric and Bayesian Approaches



W. Holmes Finch Ball State University, USA

This book is designed to provide students, teachers, and researchers with a text that includes a full range of statistical methods available to address commonly encountered research problems. This book addresses this issue by presenting parametric, nonparametric, robust, and Bayesian techniques that are appropriate for research scenarios often encountered in practice and typically found in statistics courses. For each of these major topics, the standard parametric approach is presented, along with the assumptions underlying it and the methods used to assess the viability of these assumptions.

Chapman & Hall
June 2025 : 374pp
Pb: 978-1-032-45934-9 : **\$79.95**
Hb: 978-1-032-45757-4 : **\$200**
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Bayesian Econometric Modelling for Big Data



Hang Qian Mathworks Inc, U.S.A

Series: Chapman and Hall/CRC Series on Statistics in Business and Economics

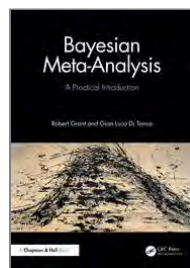
This book delves into scalable Bayesian statistical methods designed to tackle the challenges posed by big data. It explores a variety of divide-and-conquer and subsampling techniques, seamlessly integrating these scalable methods into a broad spectrum of econometric models. It is an essential resource for a diverse audience: graduate students seeking foundational knowledge in Bayesian econometric models, early-career statisticians eager to explore cutting-edge advancements in scalable Bayesian methods, data analysts struggling with out-of-memory challenges in large datasets, and statistical software users and developers striving to program with efficiency and numerical stability.

Chapman & Hall
June 2025 : 488pp
Hb: 978-1-032-91525-8 : **\$125**

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Bayesian Meta-Analysis

A Practical Introduction



Robert Grant , Gian Luca Di Tanna

Meta-analysis is the statistical combination of previously conducted studies, often from summary statistics but sometimes with individual participant data. This book provides an approachable introduction for researchers who are new to Bayes, meta-analysis, or both. There is an emphasis on hands-on learning using a variety of software packages.

Chapman & Hall
June 2025 : 332pp
Pb: 978-1-032-45189-3 : **\$59.99**
Hb: 978-1-032-45190-9 : **\$170**

* For full contents and more information, visit: www.routledge.com/9781032451893

Big Data Science for Criminology and the Social Sciences

From Case Studies to Theory



Marcello Trovati Department of Computing and Mathematics, University of Derby, UK, **Fionn Murtagh** Goldsmiths University of London, United Kingdom, **Richard Hill**, **Philip Hodgson**, **Philip Burton-Cartledge**, **Michael Teague**, **Charlotte Hargreaves**

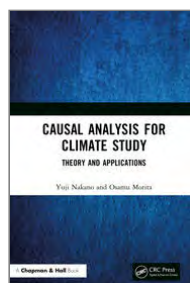
There is an increasing prevalence of large and complex datasets within the social sciences, and notably criminology in recent years. This data explosion has led to the development of specialized techniques for extracting information from such data. This book presents an introduction to "Big Data Science" for criminology and the social sciences, taking a case study-based approach to explaining the concepts. The theory is introduced as needed to answer scientific questions based on real data problems in the application areas. Some R and Python code is included to give support with implementation of the methods.

Chapman & Hall
March 2026 : 250pp
Hb: 978-1-498-78865-6 : \$110

* For full contents and more information, visit: www.routledge.com/9781498788656

Causal Analysis for Climate Study

Theory and Applications



Yuji Nakano, **Osamu Morita**

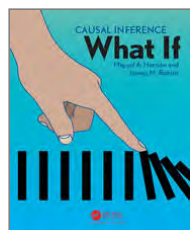
This book offers the theory of causal analysis and its applications. The authors have developed this book in relation its applications to four climatological phenomena, to prove the theory of causal analysis in time sequential data analysis. This book is useful for researchers and graduate students of applied mathematics, physics, geophysics, meteorology, oceanography, engineering technology, and economics.

Chapman & Hall
June 2025 : 130pp
Hb: 978-1-032-99304-1 : \$68.99
eBook: 978-1-003-60342-9

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Causal Inference

What If



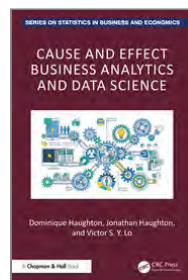
Miguel A. Hernan Harvard School of Public Health, Boston, Massachusetts, USA, **James M. Robins** Harvard School of Pub Health, Boston, Massachusetts, USA

The application of causal inference methods is growing exponentially in fields that deal with observational data. Written by pioneers in the field, this practical book presents an authoritative yet accessible overview of the methods and applications of causal inference. With a wide range of detailed, worked examples using real epidemiologic data as well as software for replicating the analyses, the text provides a thorough introduction to the basics of the theory for non-time-varying treatments and the generalization to complex longitudinal data.

CRC Press
July 2025 : 312pp
Hb: 978-1-420-07616-5 : \$55.99

* For full contents and more information, visit: www.routledge.com/9781420076165

Cause and Effect Business Analytics and Data Science



Dominique Haughton Bentley University, Waltham, Massachusetts, USA, **Jonathan Haughton** Suffolk University, Boston, Massachusetts, USA, **Victor S. Y. Lo** Bentley University, Waltham, Massachusetts, USA

Series: *Chapman and Hall/CRC Series on Statistics in Business and Economics*

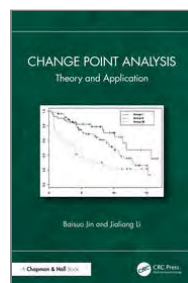
Among the most important questions that businesses ask are some very simple ones: If I decide to do something, will it work? And if so, how large are the effects? To answer these predictive questions, and later base decisions on them, we need to establish causal relationships. The book is written in an accessible style, and will be of interest to data analysts and strategists in business, to students and instructors of business and analytics who have a solid foundation in statistics, and to data scientists who recognize the need to take seriously the need for causality as an essential input into effective decision making.

Chapman & Hall
July 2025 : 272pp
Hb: 978-1-482-21647-9 : \$99.99

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Change Point Analysis

Theory and Application



Baisuo Jin Uni of Science and Technology of China, China, **Jialiang Li** National University of Singapore, Singapore

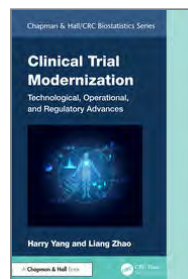
A crucial statistical technique for detecting structural breaks within datasets, applicable in diverse fields such as finance and weather forecasting.

Chapman & Hall
August 2025 : 232pp
Hb: 978-1-032-64904-7 : \$120

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Clinical Trial Modernization

Technological, Operational, and Regulatory Advances



Harry Yang MedImmune, LLC, Gaithersburg, Maryland, USA, **Liang Zhao**

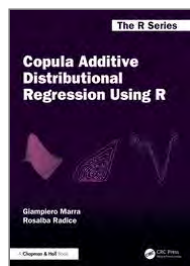
Series: *Chapman & Hall/CRC Biostatistics Series*

As the pharmaceutical industry navigates this new era of technological innovation, the integration of AI, big data, and advanced analytics into clinical trials holds immense potential to transform drug development. This book provides a comprehensive overview of the current trends, challenges, and opportunities in modernizing clinical trials, offering a roadmap for stakeholders in this evolving field. This book serves as a valuable resource for professionals, researchers, and regulators, providing actionable insights into the future of clinical trials and their critical role in bringing new therapies to market faster and more effectively.

Chapman & Hall
May 2025 : 434pp
Hb: 978-1-032-12360-8 : \$170
eBook: 978-1-003-22608-6

* For full contents and more information, visit: www.routledge.com/9781032123608

Copula Additive Distributional Regression Using R



Giampiero Marra , Rosalba Radice

Series: Chapman & Hall/CRC The R Series

Copula additive distributional regression enables the joint modeling of multiple outcomes, an essential aspect of many real-world research problems. This book provides an accessible overview of this modeling approach, with a particular focus on its implementation in the GJRM R package

Chapman & Hall
June 2025 : 152pp

Hb: 978-1-032-97311-1 : \$100

* For full contents and more information, visit: www.routledge.com/9781032973111

Critical Thinking and Creative Analogies in Statistics, Science, and Technology

Essential Skills for the AI Era



Mark Chang Boston University, USA

Through the lens of critical thinking and creative analogy, this book skillfully blends mainstream perspectives with bold, thought-provoking personal insights, offering readers a fresh and engaging perspective on complex topics. By leveraging critical thinking, creative analogies, and practical examples from statistics, medicine, socioeconomics, education, and technology, it bridges the gap between abstract theory and real-world applications.

Chapman & Hall
September 2025 : 352pp

Pb: 978-1-041-04382-9 : \$79.99

Hb: 978-1-041-04813-8 : \$200

* For full contents and more information, visit: www.routledge.com/9781041043829

Data Clustering with Python

From Theory to Implementation



Guojun Gan University of Connecticut, U.S.A

Series: Chapman & Hall/CRC The Python Series

Introduces Python and key libraries like NumPy, Pandas, and Matplotlib, covers clustering algorithms - hierarchical and partitional methods. Includes theoretical explanations, Python implementations, practical examples, with comparisons to scikit-learn. Ideal for anyone interested in clustering algorithms, with no prior Python experience required.

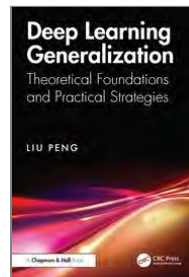
Chapman & Hall
October 2025 : 256pp

Hb: 978-1-032-97156-8 : \$105

* For full contents and more information, visit: www.routledge.com/9781032971568

Deep Learning Generalization

Theoretical Foundations and Practical Strategies



Liu Peng

This book provides a comprehensive exploration of generalization in deep learning, focusing on both theoretical foundations and practical strategies. It delves deeply into how machine learning models, particularly deep neural networks, achieve robust performance on unseen data. For academics, the book serves as a definitive resource to solidify theoretical knowledge and explore cutting-edge research directions. Whether you're a beginner seeking foundational understanding or a practitioner exploring advanced methodologies, this book offers an indispensable guide to achieving robust generalization in deep learning.

Chapman & Hall

September 2025 : 200pp

Pb: 978-1-032-84189-2 : \$64.99

Hb: 978-1-032-84190-8 : \$190

* For full contents and more information, visit: www.routledge.com/9781032841892

3RD EDITION

Displaying Time Series, Spatial, and Space-Time Data with R



Oscar Perpinan Lamigueiro ETSIDI-UPM, Madrid, Spain

Series: Chapman & Hall/CRC The R Series

Focusing on the exploration of data with visual methods, "Displaying Time Series, Spatial, and Space-Time Data with R" presents methods and R code for producing high-quality static graphics, interactive visualizations, and animations, of time series, spatial, and space-time data. Practical examples using real-world datasets help you understand how to apply the methods and code. While the first edition primarily focused on static graphics, and the second edition significantly expanded upon interactive elements, this edition has been thoroughly updated with a modern emphasis.

Chapman & Hall

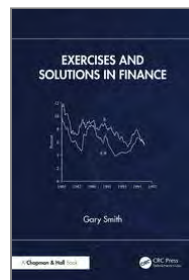
August 2025 : 320pp

Pb: 978-1-032-77920-1 : \$99.99

Hb: 978-1-032-77621-7 : \$280

* For full contents and more information, visit: www.routledge.com/9781032779201

Exercises and Solutions in Finance



Gary Smith

Hundreds of engaging, class-tested finance exercises (and detailed solutions) that test student understanding of the material. Many are educational in their own right—for example, delaying social security benefits does not give a safe 8% real return; the correlation between bond and stock returns is not stable, and most measures of company performance regress toward the mean.

Chapman & Hall

September 2025 : 280pp

Pb: 978-1-041-04836-7 : \$49.95

Hb: 978-1-041-04838-1 : \$150

* For full contents and more information, visit: www.routledge.com/9781041048367

Exercises and Solutions in Probability and Statistics



Gary Smith

Series: Chapman & Hall/CRC Texts in Statistical Science

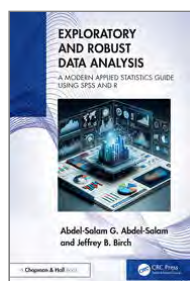
Hundreds of engaging, class-tested statistics exercises (and detailed solutions) that test student understanding of the material. Many are educational in their own right—for example, baseball managers who played professional ball were often catchers; stocks that are deleted from the Dow Jones Industrial Average generally do better than the stocks that replaced them; athletes may not get hot hands but they often get warm hands with modest improvements in their success probabilities.

Chapman & Hall
September 2025 : 264pp
Pb: 978-1-041-04833-6 : **\$49.95**
Hb: 978-1-041-04834-3 : **\$150**

* For full contents and more information, visit: www.routledge.com/9781041048336

Exploratory and Robust Data Analysis

A Modern Applied Statistics Guide with SPSS and R



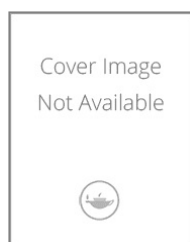
Abdel-Salam G. Abdel-Salam Qatar University, Qatar,
Jeffrey B. Birch Virginia Tech, U.S.A

Exploratory and Robust Data Analysis: A Modern Applied Statistics Guide Using SPSS and R is an essential resource for students, researchers, and professionals seeking a comprehensive yet practical approach to modern statistical analysis. This book bridges traditional statistical methods with contemporary techniques, emphasizing exploratory and robust data analysis while integrating powerful computational tools such as R and SPSS.

Chapman & Hall
September 2025 : 464pp
Hb: 978-1-032-93192-0 : **\$140**

* For full contents and more information, visit: www.routledge.com/9781032931920

Foundations of Multiple Regression and Analysis of Variance



Lynn Roy LaMotte Louisiana State University Health Sciences Center School of Public Health 2020 Gravier Street New Orleans, LA 70112

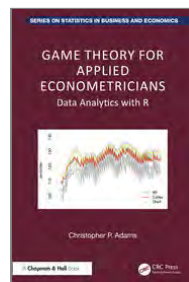
This book provides a rigorous development of the foundations of linear models for multiple regression and Analysis of Variance (ANOVA), based on orthogonal projections and relations among linear subspaces. It is appropriate for the linear models course required in most statistics Ph.D. programs. The presentation is particularly accessible because it is self-contained, general, and taken in logical steps that are linked directly to practicable computations. The broad objective is to provide a path of mastery so that the reader could replicate general linear models procedures in extant statistical computing packages.

Chapman & Hall
December 2025 : 272pp
Hb: 978-1-032-98152-9 : **\$110**

* For full contents and more information, visit: www.routledge.com/9781032981529

Game Theory for Applied Econometricians

Data Analytics with R



Christopher P. Adams Federal Trade Commission

Series: Chapman and Hall/CRC Series on Statistics in Business and Economics

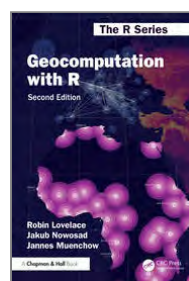
Over the last 30 years the practice and use of game theory has changed dramatically, yet textbooks continue to present game theory with algebraic formalism and toy models. This book, on the other hand, illustrates game theory concepts using real-world data and analyses problems with real policy implications. The examples include an analysis of bargaining between hospitals and insurers, equilibrium entry of retail tire stores, bid rigging in timber auctions and contracts in 19th century whaling. This book is aimed at the general reader with the equivalent of a bachelor's degree in economics, statistics or some more technical field.

Chapman & Hall
May 2025 : 280pp
Hb: 978-1-032-39833-4 : **\$120**
eBook: 978-1-003-35160-3

* For full contents and more information, visit: www.routledge.com/9781032398334

2ND EDITION

Geocomputation with R



Robin Lovelace University of Leeds, UK, **Jakub Nowosad**, **Jannes Muenchow** Friedrich Schiller University, Jena, Germany

Series: Chapman & Hall/CRC The R Series

Geocomputation with R is for people who want to analyze, visualize, and model geographic data with open source software. The book provides a foundation for learning how to solve a wide range of geographic data analysis problems in a reproducible, and therefore scientifically sound and scalable way. The second edition features numerous updates, including the adoption of the high-performance terra package for all raster data processing, detailed coverage of the spherical geometry engine s2, updated information on coordinate reference systems and new content on openEO, STAC, COG, and gdalcubes. The book equips you with the knowledge and skills to tackle a wide range of issues.

Chapman & Hall
May 2025 : 420pp
Pb: 978-1-032-24888-2 : **\$72.99**
Hb: 978-1-032-22979-9 : **\$200**
eBook: 978-1-003-28056-9

* For full contents and more information, visit: www.routledge.com/9781032248882

Health Metrics and the Spread of Infectious Diseases

Machine Learning Applications and Spatial Modelling Analysis with R



Federica Gazzelloni

Demonstrates how to calculate these metrics to compare the health status of different countries and explores the world of infectious diseases. It tests various machine learning tools for analyzing trends and relationships among key variables, aiming to prevent unexpected outcomes. Through detailed explanations and practical examples, readers will gain a comprehensive understanding of Disability Adjusted Life Years (DALYs) and their components.

Chapman & Hall
June 2025 : 344pp
Hb: 978-1-032-62578-2 : **\$115**

* For full contents and more information, visit: www.routledge.com/9781032625782

3RD EDITION

Hierarchical Modeling and Analysis for Spatial Data



Sudipto Banerjee University of California Los Angeles,
Alan E. Gelfand Duke University, Durham, North Carolina
, Bradley P. Carlin

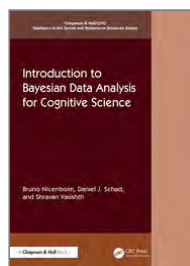
Series: Chapman & Hall/CRC Monographs on Statistics and Applied Probability

The 3rd edition of this popular and authoritative text on Bayesian modeling and inference for spatial and spatial-temporal data presents a comprehensive presents a comprehensive and up-to-date treatment of hierarchical and multilevel modeling for spatial and spatio-temporal data within a Bayesian framework.

Chapman & Hall
September 2025 : 696pp
Hb: 978-1-032-50855-9 : \$110

* For full contents and more information, visit: www.routledge.com/9781032508559

Introduction to Bayesian Data Analysis for Cognitive Science



Bruno Nicenboim University of Potsdam Karl Liebknecht Str 24-25 Potsdam, Brandenburg 14476, **Daniel J. Schadt** University of Potsdam Karl-Liebknecht-Str. 24-25 Potsdam, Brandenburg 14476, **Shravan Vasishth** University of Potsdam Karl-Liebknecht 24-25 Potsdam, Brandenburg 14476

Series: Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences

This book introduces Bayesian data analysis and Bayesian cognitive modeling to students and researchers in cognitive science (e.g., linguistics, psycholinguistics, psychology, computer science), with a particular focus on modeling data from planned experiments. The book relies on the probabilistic programming language Stan and the R package brms, which is a front-end to Stan. The book only assumes that the reader is familiar with the statistical programming language R, and has basic high school exposure to pre-calculus mathematics; some of the important mathematical constructs needed for the book are introduced in the first chapter.

Chapman & Hall
August 2025 : 636pp
Pb: 978-0-367-35933-1 : \$76.99
Hb: 978-0-367-35851-8 : \$200

* For full contents and more information, visit: www.routledge.com/9780367359331

Introduction to Political Analysis in R



H. Whitt Kilburn

Series: Chapman & Hall/CRC The R Series

Introduction to Political Analysis in R is a comprehensive guide for students and researchers eager to delve into the intersection of data science, statistics, and political science. Aimed at equipping readers with the essential quantitative skills to analyze political data, the book bridges practical coding techniques in R with foundational statistical concepts, emphasizing real-world applications in politics.

Chapman & Hall
August 2025 : 440pp
Pb: 978-1-032-55658-1 : \$69.99
Hb: 978-1-032-55451-8 : \$180

* For full contents and more information, visit: www.routledge.com/9781032556581

Linear Algebra for Data Science with Python



John M. Shea

Series: Chapman & Hall/CRC The Python Series

Uses a computational-first approach: reader will learn how to use Python and associated data-science libraries to work with and visualize vectors and matrices and their operations, as well as to import data to apply these techniques. Readers learn the basics of performing vector and matrix operations by hand, but are also shown how to use several different Python libraries for performing these operations.

Chapman & Hall
October 2025 : 264pp
Hb: 978-1-032-65916-9 : \$99.99

* For full contents and more information, visit: www.routledge.com/9781032659169

Mastering Health Data Science Using R



Alice Paul Brown University, U.S.A

This book provides a practical, application-driven guide to using R for public health and health data science, accessible to both beginners and those with some coding experience. Each module starts with data as the driver of analysis before introducing and breaking down the programming concepts needed to tackle the analysis in a step-by-step manner. This book aims to equip readers by offering a practical and approachable programming guide tailored to those in health-related fields. Going beyond simple R examples, the programming principles and skills developed will give readers the ability to apply R skills to their own research needs.

Chapman & Hall
July 2025 : 368pp
Pb: 978-1-032-72993-0 : \$91.99
Hb: 978-1-032-72936-7 : \$230

* For full contents and more information, visit: www.routledge.com/9781032729930

Model to Meaning

How to Interpret Statistical Models with R and Python



Vincent Arel-Bundock Universite de Montreal, Canada

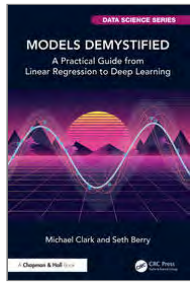
Proposes a consistent workflow that can be applied to (almost) any statistical or machine learning model. Readers will learn how to transform complex parameter estimates into quantities that are readily interpretable, intuitive, and understandable.

Chapman & Hall
November 2025 : 256pp
Pb: 978-1-032-90872-4 : \$79.99
Hb: 978-1-032-90890-8 : \$200

* For full contents and more information, visit: www.routledge.com/9781032908724

Models Demystified

A Practical Guide from Linear Regression to Deep Learning



Michael Clark Strong Analytics, U.S.A., **Seth Berry**
University of Notre Dame, U.S.A

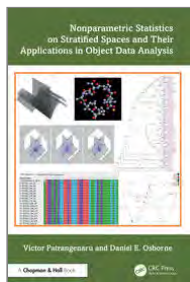
Series: *Chapman & Hall/CRC Data Science Series*

In this comprehensive guide, we delve into the world of data science, machine learning, and AI modeling, providing readers with a robust foundation and practical skills to tackle real-world problems. From basic modeling techniques to advanced machine learning algorithms, this book covers a wide range of topics, ensuring that readers at all levels can benefit from its content. Each chapter is meticulously crafted to offer clear explanations, hands-on examples, and code snippets in both Python and R, making complex concepts accessible and actionable.

Chapman & Hall
August 2025 : 508pp
Hb: 978-1-032-58258-0 : \$105

* For full contents and more information, visit: www.routledge.com/9781032582580

Nonparametric Statistics on Stratified Spaces and Their Applications in Object Data Analysis



Victor Patrangenaru Florida State University,
Tallahassee, USA, **Daniel E. Osborne** Florida Agricultural
and Mechanical University, U.S.A

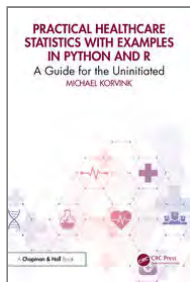
This book, a follow-up of Nonparametric Statistics on Manifolds and Their Applications to Object Data Analysis where the reader was introduced to data analysis on manifolds, is expanding the subject of data analysis on object spaces, to the case of metric spaces that have a smooth structure on an open dense subset only, that is comprised of manifolds whose boundaries are made of lower dimensional manifolds in this filtration. Such object spaces are known as stratified spaces. Key examples of complex data from which one extracts data representable as points on a stratified space, and a review on data analysis on manifolds, are provided.

Chapman & Hall
July 2025 : 208pp
Hb: 978-1-138-04313-8 : \$160

* For full contents and more information, visit: www.routledge.com/9781138043138

Practical Healthcare Statistics with Examples in Python and R

A Guide for the Uninitiated



Michael Korvink

This book provides a clear and straightforward introduction to statistical methods in healthcare. This book emphasizes methods that are both effective and easy to communicate to clinical and non-technical stakeholders. Each technique presented in the book is accompanied by statistical notation described in plain English, as well as a self-contained example implemented in both Python and R. These examples help readers connect statistical methods to real healthcare scenarios without requiring extensive programming experience. This book is a practical resource for analysts, data scientists, health researchers, and others looking to make informed, data-driven decisions in healthcare.

Chapman & Hall
August 2025 : 244pp
Pb: 978-1-041-00141-6 : \$79.99
Hb: 978-1-041-00423-3 : \$200

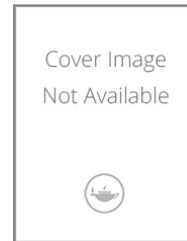
* For full contents and more information, visit: www.routledge.com/9781041001416

Predictive Modelling for Football Analytics

Leonardo Egidi, **Dimitris Karlis**, **Ioannis Ntzoufras**

Series: *Chapman & Hall/CRC Data Science Series*

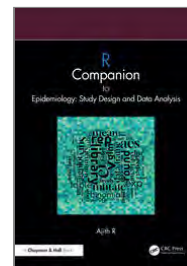
Discusses well-known models and main computational tools for the football analytics domain. Introduces footBayes R package that accompanies the reader through all examples proposed in the book.



Chapman & Hall
November 2025 : 272pp
Pb: 978-1-032-03063-0 : \$63.99
Hb: 978-1-032-03064-7 : \$160

* For full contents and more information, visit: www.routledge.com/9781032030630

R Companion to Epidemiology: Study Design and Data Analysis



Ajith R

R companion to epidemiology is a companion book for Epidemiology study design and data analysis 3rd edition. It aims to equip the reader with sufficient knowledge to use R for practising epidemiology. Towards this aim, it reworks the examples in epidemiology study design and data analysis using R, presenting the code followed by an explanation and its result.

Chapman & Hall
June 2025 : 414pp
Pb: 978-1-032-96464-5 : \$69.99
Hb: 978-1-032-96465-2 : \$200

* For full contents and more information, visit: www.routledge.com/9781032964645

R for Health Technology Assessment



Edited by **Gianluca Baio** Department of Statistical
Science, University College London, UK, **Howard Thom**,
Petros Pechlivanoglou

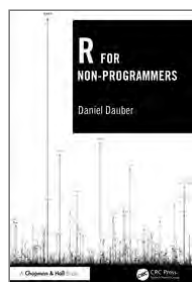
Series: *Chapman & Hall/CRC Biostatistics Series*

Primarily aimed at modellers working in the field of HTA, regulators and reviewers of reimbursement dossiers and cost-effectiveness analyses. It also complements a wide range of undergraduate and graduate programmes in HTA, health and public health economics, as well as academic researchers in the field of statistical modelling for HTA.

Chapman & Hall
June 2025 : 450pp
Hb: 978-0-367-46891-0 : \$140

* For full contents and more information, visit: www.routledge.com/9780367468910

R for Non-Programmers



Daniel Dauber University of Warwick, U.K.

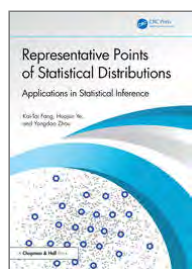
The book introduces interactive elements, including chapter exercises in the accompanying R package, facilitating readers internalising this new programming language and statistical techniques. This approach enhances the overall learning experience. It also includes all datasets covered in the book, which allows readers to copy and paste code blocks and try them in their own version of R on their computer. R4NP addresses a particular gap in literature recognising this increasing trend in the Social Sciences and stands out for its emphasis on this essential aspect, showcasing the strength of R programming in accommodating diverse research methodologies.

Chapman & Hall
June 2025 : 400pp
Pb: 978-1-032-78014-6 : \$76.99
Hb: 978-1-032-78148-8 : \$200

* For full contents and more information, visit: www.routledge.com/9781032780146

Representative Points of Statistical Distributions

Applications in Statistical Inference



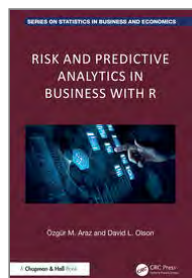
Kai-Tai Fang Hong Kong Baptist University, Kowloon,
Huajun Ye, Yongdao Zhou

Statistical simulation has become a cornerstone in both statistical research and applications, particularly through the Monte Carlo (MC) method. One of the pioneering resampling techniques is the bootstrap method. This book explores the use of simulation to construct approximate distributions via representative points.

Chapman & Hall
June 2025 : 339pp
Hb: 978-1-032-96411-9 : \$160
eBook: 978-1-003-58938-9

* For full contents and more information, visit: www.routledge.com/9781032964119

Risk and Predictive Analytics in Business with R



Ozgur M. Araz University of Nebraska-Lincoln, U.S.A,
David L. Olson University of Nebraska-Lincoln, U.S.A

Series: Chapman and Hall/CRC Series on Statistics in Business and Economics

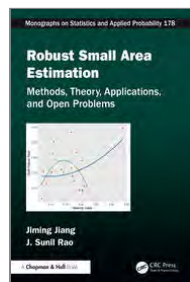
Supply chain operations face many risks, including political, environmental, and economic. This book presents data mining and analytics tools with R programming as well as a brief presentation of Monte Carlo simulation that can be used to anticipate and manage these risks.

Chapman & Hall
August 2025 : 182pp
Hb: 978-1-032-91269-1 : \$105

* For full contents and more information, visit: www.routledge.com/9781032912691

Robust Small Area Estimation

Methods, Theory, Applications, and Open Problems



Jiming Jiang University of California, Davis, **J. Sunil Rao**

Series: Chapman & Hall/CRC Monographs on Statistics and Applied Probability

Intended to provide a nearly comprehensive account of methods, theory, applications, as well as open problems related to robust SAE, that the monograph will help persuade practitioners, such as those in government agencies, to more readily adopt robust SAE methods. Suitable for a graduate level (master or Ph. D.) course in Statistics or Data Science. May also serve as a reference book for researchers and practitioners. A course in calculus and a first course in mathematical statistics are prerequisites.

Chapman & Hall
August 2025 : 280pp
Hb: 978-1-032-48885-1 : \$120

* For full contents and more information, visit: www.routledge.com/9781032488851

Scientific Research and Methodology

An Introduction to Quantitative Research and Statistics



Peter K. Dunn Associate Professor, Uni of Sunshine Coast.

This textbook is designed for teaching quantitative research in the scientific, health and engineering disciplines at first-year undergraduate level, with an emphasis on statistics. It covers the research process, including asking research questions, research design, data collection, summarising data, analysis and communication. Statistical topics include numerical summary methods (such as means, odds ratios and identification of outliers), graphing (such as histograms, case-profile plots and scatterplots), confidence intervals and hypothesis testing. Almost every dataset used is a real dataset, and is available online or in an associated R package SRMData.

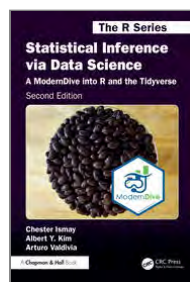
Chapman & Hall
August 2025 : 557pp
Hb: 978-1-032-49672-6 : \$120

* For full contents and more information, visit: www.routledge.com/9781032496726

2ND EDITION

Statistical Inference via Data Science

A ModernDive into R and the Tidyverse



Chester Ismay DataCamp, **Albert Y. Kim**, **Arturo Valdivia**

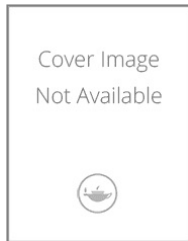
Series: Chapman & Hall/CRC The R Series

Offers a comprehensive guide to learning statistical inference with data science tools widely used in industry, academia, and government. Ideal for those new to statistics or looking to deepen their knowledge, this edition provides a clear entry point into data science and modern statistical methods.

Chapman & Hall
May 2025 : 490pp
Pb: 978-1-032-70837-9 : \$84.99
Hb: 978-1-032-72451-5 : \$210
eBook: 978-1-032-72454-6

* For full contents and more information, visit: www.routledge.com/9781032708379

Statistics in Survey Sampling



Jae Kwang Kim

Series: Chapman & Hall/CRC Texts in Statistical Science

Offers a comprehensive and rigorous introduction to the principles and practices of survey sampling, bridging the gap between statistical theory and real-world data collection.

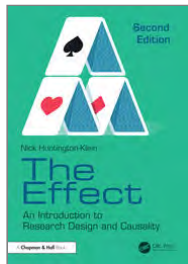
Chapman & Hall
October 2025 : 280pp
Hb: 978-1-032-99776-6 : **\$110.99**

* For **full contents** and more information, visit: www.routledge.com/9781032997766

2ND EDITION

The Effect

An Introduction to Research Design and Causality



Nick Huntington-Klein

This book is about research design, specifically concerning research that uses non-experimental data to figure out whether one thing causes another. It introduces the concept of identification thoroughly and clearly and discusses it as a process of trying to isolate variation that has a causal interpretation. Concepts are demonstrated with a heavy emphasis on graphical intuition and the question of what we do to data. When we “add a control variable” what does that actually do? The second edition features a new chapter on partial identification, updated materials, methods, and writing throughout, and additional materials for help navigating the book or in using the book in teaching.

Chapman & Hall
June 2025 : 686pp
Pb: 978-1-032-58022-7 : **\$54.99**
Hb: 978-1-032-58194-1 : **\$160**

* For **full contents** and more information, visit: www.routledge.com/9781032580227

Visualization for Social Data Science



Roger Beecham University of Leeds, Yorkshire, UK

Series: Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences

The book provides end-to-end skills in visual data analysis. It demonstrates how data graphics and modern statistics can be used in tandem to process, explore, model and communicate data-driven social science. It is packed with detailed data analysis examples, pushing you to do visual data analysis. As well as introducing, and demonstrating with code, a wide range of data visualizations for exploring patterns in data, the book shows how models can be integrated with graphics to emphasise important structure and de-emphasise spurious structure and the role of data graphics in scientific communication – in building trust and integrity.

Chapman & Hall
July 2025 : 216pp
Pb: 978-1-032-25971-0 : **\$69.99**
Hb: 978-1-032-27437-9 : **\$180**

* For **full contents** and more information, visit: www.routledge.com/9781032259710

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