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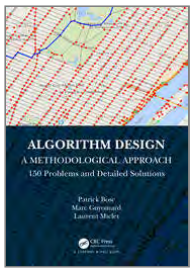
Algorithm Design: A Methodological Approach - 150 problems and detailed solutions



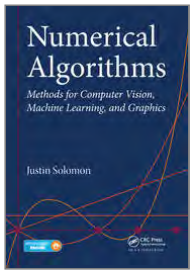
Patrick Bosc , Marc Guyomard , Laurent Miclet

A best-seller in its French edition, the construction of this book is original and its success in the French market demonstrates its appeal. For its most part, the book details 150 problems, spanning on seven families of algorithms. For each problem, a precise and progressive statement is given. More important, a complete solution is detailed, with respect to the design principles that have been presented ; often, some classical errors are pointed at. Roughly speaking, two thirds of the book are devoted to the detailed rational construction of the solutions.

Chapman & Hall
January 2023 : 820pp
Pb: 978-1-032-36939-6 : **£46.99**
Hb: 978-1-032-36941-9 : **£110**
eBook: 978-1-003-33459-0
* For **full contents** and more information, visit: **www.routledge.com/9781032369396**

Numerical Algorithms

Methods for Computer Vision, Machine Learning, and Graphics



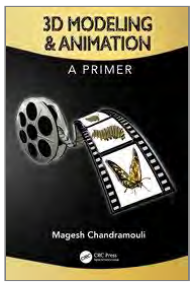
Justin Solomon

This text presents a new approach to numerical analysis for modern computer scientists. Using examples from a broad base of computational tasks, including data processing, computational photography, and animation, the book introduces numerical modeling and algorithmic design from a practical standpoint and provides insight into the theoretical tools needed to support these skills. Comprehensive end-of-chapter exercises encourage critical thinking and build students' intuition while introducing extensions of the basic material.

A K Peters/CRC Press
June 2020 : 400pp
Pb: 978-0-367-57563-2 : **£44.99**
Hb: 978-1-482-25188-3 : **£77.99**
eBook: 978-0-429-17161-1
* For **full contents** and more information, visit: **www.routledge.com/9780367575632**

3D Modeling & Animation

A Primer



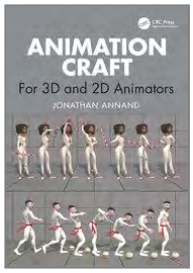
Magesh Chandramouli Purdue University, Calumet, Hammond, Indiana, USA

While other books assume readers know these basics, '3D Modeling & Animation: A Primer' provides the fundamental building blocks in constructing new own worlds of art and 3D design.

CRC Press
December 2021 : 368pp
Pb: 978-1-498-76491-9 : **£46.99**
Hb: 978-1-032-13773-5 : **£115**
eBook: 978-0-429-18634-9
* For **full contents** and more information, visit: **www.routledge.com/9781498764919**

Animation Craft

For 3D and 2D Animators



Jonathan Annand

This book is for those who want to learn the craft or mechanics of animation, how to actually animate a scene from start to finish, or take their animation to the next level. Using over 600 examples, this book answers the questions about the craft of animation that are often not taught in schools or books. Animation Craft for 3D and 2D Animators will be a great resource for any beginner looking to learn the fundamentals of animation, or more experienced animators looking to hone their craft.

CRC Press
May 2025 : 376pp
Pb: 978-1-032-42239-8 : **£52.99**
Hb: 978-1-032-42240-4 : **£130**
* For **full contents** and more information, visit: **www.routledge.com/9781032422398**

Creative Character Design for Games and Animation

Jenny Harder

This book takes you through the general practice of designing characters for games and animation. It covers aspects such as creative thinking, working with references through to the development phase and final render. It covers a range of styles such as cartoony, stylized and semi-realistic, and explains how to differentiate between them and use them effectively. This book will be a valuable resource for all junior artists, hobby artists, and art students looking to develop and improve their character development skills for games and animation.

CRC Press
May 2023 : 136pp
Pb: 978-1-032-15296-7 : **£39.99**
Hb: 978-1-032-15299-8 : **£100**
eBook: 978-1-003-24353-3
* For **full contents** and more information, visit: **www.routledge.com/9781032152967**

Directing Game Animation

Building a Vision and a Team with Intent

Mike Jungbluth

Directing Game Animation: Building a Vision and a Team with Intent breaks down the process on how to create an intentional animation vision, that can be both unique and flexible. From defining the high-level experience, to breaking down tech needs, projecting a team size and empowering everyone to work together, this book will help to wrap your arms around a project's animation needs.

CRC Press
March 2024 : 240pp
Pb: 978-1-032-41078-4 : **£42.99**
Hb: 978-1-032-41087-6 : **£115**
eBook: 978-1-003-35619-6
* For **full contents** and more information, visit: **www.routledge.com/9781032410784**

2ND EDITION

Discovering Computer Science

Interdisciplinary Problems, Principles, and Python Programming

Jessen Havill

Series: Chapman & Hall/CRC Textbooks in Computing

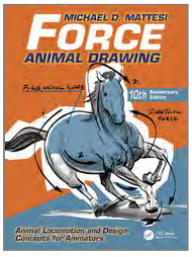
Discovering Computer Science: Interdisciplinary Problems, Principles, and Python Programming introduces computational problem solving as a vehicle of discovery in a wide variety of disciplines. With a principles-oriented introduction to computational thinking, the text provides a broader and deeper introduction to computer science than typical introductory programming books.Organized around interdisciplinary problem domains, rather than programming language features, each chapter guides students through sophisticated algorithmic and programming techniques. The author uses a spiral approach to introduce Python language features in increasingly complex contexts as the book progresses.

Chapman & Hall
October 2020 : 542pp
Pb: 978-0-367-47249-8 : **£74.99**
Hb: 978-0-367-61335-8 : **£170**
eBook: 978-1-003-03714-9
* For **full contents** and more information, visit: **www.routledge.com/9780367472498**

2ND EDITION

Force: Animal Drawing

Animal Locomotion and Design Concepts for Animators



Mike Mattesi

Series: Force Drawing Series

This second edition of Force: Animal Drawing Animal locomotion and design concepts for animators offers readers an enlarged and enhanced selection of images that apply FORCE to animals.

CRC Press
August 2021 : 232pp
Pb: 978-0-367-63707-1 : **£35.99**
Hb: 978-0-367-77156-0 : **£125**
eBook: 978-1-003-17004-4
* For **full contents** and more information, visit: **www.routledge.com/9780367637071**

2ND EDITION

Game Anim

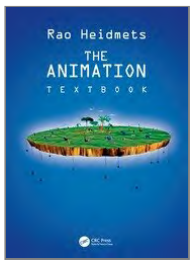
Video Game Animation Explained

Jonathan Cooper

The second edition of GAME ANIM expands upon the first with an all-new chapter on 2D and Pixel Art Animation, an enhanced mocap chapter covering the latest developments in Motion Matching, and even more interviews with top professionals in the field.

CRC Press
April 2021 : 350pp
Pb: 978-0-367-70765-1 : **£42.99**
Hb: 978-0-367-70770-5 : **£120**
eBook: 978-1-003-14789-3
* For **full contents** and more information, visit: **www.routledge.com/9780367707651**

The Animation Textbook



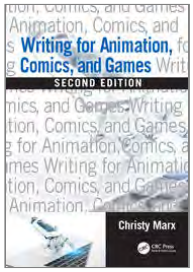
Rao Heidmets

This introductory textbook provides practical exercises to help students and beginner animators get to grips with the basics of creating animated films. It covers both traditional 2D and 3D animated film, as well as experimental and computer animation. The book also includes information and guidance on how to easily create animation using only a mobile phone.This book will be helpful to all students and newcomers looking to gain a grounding in the basics of animated film.

CRC Press
December 2022 : 130pp
Pb: 978-1-032-38338-5 : **£42.99**
Hb: 978-1-032-38401-6 : **£120**
eBook: 978-1-003-34486-5
* For **full contents** and more information, visit: **www.routledge.com/9781032383385**

2ND EDITION

Writing for Animation, Comics, and Games



Christy Marx

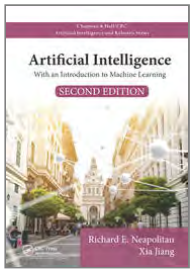
This second edition of Writing for Animation, Comics, and Games expounds on the previous edition with more information on how to construct narratives for these three forms of visual storytelling media.

CRC Press
August 2021 : 312pp
Pb: 978-0-815-37937-9 : **£39.99**
Hb: 978-0-815-37938-6 : **£125**
eBook: 978-1-351-21598-5
* For **full contents** and more information, visit: **www.routledge.com/9780815379379**

2ND EDITION

Artificial Intelligence

With an Introduction to Machine Learning, Second Edition



Richard E. Neapolitan , Xia Jiang

The first edition of this popular textbook, Contemporary Artificial Intelligence, provided an accessible and student friendly introduction to AI. This fully revised and expanded update retains the same accessibility and problem-solving approach, while providing new material and methods, including neural networks and deep learning. Suitable for undergraduate and beginning graduate students, this class-tested textbook provides students with key AI methods and algorithms for solving challenging problems involving systems that behave intelligently in specialized domains such as medical and software diagnostics, financial decision making, speech and text recognition, genetic analysis, a

Chapman & Hall
June 2020 : 480pp
Pb: 978-0-367-57164-1 : **£38.99**
Hb: 978-1-138-50238-3 : **£115**
eBook: 978-1-315-14486-3
* For **full contents** and more information, visit: **www.routledge.com/9780367571641**

Debiasing AI

Rethinking the Intersection of Innovation and Sustainability

Donghee Shin

Debiasing AI examines the vital intersection of technology, innovation, and sustainability. The book addresses the pressing challenge of bias in AI systems, exploring its far-reaching implications for fairness, trust, and ethical practices. With actionable insights, empirical case studies, and theoretical frameworks, Debiasing AI offers a roadmap for designing AI technologies that are not only innovative but also ethically sound and equitable. A must-read for scholars, industry leaders, and policymakers, this book inspires a reimagining of AI's role in creating a fairer and more sustainable future.

Routledge
May 2025 : 280pp
Pb: 978-1-032-86977-3 : **£48.99**
Hb: 978-1-032-86978-0 : **£125**
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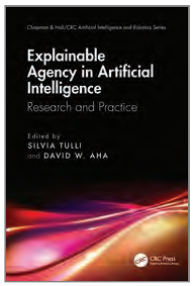
Explainable Agency in Artificial Intelligence

Research and Practice



Edited by **Silvia Tulli , David W. Aha**

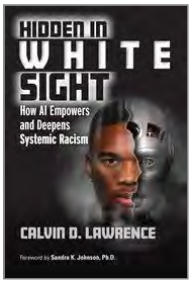
Series: Chapman & Hall/CRC Artificial Intelligence and Robotics Series

This book focuses on a subtopic of Explainable AI (XAI) called Explainable Agency (EA), which involves producing records of decisions made during an agent's reasoning, summarizing its behavior in human-accessible terms, and providing answers to questions about specific choices and the reasons for them. Chapters explores the concept of endowing intelligent agents with explainable agency, which is crucial for agents to be trusted by humans in critical domains such as finance, self-driving vehicles, and military operations. Ultimately, this book aims to contribute to the successful partnership between humans and AI systems.

CRC Press
January 2024 : 170pp
Pb: 978-1-032-39258-5 : **£52.99**
Hb: 978-1-032-40913-9 : **£140**
eBook: 978-1-003-35528-1
* For **full contents** and more information, visit: **www.routledge.com/9781032392585**

Hidden in White Sight

How AI Empowers and Deepens Systemic Racism



Calvin Lawrence

Artificial Intelligence was meant to be the great social equalizer that helps promote fairness by removing human bias from the equation, but is this true? Given that the policing and judicial systems can display human bias, this book explores how the technology they use can also reflect these prejudices. This book advises readers on what they can do to fight against it, including the introduction of a proposed AI Bill of Rights, whilst also providing specific recommendations for AI developers and technologists. Through personal stories from an esteemed Black Data Scientist and AI expert, this book attempts to demystify the algorithmic black box.

Chapman & Hall
April 2023 : 248pp
Pb: 978-1-032-43762-0 : **£23.99**
Hb: 978-1-032-43764-4 : **£61.99**
eBook: 978-1-003-36875-5
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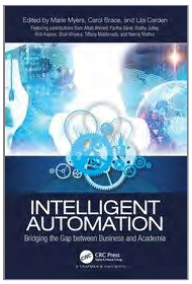
Intelligent Automation

Bridging the Gap between Business and Academia

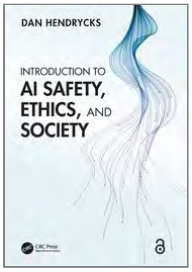


Edited by **Marie Myers , Carol Brace , Lila Carden**

This book is strongly recommended for practitioners seeking to plan, implement, and scale Intelligent Automation practices in their organization and for researchers and students who intend to study strategy, implementation, and management of Intelligent Automation practice to accelerate the digital transformation agenda.

Chapman & Hall
November 2023 : 280pp
Pb: 978-1-032-21806-9 : **£45.99**
Hb: 978-1-032-23175-4 : **£120**
eBook: 978-1-003-27612-8
* For **full contents** and more information, visit: **www.routledge.com/9781032218069**

Introduction to AI Safety, Ethics, and Society



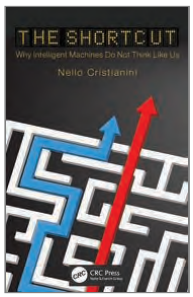
Dan Hendrycks

Introduction to AI Safety, Ethics, and Society is a comprehensive and interdisciplinary introduction to AI Safety. As AI threatens to transform society, it becomes increasingly more important to understand the risks that AI poses, and to learn what measures we can take to mitigate them. Leveraging insights from a spectrum of academic disciplines, this book sheds light on the risks from AI, and breaks down these risks into four primary categories: malicious use, rogue AIs, AI races, and organizational risks.

CRC Press
December 2024 : 562pp
Hb: 978-1-032-86992-6 : **£82.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032869926**

The Shortcut

Why Intelligent Machines Do Not Think Like Us



Nello Cristianini

An influential scientist in the field of artificial intelligence (AI) explains its fundamental concepts and how it is changing culture and society. The Shortcut: Why Intelligent Machines Do Not Think Like Us provides an accessible yet probing exposure of AI in its prevalent form today. Entertaining, disturbing, but always thoughtful, The Shortcut confronts the hidden logic of AI while preserving a space for human dignity. Essential reading for anyone with an interest in AI, the history of technology, and that of ideas. General readers will come away much more informed about how AI really works today, and what we should do next.

CRC Press
March 2023 : 186pp
Pb: 978-1-032-30509-7 : **£22.99**
Hb: 978-1-032-37199-3 : **£120**
eBook: 978-1-003-33581-8
* For **full contents** and more information, visit: **www.routledge.com/9781032305097**

Automata and Computability

A Programmer's Perspective

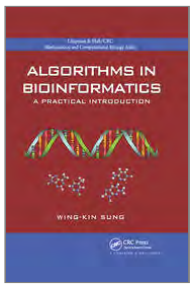
Ganesh Gopalakrishnan

This class-tested textbook provides a comprehensive and accessible introduction to the theory of automata and computation. The author uses illustrations, engaging examples, and historical remarks to make the material interesting and relevant for students. It incorporates modern/handy ideas, such as derivative-based parsing and a Lambda reducer showing the universality of Lambda calculus. The book also shows how to sculpt automata by making the regular language conversion pipeline available through a simple command interface. A Jupyter notebook will accompany the book to feature code, YouTube videos, and other supplements to assist instructors and students.

Chapman & Hall
September 2020 : 348pp
Pb: 978-0-367-65654-6 : **£39.99**
Hb: 978-1-138-55242-5 : **£82.99**
eBook: 978-1-315-14817-5
* For **full contents** and more information, visit: **www.routledge.com/9780367656546**

Algorithms in Bioinformatics

A Practical Introduction



Wing-Kin Sung

This classroom-tested text provides an in-depth introduction to the algorithmic techniques applied in bioinformatics. For each topic, the author clearly details the biological motivation, precisely defines the corresponding computational problems, and includes detailed examples to illustrate each algorithm. The text covers basic molecular biology concepts, sequence similarity, the suffix tree, sequence databases, sequence and genome alignment, the phylogenetic tree, genome rearrangement, motif finding, the secondary structure of RNA, peptide sequencing, and population genetics. Supplementary material is provided on the author's website and a solutions manual is available for qualifying instr

Chapman & Hall
September 2020 : 408pp
Pb: 978-0-367-65931-8 : **£44.99**
Hb: 978-1-420-07033-0 : **£84.99**
eBook: 978-0-429-14149-2
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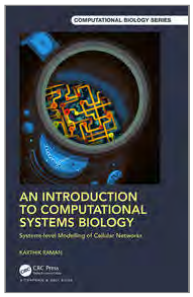
An Introduction to Computational Systems Biology

Systems-Level Modelling of Cellular Networks



Karthik Raman

Series: Chapman & Hall/CRC Computational Biology Series

The main objective of this book is to deliver a comprehensive and insightful account of applying mathematical modelling approaches to very large biological systems and networks, a fundamental aspect of computational systems biology. Several key modelling paradigms will be discussed in detail. The area is itself highly multi-disciplinary, and the audience will therefore include biologists, engineers, computer scientists, mathematicians and others. The idea is to present a sufficiently compelling account of the modelling strategies, but at the same time, retaining simplicity so as to appeal to those from less quantitative fields.

Chapman & Hall
May 2023 : 358pp
Pb: 978-0-367-75250-7 : **£45.99**
Hb: 978-1-138-59732-7 : **£115**
eBook: 978-0-429-48695-1
* For **full contents** and more information, visit: **www.routledge.com/9780367752507**

Bioinformatics

A Practical Guide to Next Generation Sequencing Data Analysis

Hamid D. Ismail

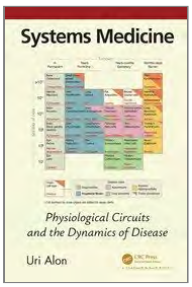
Series: Chapman & Hall/CRC Computational Biology Series

Bioinformatics: A Practical Guide to Next Generation Sequencing Data Analysis contains the latest material in the subject, covering NGS applications and meeting the requirements of a complete semester course. The book provides both concept and practice to satisfy the exact need of researchers seeking to understand and use NGS data reprocessing, genome assembly, variant discovery, gene profiling, epigenetics, and metagenomics. The book is primarily designed as a companion for researchers and graduate students using sequencing data analysis, but will also serve as a textbook for teachers and students in biology and bioscience.

Chapman & Hall
June 2023 : 348pp
Pb: 978-1-032-40891-0 : **£79.99**
Hb: 978-1-032-40900-9 : **£150**
eBook: 978-1-003-35520-5
* For **full contents** and more information, visit: **www.routledge.com/9781032408910**

Systems Medicine

Physiological Circuits and the Dynamics of Disease



Uri Alon

Series: Chapman & Hall/CRC Computational Biology Series

Systems Medicine: Physiological Circuits and the Dynamics of Disease introduces the topic of physiological circuits, in which cells and organs communicate with each other. Rather than circuits inside a cell, it discusses circuits between cells, the level relevant to the most common and deadly diseases that plague humanity. Starting from basic principles, we derive why physiology is built the way it is, and why certain diseases happen while others don't. Topics include: diabetes, autoimmune diseases, and age-related diseases including cancer. Written in a very accessible style, it is suitable for anyone with a background in a STEM subject.

Chapman & Hall
December 2023 : 270pp
Pb: 978-1-032-41185-9 : **£58.99**
Hb: 978-1-032-41228-3 : **£150**
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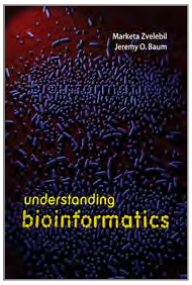
Understanding Bioinformatics



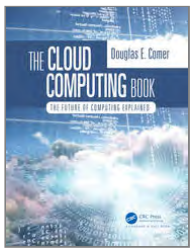
Marketa Zvelebil The Institute of Cancer Research, UK**, Jeremy O. Baum**

'Congratulations on a fine book! I do not think I have seen such a comprehensive text on bioinformatics algorithms and techniques before.' - Jaap Heringa, Vrije Universiteit, the Netherlands Suitable for advanced undergraduates and postgraduates, Understanding Bioinformatics provides a definitive guide to this vibrant and evolving discipline. This book takes a conceptual approach and guides the reader from first principles through to an understanding of the computational techniques and the key algorithms. Understanding Bioinformatics is an invaluable companion for students from their first encounter with the subject through to more advanced studies. Selected Contents: Section 1: Background Basics Section 2: Sequence Alignments Section 3: Evolutionary Processes Section 4: Genome Characteristics Section 5: Secondary Structures&nb

Garland Science
September 2007 : 800pp
Pb: 978-0-815-34024-9 : **£84.99**
eBook: 978-0-203-85250-7
* For **full contents** and more information, visit: **www.routledge.com/9780815340249**

The Cloud Computing Book

The Future of Computing Explained



Douglas Comer

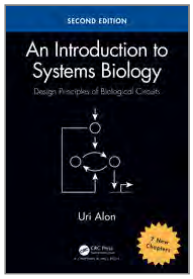
The latest textbook from best-selling author, Douglas Comer, this class-tested book provides a comprehensive introduction to cloud computing. Focusing on concepts and principles, rather than commercial offerings by cloud providers and vendors, the text gives readers a complete picture of the advantages and growth of cloud computing, cloud infrastructure, virtualization, automation and orchestration, and cloud-native software design.

Chapman & Hall
July 2023 : 288pp
Pb: 978-0-367-70684-5 : **£45.99**
Hb: 978-0-367-70680-7 : **£115**
eBook: 978-1-003-14750-3
* For **full contents** and more information, visit: **www.routledge.com/9780367706845**

2ND EDITION

An Introduction to Systems Biology

Design Principles of Biological Circuits



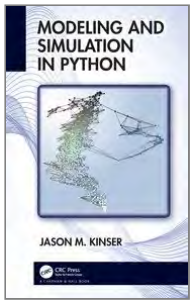
Uri Alon

Series: Chapman & Hall/CRC Computational Biology Series

Written for students and researchers in systems biology, the second edition of this best-selling textbook continues to offer a clear presentation of design principles that govern the structure and behavior of biological networks. It highlights simple, recurring circuit elements that make up the regulation of cells and tissues. Rigorously classroom-tested, the book contains new additions and revisions for better flow. This edition includes seven new chapters on exciting advances made in the last decade, and over double the number of exercises.

Chapman & Hall
August 2019 : 342pp
Pb: 978-1-439-83717-7 : **£56.99**
Hb: 978-1-138-49011-6 : **£150**
eBook: 978-0-429-28332-1
* For **full contents** and more information, visit: **www.routledge.com/9781439837177**

Modeling and Simulation in Python



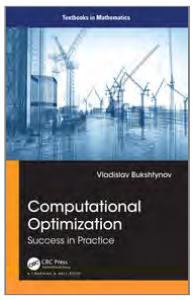
Jason M. Kinser George Mason University, Fairfax, VA USA

Modeling and Simulation in Python introduces fundamental computational modeling techniques that are used in a variety of science and engineering disciplines. It emphasizes algorithmic thinking skills using different computational environments, and includes a number of interesting examples, including Shakespeare, movie databases, virus spread, and Chess. Readers do not have to be Python experts, but a working knowledge of the language is required. Students who want to know more about the foundations of modeling and simulation will find this an educational and foundational resource.

Chapman & Hall
May 2024 : 332pp
Pb: 978-1-032-12870-2 : **£45.99**
Hb: 978-1-032-11648-8 : **£82.99**
eBook: 978-1-003-22658-1
* For **full contents** and more information, visit: **www.routledge.com/9781032128702**

Computational Optimization

Success in Practice



Vladislav Bukshtynov

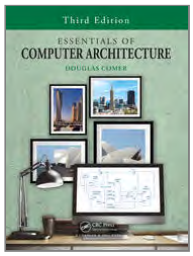
Series: Textbooks in Mathematics

This textbook offers a guided tutorial reviewing the theoretical fundamentals while going through the practical examples used for constructing the computational frame, applied to various real-life models. This book will lead the readers through the entire process. They will start from the simple calculus examples of fitting data and basics of optimal control methods and end up by constructing a multi-component framework for running PDE-constrained optimization. This framework will be assembled piece by piece; the readers may apply this process at the level of complexity matching their current projects or research needs.

Chapman & Hall
February 2023 : 414pp
Hb: 978-1-032-22947-8 : **£86.99**
eBook: 978-1-003-27516-9
* For **full contents** and more information, visit: **www.routledge.com/9781032229478**

3RD EDITION

Essentials of Computer Architecture



Douglas Comer

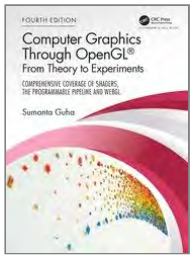
This easy-to-read textbook provides an introduction to computer architecture, focusing on the essential aspects of hardware that programmers need to know. Written from a programmer's point of view, this book covers the three key aspects of architecture: processors, physical and virtual memories, and input-output (I/O) systems. Suitable for a one-semester undergraduate course, this clear, concise, and easy-to-read textbook offers an ideal introduction to computer architecture for students studying computer programming.

Chapman & Hall
May 2024 : 541pp
Hb: 978-1-032-72719-6 : **£81.99**
eBook: 978-1-003-41014-0
* For **full contents** and more information, visit: **www.routledge.com/9781032727196**

4TH EDITION

Computer Graphics Through OpenGL®

From Theory to Experiments

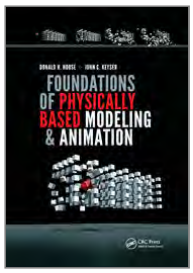


Sumanta Guha

From geometric primitives to animation to 3D modeling to lighting, shading and texturing, Computer Graphics Through OpenGL®: From Theory to Experiments is a comprehensive introduction to computer graphics which uses an active learning style to teach key concepts. Equally emphasizing theory and practice, the book provides an understanding not only of the principles of 3D computer graphics, but also the use of the OpenGL® Application Programming Interface (API) to code 3D scenes and animation, including games and movies. This book can be used for introductory undergraduate computer graphics courses over one to two semesters.

Chapman & Hall
December 2022 : 702pp
Hb: 978-1-032-25698-6 : **£110**
eBook: 978-1-003-28745-2
* For **full contents** and more information, visit: **www.routledge.com/9781032256986**

Foundations of Physically Based Modeling and Animation



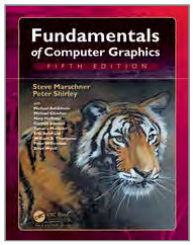
Donald House , John C. Keyser

Physically based modeling and animation is used to drive the automatic generation of motion and geometry for computer animation and visual effects. This book captures the foundations of the field, beginning with the simple dynamics of a single bouncing ball and progressing through massive particle systems, flocking systems, deformable objects, rigid bodies, and fluids. Throughout the book, the authors use an integrated approach to the elaboration of the related physical, mathematical, algorithmic, numerical, and software design issues underlying these domains.

A K Peters/CRC Press
September 2020 : 404pp
Pb: 978-0-367-65820-5 : **£44.99**
Hb: 978-1-482-23460-2 : **£120**
eBook: 978-1-315-37314-0
* For **full contents** and more information, visit: **www.routledge.com/9780367658205**

5TH EDITION

Fundamentals of Computer Graphics

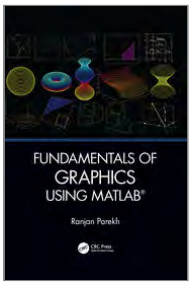


Steve Marschner Cornell University, Ithaca, New York, USA**, Peter Shirley**

The fifth edition of Fundamentals of Computer Graphics continues to provide an outstanding and comprehensive introduction to basic computer graphic technology and theory. It retains an informal and intuitive style while improving precision, consistency, and completeness of material, allowing aspiring and experienced graphics programmers to better understand and apply foundational principles to the development of efficient code in creating film, game, or web designs.

A K Peters/CRC Press
September 2021 : 716pp
Hb: 978-0-367-50503-5 : **£115**
IEPB: 978-1-032-12286-1 : **£58.99**
eBook: 978-1-003-05033-9
* For **full contents** and more information, visit: **www.routledge.com/9780367505035**

Fundamentals of Graphics Using MATLAB



Ranjan Parekh

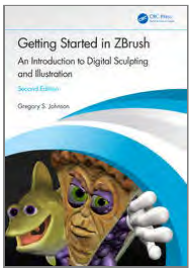
This book introduces fundamental concepts and principles of 2D and 3D graphics and illustrates the use of MATLAB for this purpose. The objectives are to demonstrate how MATLAB can be used to solve graphics problems and to help the reader gain an indepth knowledge about the subject matter through visual representations and practical examples.

CRC Press
June 2021 : 428pp
Pb: 978-1-032-08341-4 : **£42.99**
Hb: 978-0-367-18482-7 : **£81.99**
eBook: 978-0-429-19656-0
* For **full contents** and more information, visit: **www.routledge.com/9781032083414**

2ND EDITION

Getting Started in ZBrush

An Introduction to Digital Sculpting and Illustration



Gregory S. Johnson Savannah College of Art and Design, Georgia, USA

Beginning with the fundamentals of digital sculpting as well as a thorough introduction to the user interface, Getting Started in ZBrush will have you creating a variety of professional-level 3D models in no-time. More than just another button-pushing manual, this comprehensive guide is packed with start-to-finish projects that ease you into the workflow of the program, while at the same time providing tips and tricks that will allow you to achieve certain tasks much more quickly. After progressing through the tutorials, you will be shown how to customize brushes, materials, scripts, and the interface so that you can utilize these tools to their full advantage.

CRC Press
June 2024 : 456pp
Pb: 978-1-032-10425-6 : **£62.99**
Hb: 978-1-032-10430-0 : **£140**
eBook: 978-1-003-21528-8
* For **full contents** and more information, visit: **www.routledge.com/9781032104256**

Introducing Autodesk Maya

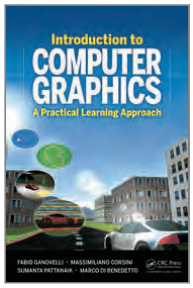
Dariush Derakhshani

Introducing Autodesk Maya is your perfect hands-on guide to start animating quickly. Using approachable, real-world exercises, you'll master the fundamentals of this animation software by following full-color screen shots step by step. Each chapter opens with a quick discussion of concepts and learning objectives, and then launches into hands-on tutorials that give you firsthand experience and a good start on preparing for the 3ds Max certification exam. Whether you're a complete beginner or migrating from another 3D application, this task-based book provides the solid grounding you need in Autodesk 3ds Max.

CRC Press
July 2024 : 416pp
Pb: 978-1-138-59054-0 : **£47.99**
Hb: 978-1-138-59055-7 : **£125**
eBook: 978-0-429-49095-8
* For **full contents** and more information, visit: **www.routledge.com/9781138590540**

Introduction to Computer Graphics

A Practical Learning Approach

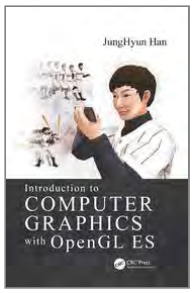


Fabio Ganovelli Institute of Information and Science Technologies, CNR, Pisa, Italy**, Massimiliano Corsini** Institute of Information and Science Technologies, CNR, Pisa, Italy**, Sumanta Pattanaik** University of Central Florida, Orlando, USA**, Marco Di Benedetto** Institute of Information and Science Technologies, CNR, Pisa, Italy

This text shows step by step how to implement computer graphics concepts and theory with WebGL using the EnvyMyCar (NVMC) framework as a consistent example throughout the text. This practical approach leads readers to draw the elements and effects needed to ultimately create a visually pleasing car racing game. The book explains how to handle 3D geometric transformations, texturing, complex lighting effects, and more. The code is available online.

Chapman & Hall
October 2014 : 422pp
Hb: 978-1-439-85279-8 : **£84.99**
eBook: 978-0-429-16205-3
* For **full contents** and more information, visit: **www.routledge.com/9781439852798**

Introduction to Computer Graphics with OpenGL ES



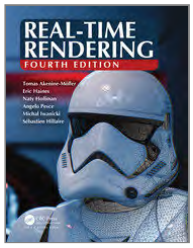
JungHyun Han

OpenGL ES is the standard graphics API used for mobile and embedded systems. Despite its widespread use, there is a lack of material that addresses the balance of both theory and practice in OpenGL ES. JungHyun Han's Introduction to Computer Graphics with OpenGL ES achieves this perfect balance. Han's depiction of theory and practice illustrates how 3D graphics fundamentals are implemented. Theoretical or mathematical details around real-time graphics are also presented in a way that allows readers to quickly move on to practical programming. Additionally, this book presents OpenGL ES and shader code on many topics. Industry professionals, as well as, students in Computer Graphics

CRC Press
March 2021 : 340pp
Pb: 978-0-367-78118-7 : **£44.99**
Hb: 978-1-498-74892-6 : **£77.99**
eBook: 978-0-429-44314-5
* For **full contents** and more information, visit: **www.routledge.com/9780367781187**

4TH EDITION

Real-Time Rendering, Fourth Edition



Tomas Akenine-Mo¨ller, Eric Haines , Naty Hoffman

Thoroughly updated, this fourth edition focuses on modern techniques used to generate synthetic three-dimensional images in a fraction of a second. With the advent of programmable shaders, a wide variety of new algorithms have arisen and evolved over the past few years. This edition discusses current, practical rendering methods used in games and other applications. It also presents a solid theoretical framework and relevant mathematics for the field of interactive computer graphics, all in an approachable style. New to this edition: new chapter on VR and AR as well as expanded coverage of Visual Appearance, Advanced Shading, Global Illumination, and Curves and Curved Surfaces.

A K Peters/CRC Press
August 2018 : 1198pp
Hb: 978-1-138-62700-0 : **£82.99**
eBook: 978-0-429-22540-6
* For **full contents** and more information, visit: **www.routledge.com/9781138627000**

3RD EDITION

Rig it Right!

Maya Animation Rigging Concepts

Tina O'Hailey

Rig it Right! breaks down rigging so that you can achieve a fundamental understanding of the concept. The author will get you up and rigging with step-by-step tutorials covering multiple animation control types, connection methods, interactive skinning, BlendShapes, edgeloops, and joint placement, to name a few. Rig it Right! will take you to a more advanced level where you will learn how to create stretchy rigs with invisible control systems and use that to create your own types of rigs.

CRC Press
March 2024 : 324pp
Pb: 978-1-032-55523-2 : **£42.99**
Hb: 978-1-032-55524-9 : **£115**
eBook: 978-1-003-43112-1
* For **full contents** and more information, visit: **www.routledge.com/9781032555232**

The Complete Guide to Blender Graphics

Computer Modeling and Animation: Volumes One and Two

John M. Blain Toormina, New South Wales, Australia

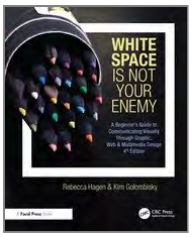
The Complete Guide to Blender Graphics: Computer Modeling and Animation, Edition is a unified manual describing the operation of the program, updated with reference to the Graphical User Interface for Blender Version 3.3.0, including additional material covering Blender Assets, Geometry Nodes, and Non-Linear Animation. The book introduces the program's Graphical User Interface and shows how to implement tools for modeling and animating characters and created scenes with the application of color, texture and special lighting effects.

A K Peters/CRC Press
October 2023 : 836pp
Pb: 978-1-032-56218-6 : **£82.99**
Hb: 978-1-032-56219-3 : **£220**
* For **full contents** and more information, visit: **www.routledge.com/9781032562186**

4TH EDITION

White Space Is Not Your Enemy

A Beginner's Guide to Communicating Visually Through Graphic, Web & Multimedia Design



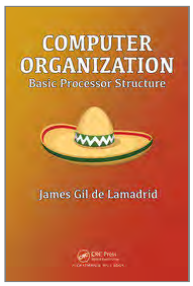
Rebecca Hagen President & Principle designer, Sky Lake Studio**, Kim Golombisky** Univ. of South Florida, USA

DESIGNING a website or brochure without an art background? Then step away from the computer and read this engaging conversational introduction to visual communications first. Written for the beginner, White Space Is Not Your Enemy is a practical graphic design and layout guide that introduces the concepts and practices necessary for producing effective visual communication across a variety of formats—from web to print. This beautifully illustrated full-color book covers all of the basics to help you develop your eye and produce evocative designs that work.

CRC Press
December 2024 : 304pp
Pb: 978-1-032-10434-8 : **£39.99**
Hb: 978-1-032-10435-5 : **£105**
eBook: 978-1-003-21532-5
* For **full contents** and more information, visit: **www.routledge.com/9781032104348**

Computer Organization

Basic Processor Structure

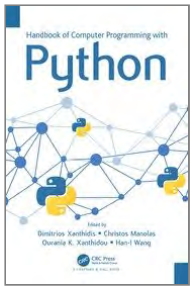


James Gil de Lamadrid Bowie State University, MD, USA

This class-tested textbook is based on the author's decades of teaching the topic to both undergraduate and graduate students. The main questions the book tries to answer are: how is a processor structured, and how does the processor function, in a general-purpose computer? Focusing solely on the information that is essential to the field, this text provides fundamental concepts and examples on computer organization. Using a top-down approach, the text begins at digital circuitry level, and works up to the machine language level. Numerous architectures are also covered, including key design issues.

Chapman & Hall
February 2018 : 394pp
Pb: 978-1-498-79951-5 : **£74.99**
Hb: 978-0-815-36246-3 : **£190**
eBook: 978-1-315-27757-8
* For **full contents** and more information, visit: **www.routledge.com/9781498799515**

Handbook of Computer Programming with Python



Edited by **Dimitrios Xanthidis , Christos Manolas** Ravensbourne University London, UK**, Ourania K. Xanthidou , Han-I Wang**

Handbook of Computer Programming with Python provides a hands-on experience based on the underlying topics, and assist students and faculty members in developing their algorithmic thought process and developing programs for given computational problems. It can be also used by professionals who possess the necessary theoretical and computational thinking background but are presently making their transition to Python. This handbook will benefit computer science, information systems, and information technology students, or anyone who is involved in computer programming, data analytics, HCI-GUI, and related disciplines, at an entry-to-intermediate level.

Chapman & Hall
December 2024 : 630pp
Pb: 978-0-367-68778-6 : **£44.99**
Hb: 978-0-367-68777-9 : **£89.99**
eBook: 978-1-003-13901-0
* For **full contents** and more information, visit: **www.routledge.com/9780367687786**

Computer Security Literacy

Staying Safe in a Digital World

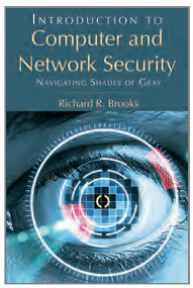
Douglas Jacobson Iowa State University, Ames, USA**,**
Joseph Idziorek Iowa State University, Ames, USA

Helping average computer users make sound security decisions, this book focuses on practical security topics users are likely to encounter on a regular basis so that they better understand the function and impact of security in everyday life. The authors offer practical computer security knowledge on a range of topics, including social engineering, email, and online shopping, and present best practices pertaining to passwords, wireless networks, and suspicious emails. They also explain how security mechanisms, such as antivirus software and firewalls, protect against the threats of hackers and malware.

Chapman & Hall
November 2012 : 368pp
Pb: 978-1-439-85618-5 : **£49.99**
Hb: 978-1-138-43687-9 : **£170**
eBook: 978-0-429-10812-9
* For **full contents** and more information, visit: **www.routledge.com/9781439856185**

Introduction to Computer and Network Security

Navigating Shades of Gray



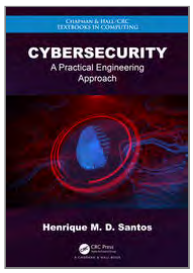
Richard R. Brooks Clemson University, South Carolina, USA

Combining hands-on work with technical overviews, this text integrates security analysis into a technical computing curriculum. It educates students on security issues, such as side-channel attacks, and deepens their understanding of how computers and networks work. The book presents basic principles and concepts, along with examples of current threats to illustrate how the principles can either enable or neutralize exploits. Classroom-tested projects prompt students to stage exploits and choose countermeasures to neutralize the attacks. Many ancillaries are available upon qualifying course adoption.

Chapman & Hall
August 2013 : 320pp
Hb: 978-1-439-86071-7 : **£82.99**
eBook: 978-0-429-08983-1
* For **full contents** and more information, visit: **www.routledge.com/9781439860717**

Cybersecurity

A Practical Engineering Approach



Henrique M. D. Santos

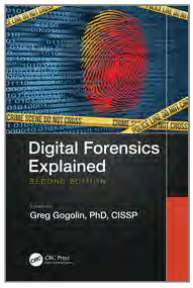
Series: Chapman & Hall/CRC Textbooks in Computing

Cybersecurity: A Practical Engineering Approach introduces the implementation of a secure cyber architecture, beginning with the identification of security risks. It then builds solutions to mitigate risks by considering the technological justification of the solutions as well as their efficiency. The process follows an engineering process model. Each module builds on a subset of the risks, discussing the knowledge necessary to approach a solution, followed by the security control architecture design and the implementation. The modular approach allows students to focus on more manageable problems, making the learning process simpler and more attractive.

Chapman & Hall
April 2022 : 340pp
Hb: 978-0-367-25242-7 : **£66.99**
eBook: 978-0-429-28674-2
* For **full contents** and more information, visit: **www.routledge.com/9780367252427**

2ND EDITION

Digital Forensics Explained



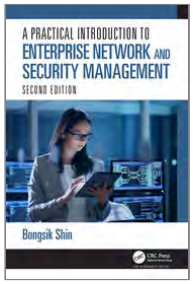
Edited by **Greg Gogolin** Ferris State University, Big Rapids, Michigan, USA

Digital Forensics Explained, 2nd edition, covers the full life cycle of conducting a mobile and computer digital forensic examinations including planning and performing an investigation as well as report writing and testifying. Case reviews in corporate, civil and criminal situations are described from both prosecution and defence perspectives. The book draws from years of experience in local, state, federal and international environments and highlights the challenges presented from deficient cyber security practices.

CRC Press
April 2021 : 254pp
Pb: 978-0-367-50343-7 : **£52.99**
Hb: 978-0-367-50281-2 : **£130**
eBook: 978-1-003-04935-7
* For **full contents** and more information, visit: **www.routledge.com/9780367503437**

2ND EDITION

A Practical Introduction to Enterprise Network and Security Management

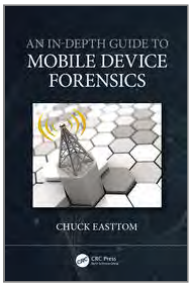


Bongsik Shin

A Practical Introduction to Enterprise Network and Security Management is written for people who are self-studying or studying information systems or computer science in the classroom setting. The book provides a balanced understanding of introductory and fairly advanced subjects on both computer networking and cybersecurity. Although much focus is to teach technical concepts, managerial issues related to enterprise network and security planning and design are explained from the practitioner's perspective.

Auerbach Publications
July 2021 : 445pp
Pb: 978-1-032-04802-4 : **£44.99**
Hb: 978-0-367-64251-8 : **£99.99**
eBook: 978-1-003-12369-9
* For **full contents** and more information, visit: **www.routledge.com/9781032048024**

An In-Depth Guide to Mobile Device Forensics



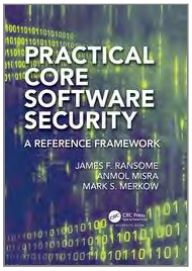
Chuck Easttom

Mobile devices are ubiquitous. Therefore, mobile device forensics is absolutely critical. Whether it is civil or criminal investigations, being able to extract evidence from a mobile device is critical. This book covers technical details of mobile devices and transmissions as well as forensic methods for extracting evidence. There are books on specific issues like Android Forensics or iOS forensics. But there is not currently a book that covers all the topics this book will. Furthermore, mobile device forensics is the most common topic I am asked to teach to law enforcement, it is such a critical skill.

CRC Press
October 2021 : 248pp
Pb: 978-0-367-63300-4 : **£44.99**
Hb: 978-0-367-63298-4 : **£115**
eBook: 978-1-003-11871-8
* For **full contents** and more information, visit: **www.routledge.com/9780367633004**

Practical Core Software Security

A Reference Framework

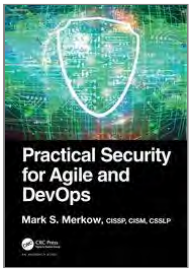


James F. Ransome , Anmol Misra Cisco Systems, Inc., San Jose, California, USA**, Mark S. Merkow** Technical Security Strategy, Scottsdale, Arizona, USA

The textbook explains developer-centric software security, a holistic process to engage creativity for security. As long as software is developed by humans, it requires the human element to fix it. The text outlines a step-by-step process for software security that is relevant to today's technical, operational, business, and development environments but focused on educating graduate and undergraduate students. The text focuses on what humans can do to control and manage a secure software development process in the form of best practices and metrics. Although security issues will always exist, the text teaches teach how to maximize the ability to minimize vulnerabilities

Auerbach Publications
August 2022 : 286pp
Pb: 978-1-032-27603-8 : **£74.99**
Hb: 978-1-032-33314-4 : **£180**
eBook: 978-1-003-31907-8
* For **full contents** and more information, visit: **www.routledge.com/9781032276038**

Practical Security for Agile and DevOps



Mark S. Merkow Technical Security Strategy, Scottsdale, Arizona, USA

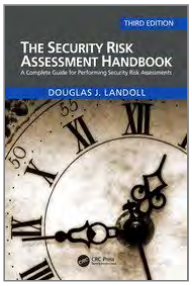
This text offers college students in Information Security Programs an accessible and practical guide on securing software development practices, regardless of which development methodology is used. It is written with a contemporary view on securing all types of software development practices or methodologies with in-depth, practical, and accessible advice on software security that stands up to advancements and threats to Internet technology. After reviewing software methodologies incusing agile, the book explains successful secure, resilient, and agile software development practices.

Auerbach Publications
February 2022 : 236pp
Pb: 978-1-032-15120-5 : **£59.99**
Hb: 978-1-032-20647-9 : **£160**
eBook: 978-1-003-26556-6
* For **full contents** and more information, visit: **www.routledge.com/9781032151205**

3RD EDITION

The Security Risk Assessment Handbook

A Complete Guide for Performing Security Risk Assessments



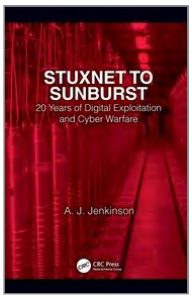
Douglas Landoll Lantego, LLC, Austin, Texas, USA

This edition has expended coverage essential topics such as threat analysis, data gathering, risk analysis, and risk assessment methods and added coverage of new topics essential for current assessment projects (e.g., cloud security, supply chain management, security risk assessment methods). This edition includes detailed guidance on gathering data and analyzing over 200 administrative, technical, and physical controls using the RIIOT data gathering method; introduces the RIIOT FRAME (risk assessment method), includes hundreds of tables, over 70 new diagrams and figures, over 80 exercises, and provides an analysis of many of the current popular security risk assessment methods.

CRC Press
September 2021 : 512pp
Pb: 978-1-032-04165-0 : **£57.99**
Hb: 978-0-367-54747-9 : **£120**
eBook: 978-1-003-09044-1
* For **full contents** and more information, visit: **www.routledge.com/9781032041650**

Stuxnet to Sunburst

20 Years of Digital Exploitation and Cyber Warfare

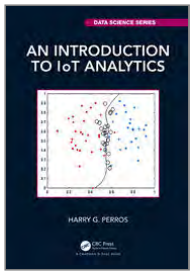


Andrew Jenkinson

This book covers how, from digital eavesdropping and manipulation of the agencies to Stuxnet the world's first use of digital code and digital certificates for offensive purposes against the Iranians and their Nuclear Power facilities to cause collateral damage. All the way to today's Solarwinds attack, codenamed Sunburst, where the same methods of exploitation and manipulation originally used by the agencies are now being used against companies, and governments to devastating effect.

CRC Press
October 2021 : 194pp
Pb: 978-1-032-06850-3 : **£29.99**
Hb: 978-1-032-06849-7 : **£105**
eBook: 978-1-003-20414-5
* For **full contents** and more information, visit: **www.routledge.com/9781032068503**

An Introduction to IoT Analytics



Harry G. Perros

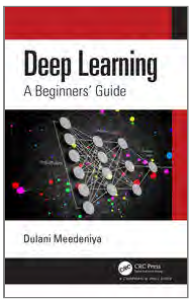
Series: Chapman & Hall/CRC Data Science Series

This book covers techniques that can be used to analyze data from IoT sensors and also addresses questions regarding the performance of an IoT system. It strikes a balance between practice and theory so that one can learn how to apply these tools in practice with a good understanding of their inner workings. It is an introductory book for readers that have no familiarity with these techniques.The techniques presented in the book come from the areas of Machine Learning, Statistics, and Operations Research.

Chapman & Hall
March 2021 : 372pp
Pb: 978-0-367-68631-4 : **£44.99**
Hb: 978-0-367-68782-3 : **£115**
eBook: 978-1-003-13904-1
* For **full contents** and more information, visit: **www.routledge.com/9780367686314**

Deep Learning

A Beginners' Guide



Dulani Meedeniya

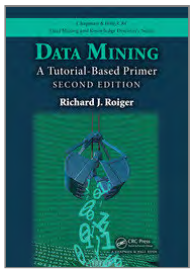
This book focuses on Deep Learning (DL), which is an important aspect of data science, that includes predictive modelling. DL applications are widely used in domains such as finance, transport, health care, auto manufacturing, and advertising. The design of the DL models based on Artificial Neural Networks is influenced by the structure and operation of the brain. This book presents a comprehensive resource for those who seek a solid grasp of the techniques in DL.

Chapman & Hall
October 2023 : 198pp
Hb: 978-1-032-47324-6 : **£97.99**
eBook: 978-1-003-39082-4
* For **full contents** and more information, visit: **www.routledge.com/9781032473246**

2ND EDITION

Data Mining

A Tutorial-Based Primer, Second Edition



Richard J. Roiger

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

This textbook provides a tutorial-based introduction to data mining with a focus on model building and testing, as well as on interpreting and validating results. The book follows the format of the first edition, but with updates and additions throughout. A new chapter on preprocessing and data visualization has been added, along with a new, running case study. The new edition uses the Weka toolkit. Since Weka contains several algorithms for data preprocessing, data visualization, classification, clustering, and association rule mining, the focus of the second edition is on students gaining a firm understanding of a select group of fundamental data mining algorithms.

Chapman & Hall
December 2016 : 530pp
Pb: 978-1-498-76397-4 : **£62.99**
eBook: 978-1-315-38258-6
* For **full contents** and more information, visit: **www.routledge.com/9781498763974**

Ethics of Data and Analytics

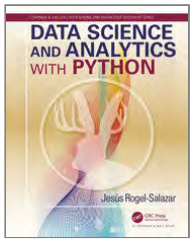
Concepts and Cases

Kirsten Martin

This textbook provides faculty the major concepts and cases to include in a class on the ethics of data analytics. The book is distinct as it focuses on ethics of data analytics, AI, and data (rather than infrastructure and reliability) and by explicitly linking data analytics to foundational business ethics theory. The book is an an anthology of important readings targeting undergraduate and graduate students. The readings will include the original works of philosophers, economists, law professors, and computer scientists. Tackling the ethical issues of data science requires a wholistic approach, and no one discipline has the answer.

Auerbach Publications
May 2022 : 492pp
Pb: 978-1-032-06293-8 : **£56.99**
Hb: 978-1-032-21731-4 : **£150**
eBook: 978-1-003-27829-0
* For **full contents** and more information, visit: **www.routledge.com/9781032062938**

Data Science and Analytics with Python



Jesus Rogel-Salazar Imperial College London, UK

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

The book is designed for practitioners in data science and data analytics in both academic and business environments. The aim is to present the reader with the main concepts used in data analytics using tools developed in Python, such as SciKit Learn, Pandas, Numpy, etc. The use of Python is of particular benefit given its recent popularity in the data science community, and the book can be used by seasoned programmers and newcomers alike.

Chapman & Hall
August 2017 : 412pp
Pb: 978-1-498-74209-2 : **£49.99**
Hb: 978-1-138-04317-6 : **£105**
eBook: 978-1-315-15167-0
* For **full contents** and more information, visit: **www.routledge.com/9781498742092**

Text Analytics

An Introduction to the Science and Applications of Unstructured Information Analysis

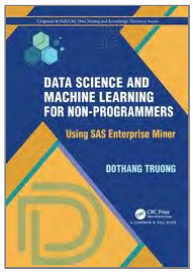
John Atkinson-Abutridy

Text Analytics: An Introduction to the Science and Applications of Unstructured Information Analysis is a concise and accessible introduction to the science and applications of text analytics (or text mining), which enables automatic knowledge discovery from unstructured information sources, both for industrial and academic purposes. The book introduces the main concepts, models, and computational techniques that enable the reader to solve real decision-making problems arising from textual and/or documentary sources.

Chapman & Hall
April 2022 : 258pp
Pb: 978-1-032-24526-3 : **£44.99**
Hb: 978-1-032-24979-7 : **£115**
eBook: 978-1-003-28099-6
* For **full contents** and more information, visit: **www.routledge.com/9781032245263**

Data Science and Machine Learning for Non-Programmers

Using SAS Enterprise Miner



Dothang Truong

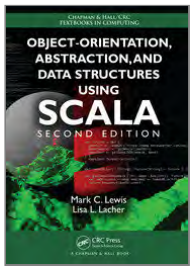
Series: Chapman & Hall/CRC Data Mining and Knowledge Discovery Series

As data continues to grow exponentially, knowledge of data science and machine learning has become more crucial than ever. Machine learning has grown exponentially, however, the abundance of resources can be overwhelming, making it challenging for new learners. This book aims to address this disparity and cater to learners from various non-technical fields, enabling them to utilise machine learning effectively.

Chapman & Hall
January 2026 : 589pp
Pb: 978-0-367-75196-8 : **£44.99**
Hb: 978-0-367-75538-6 : **£81.99**
eBook: 978-1-003-16287-2
* For **full contents** and more information, visit: **www.routledge.com/9780367751968**

2ND EDITION

Object-Orientation, Abstraction, and Data Structures Using Scala



Mark C. Lewis Trinity University, San Antonio, Texas, USA**,**
Lisa Lacher University of Houston, Texas, USA

Series: Chapman & Hall/CRC Textbooks in Computing

Mark Lewis' Introduction to the Art of Programming Using Scala was the first textbook to use Scala for introductory CS courses. Scala continues to gain significance among professional developers, and a new edition of this popular textbook is needed to update the book from Scala 2.9 to Scala 2.12. The second edition is divided into two textbooks. The second volume is designed for CS2 courses and focuses on data structures. The book is significantly updated throughout to bring the book and the code up to date for Scala 2.11 and 2.12.

Chapman & Hall
December 2016 : 662pp
Pb: 978-1-498-73216-1 : **£94.99**
Hb: 978-1-138-40218-8 : **£180**
eBook: 978-1-315-38266-1
* For **full contents** and more information, visit: **www.routledge.com/9781498732161**

2ND EDITION

A Practical Guide to Database Design

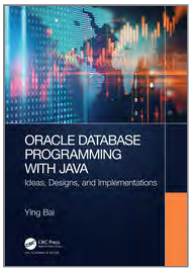
Rex Hogan

Fully updated and expanded from the previous edition, A Practical Guide to Database Design, Second Edition, is intended for those involved in the design or development of a database system or application. It begins by focusing on how to create a logical data model where data is stored "where it belongs." Next, data usage is reviewed to transform the logical model into a physical data model that will satisfy user performance requirements. Finally, it describes how to use various software tools to create user interfaces to review and update data in a database.

Chapman & Hall
June 2020 : 430pp
Pb: 978-0-367-57193-1 : **£44.99**
Hb: 978-1-138-57806-7 : **£89.99**
eBook: 978-1-351-26548-5
* For **full contents** and more information, visit: **www.routledge.com/9780367571931**

Oracle Database Programming with Java

Ideas, Designs, and Implementations



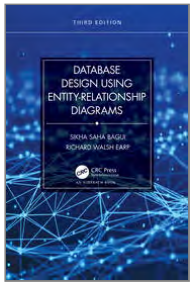
Ying Bai Johnson C. Smith University, Charlotte, North Carolina, USA

This textbook provides a detailed description about the practical considerations and applications in Oracle database programming using the most updated Apache NetBeans 12.4 as the IDE with authentic examples and detailed explanations. More important, quite a few of advanced Java programming techniques, such as Java Server Page (JSP), Java Web applications, Java Beans and Java Web Services, are developed and implemented in this book, combined with real examples, to provide readers with a clear picture as how to handle the Oracle database programming issues in Java NetBeans IDE environment.

Auerbach Publications
October 2024 : 604pp
Pb: 978-1-032-20197-9 : **£44.99**
Hb: 978-1-032-30229-4 : **£82.99**
eBook: 978-1-003-30402-9
* For **full contents** and more information, visit: **www.routledge.com/9781032201979**

3RD EDITION

Database Design Using Entity-Relationship Diagrams



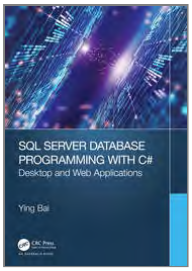
Sikha Saha Bagui University of West Florida, Pensacola, Florida, USA**, Richard Walsh Earp**

Thoroughly revised and updated, this third edition covers, in an intuitive and informal way, the complete database design process, all the way from the inception of a database to effectively mapping the design to a relational model, that can then be implemented effectively in any relational software. Readers of this book will also understand how to reverse engineer a database back from relational mappings. Rules are presented for the forward and reverse mappings of the database to relational mappings and vice versa.

Auerbach Publications
September 2022 : 388pp
Pb: 978-1-032-32321-3 : **£56.99**
Hb: 978-1-032-01718-1 : **£150**
eBook: 978-1-003-31445-5
* For **full contents** and more information, visit: **www.routledge.com/9781032323213**

SQL Server Database Programming with C#

Desktop and Web Applications



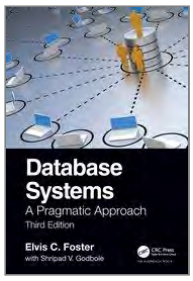
Ying Bai Johnson C. Smith University, Charlotte, North Carolina, USA

One of the most popular database systems, Microsoft SQL Server 2019 Express, is presented and implemented in the book with over 40 real projects. This undergraduate textbook covers fundamental and advanced database programming techniques, which students learn by programming a database for both the web and desktop. Two approaches presented. The first approach, the Visual Studio design tools and wizards, makes database programming simple and interesting for beginners. To meet the needs of advanced students and experienced programmers, the second approach, explains the runtime object method with completed blocks of code

Auerbach Publications
January 2025 : 670pp
Pb: 978-1-032-33487-5 : **£44.99**
Hb: 978-1-032-33477-6 : **£81.99**
eBook: 978-1-003-31983-2
* For **full contents** and more information, visit: **www.routledge.com/9781032334875**

Database Systems

A Pragmatic Approach, 3rd edition



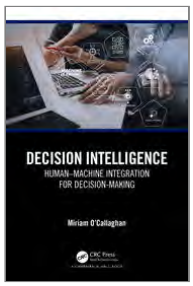
Elvis Foster , Shripad Godbole

This textbook is ideally suited for an undergraduate course in database systems. The discipline of database systems design and management is discussed within the context of a bigger picture — that of software engineering. The student is made to understand from the outset, that a database is a mission-critical component of a software system; that databases systems often form part of an organization's information infrastructure; and that proper database design and management is integral to the success of its related software engineering project and/or its related organizational information infrastructure.

Auerbach Publications
September 2022 : 622pp
Pb: 978-1-032-20202-0 : **£59.99**
Hb: 978-1-032-21732-1 : **£150**
eBook: 978-1-003-27572-5
* For **full contents** and more information, visit: **www.routledge.com/9781032202020**

Decision Intelligence

Human–Machine Integration for Decision-Making

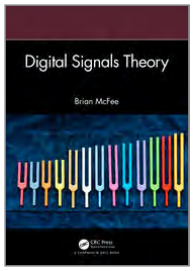


Miriam O'Callaghan

Revealing the flaws in human decision making, this book explores how AI can be used to optimise decisions for improved business outcomes and efficiency, as well as looking ahead into the significant contributions Decision Intelligence (DI) can make to society and the ethical challenges it may raise. Replete with case studies on DI application, as well as wider discussions on the social implications of the technology, this book appeals to both students of AI and data solutions and businesses considering DI adoption.

Chapman & Hall
April 2023 : 280pp
Pb: 978-1-032-38409-2 : **£45.99**
Hb: 978-1-032-38410-8 : **£94.99**
eBook: 978-1-003-34492-6
* For **full contents** and more information, visit: **www.routledge.com/9781032384092**

Digital Signals Theory



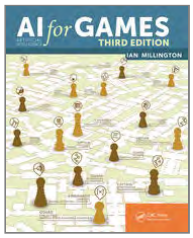
Brian McFee

Where most introductory texts to the field of digital signal processing assume a degree of technical knowledge, this class-tested textbook provides a comprehensive introduction to the fundamentals of digital signal processing in a way that is accessible to all.

Chapman & Hall
October 2023 : 277pp
Pb: 978-1-032-20050-7 : **£45.99**
Hb: 978-1-032-20714-8 : **£120**
eBook: 978-1-003-26485-9
* For **full contents** and more information, visit: **www.routledge.com/9781032200507**

3RD EDITION

AI for Games, Third Edition



Ian Millington

AI is an integral part of every video game. This book helps propfessionals keep up with the constantly evolving technological advances in the fast growing game industry and equips students with up-to-date infortmation they need to jumpstart their careers. This revised and updated Third Edition includes new techniques, algorithms, data structures and representations needed to create powerful AI in games.

CRC Press
December 2020 : 1030pp
Pb: 978-0-367-67056-6 : **£36.99**
Hb: 978-1-138-48397-2 : **£110**
eBook: 978-1-351-05330-3
* For **full contents** and more information, visit: **www.routledge.com/9780367670566**

Business Planning for Games

Christopher Buckingham

This is a practical guide to help budding entrepreneurs think about various planning aspects of their proposed games business, with a view to growing their businesses and becoming more successful. The book includes customary business plan headings and worksheets where the reader can record their working-outs as they start to articulate the vision behind their game. This book will be of great interest to all students learning about the business of games, as well as budding entrepreneurs looking for guidance on how to begin planning their own games business.

CRC Press
December 2023 : 192pp
Pb: 978-1-032-40337-3 : **£47.99**
Hb: 978-1-032-40338-0 : **£130**
eBook: 978-1-032-60345-2 : **£44.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032403373**

2ND EDITION

Clockwork Game Design

Keith Burgun

Clockwork Game Design is a functional and directly applicable theory for game design, particularly focusing on strategic and tactical games, but also more broadly applicable to many kinds of games. It details the Clockwork Game Design pattern, which focuses on building around a fundamental core functionality. You can then use this understanding to build a system of tools that helps a designer refine their rulesets. The Second Edition is filled with examples and exercises detailing how to put the clockwork game design pattern into use, this book is a helpful tool in the toolbox of game designers.

CRC Press
December 2024 : 162pp
Pb: 978-1-032-77157-1 : **£44.99**
Hb: 978-1-032-77731-3 : **£115**
eBook: 978-1-003-48454-7
* For **full contents** and more information, visit: **www.routledge.com/9781032771571**

5TH EDITION

Digital Storytelling

A Creator's Guide to Interactive Entertainment, Volume I

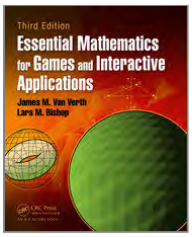
Carolyn Handler Miller

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 : 432pp
Pb: 978-1-032-82322-5 : **£61.99**
Hb: 978-1-032-85888-3 : **£140**
* For **full contents** and more information, visit: **www.routledge.com/9781032823225**

3RD EDITION

Essential Mathematics for Games and Interactive Applications

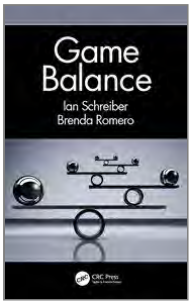


James M. Van Verth , Lars M. Bishop

This updated book provides a conceptual understanding of the mathematics needed to create 3D games as well as a practical understanding of how these mathematical bases actually apply to games and graphics. It includes not only the theoretical mathematical background but also many examples of how the concepts are used to affect how a game looks and plays. This third edition reflects the increased use of shader graphics pipelines and updates the material on real-time graphics with coverage of more realistic materials and lighting.

A K Peters/CRC Press
August 2015 : 624pp
Hb: 978-1-482-25092-3 : **£105**
eBook: 978-0-429-19623-2
* For **full contents** and more information, visit: **www.routledge.com/9781482250923**

Game Balance



Ian Schreiber , Brenda Romero

Within the field of game design, game balance can best be described as a black art. It is the process by which game designers make a game simultaneously fair for players while providing them just the right amount of difficulty to be both exciting and challenging without making the game entirely predictable. This involves a combination of mathematics, psychology, and occasionally other fields such as economics and game theory. Throughout the book, relevant topics on the use of spreadsheet programs will be included in each chapter. The book therefore doubles as a useful reference on Microsoft Excel, Google Spreadsheets, and other spreadsheet programs and their uses for game designers.

CRC Press
August 2021 : 806pp
Pb: 978-1-498-79957-7 : **£49.99**
Hb: 978-1-032-03400-3 : **£115**
eBook: 978-1-315-15642-2
* For **full contents** and more information, visit: **www.routledge.com/9781498799577**

Game Design Tools

Cognitive, Psychological, and Practical Approaches

Diego Ricchiuti

This book provides a series of transdisciplinary tools to help game designers improve their design pipeline and design output. Using approaches from psychology, anthropology, and sociology, it offers practical tools for all the main aspects of game design from conception through to testing. This book will be of great interest to students on game design courses, as well as early-career game designers and those looking to break into the industry. It will also be of interest to more experienced game designers looking for new game design tools.

CRC Press
December 2022 : 268pp
Pb: 978-1-032-13478-9 : **£42.99**
Hb: 978-1-032-13480-2 : **£120**
eBook: 978-1-003-22943-8
* For **full contents** and more information, visit: **www.routledge.com/9781032134789**

5TH EDITION

Game Design Workshop

A Playcentric Approach to Creating Innovative Games

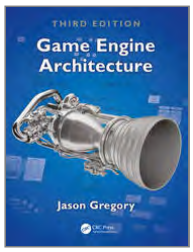
Tracy Fullerton University of Southern California, Los Angeles, USA

Award-winning author Tracy Fullerton demystifies the creative process with clear and accessible guidance on the formal, dramatic, and dynamic systems of game design. Using examples of classic and popular games, illustrations of design techniques, and refined exercises to strengthen your understanding of how game systems function, the book gives you the skills and tools necessary to create a compelling and engaging game. This updated 5th edition brings deeper coverage of playcentric design techniques, including setting emotion-focused experience goals and managing the design process to meet them.

A K Peters/CRC Press
April 2024 : 586pp
Pb: 978-1-032-60700-9 : **£51.99**
Hb: 978-1-032-60701-6 : **£150**
eBook: 978-1-003-46026-8
* For **full contents** and more information, visit: **www.routledge.com/9781032607009**

3RD EDITION

Game Engine Architecture, Third Edition



Jason Gregory

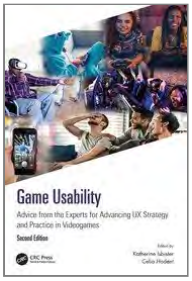
In this new and improved third edition of the highly popular Game Engine Architecture, Jason Gregory draws on his nearly two decades of experience at Midway, Electronic Arts and Naughty Dog to present both the theory and practice of game engine software development. In this book, the broad range of technologies and techniques used by AAA game studios are each explained in detail, and their roles within a real industrial-strength game engine are illustrated

A K Peters/CRC Press
August 2018 : 1240pp
Hb: 978-1-138-03545-4 : **£79.99**
eBook: 978-1-315-26784-5
* For **full contents** and more information, visit: **www.routledge.com/9781138035454**

2ND EDITION

Game Usability

Advice from the Experts for Advancing UX Strategy and Practice in Videogames



Edited by **Katherine Isbister , Celia Hodent**

This book introduces the basics in game usability and overall game UX mindset and techniques, as well as looking at current industry best practices and trends. Fully updated for its second edition, it includes practical advice on how to include usability in already tight development timelines, and how to advocate for UX and communicate results to higher-ups effectively. This book will be vital reading for all professional game developers and game UX advocates, as well as those students aspiring to work in game development and game UX.

CRC Press
March 2022 : 452pp
Pb: 978-0-367-61992-3 : **£44.99**
Hb: 978-0-367-62424-8 : **£130**
eBook: 978-1-003-10938-9
* For **full contents** and more information, visit: **www.routledge.com/9780367619923**

2ND EDITION

Learning Video Game Design on the Tabletop

Ethan Ham

Learning to design tabletop games builds a solid foundation for game designers and provides methods that can be applied towards creating paper prototypes of computer-targeted games. Presented in a step-by-step format, this book helps the reader understand how the game design skills that are acquired through creating tabletop games can be used when designing video games. Fully playable games accompany every topic so you can truly understand and experience each component that goes into game creation.

CRC Press
October 2024 : 366pp
Pb: 978-1-032-10297-9 : **£48.99**
Hb: 978-1-032-10298-6 : **£120**
eBook: 978-1-003-21466-3
* For **full contents** and more information, visit: **www.routledge.com/9781032102979**

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
June 2025 : 264pp
Pb: 978-1-032-54042-9 : **£44.99**
Hb: 978-1-032-55521-8 : **£130**
* For **full contents** and more information, visit: **www.routledge.com/9781032540429**

Mastering Technical Art in Unreal Engine

World Building

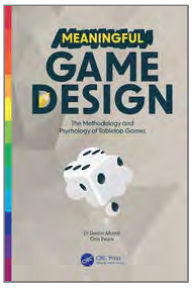
Greg Penninck , Stuart Butler

This covers how to use the latest development tools to create your own Virtual World powered by the Unreal Engine. Each chapter will provide you with the necessary underpinning theory as well as activities to test your learning inside of the Unreal Engine. This book will be of great interest to all students learning to create technical art within the Unreal Engine, as well as professionals looking to sharpen their skills

CRC Press
January 2025 : 226pp
Pb: 978-1-032-64973-3 : **£48.99**
Hb: 978-1-032-66387-6 : **£130**
eBook: 978-1-032-66390-6 : **£44.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032649733**

Meaningful Game Design

The Methodology and Psychology of Tabletop Games



Devon Allcoat , Chris Evans

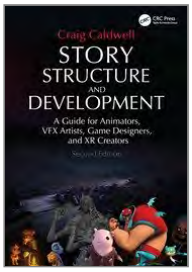
This book provides readers with the tools and methods with which to create effective tabletop games. It covers the design and development process thoroughly, guiding readers through the necessary mechanics, messages, and motivations of games that must be understood in order to build successful tabletop games, including serious educational games for teaching or training.

CRC Press
November 2023 : 206pp
Pb: 978-1-032-33307-6 : **£47.99**
Hb: 978-1-032-33403-5 : **£130**
eBook: 978-1-003-31951-1
* For **full contents** and more information, visit: **www.routledge.com/9781032333076**

2ND EDITION

Story Structure and Development

A Guide for Animators, VFX Artists, Game Designers, and XR Creators



Craig Caldwell

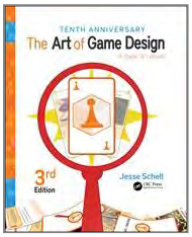
The thoroughly revised and updated Second Edition introduces new film and animation examples alongside over 200 vibrant images designed with today's digital content creators in mind. Organized to enhance accessibility, this edition offers a structured approach to the story fundamentals critical to today's movies, animation, games, and XR. Readers will gain valuable insights into the universal patterns of narrative, gaining a deeper understanding of the core story concepts that directors and producers often emphasize with the phrase, "It's all about story."

CRC Press
March 2025 : 222pp
Pb: 978-1-032-77748-1 : **£48.99**
Hb: 978-1-032-78650-6 : **£125**
* For **full contents** and more information, visit: **www.routledge.com/9781032777481**

3RD EDITION

The Art of Game Design

A Book of Lenses, Third Edition



Jesse Schell Carnegie Mellon University and Schell Games, Pittsburgh, Pennsylvania, USA

Presents 100+ sets of questions, or different lenses, for viewing a game's design. Written by one of the world's top game designers, this book describes the deepest and most fundamental principles of game design, demonstrating how tactics used in board, card, and athletic games also work in video games. It provides practical instruction on creating world-class games that will be played again and again. New to this edition: many great examples from new VR and AR platforms as well as examples from modern games such as Uncharted 4 and The Last of Us, Free to Play games, hybrid games, transformational games, and more.

A K Peters/CRC Press
August 2019 : 652pp
Pb: 978-1-138-63205-9 : **£54.99**
Hb: 978-1-138-63209-7 : **£120**
eBook: 978-1-315-20843-5
* For **full contents** and more information, visit: **www.routledge.com/9781138632059**

The Game Production Toolbox

Heather Chandler

The Reverse Design series looks at all of the design decisions that went into classic games. This is the third installment in the Reverse Design series, looking at Super Mario World. Written in a readable format; this game breaks down nicely into relatively short, separate sections. Reverse Design: Super Mario World is broken down into four sections with the final section a guide for level-by-level. The first three sections look at design history, cadences, skill and themes. The ideal experience of this Reverse Design is for you, the reader, to play each level as you read its analysis.

CRC Press
April 2020 : 320pp
Pb: 978-1-138-34170-8 : **£64.99**
Hb: 978-1-138-34171-5 : **£115**
eBook: 978-0-429-44002-1
* For **full contents** and more information, visit: **www.routledge.com/9781138341708**

The Ludotronics Game Design Methodology

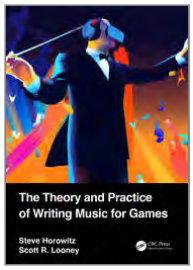
From First Ideas to Spectacular Pitches and Proposals

J. Martin Mediadesign University of Applied Sciences, Duesseldorf, Germany

This book supports readers to transition to more advanced independent game projects by deepening their understanding of the concept development process. It covers how to make concepts sufficiently viable, ambitious, and innovative to warrant the creation of a polished prototype in preparation of a publisher pitch. This book is designed to support junior and senior year BA or MA students in game design programs, as well as novice indie developers and those in the early stages of their game design career.

CRC Press
August 2023 : 276pp
Pb: 978-1-032-36870-2 : **£47.99**
Hb: 978-1-032-36962-4 : **£130**
eBook: 978-1-003-33468-2
* For **full contents** and more information, visit: **www.routledge.com/9781032368702**

The Theory and Practice of Writing Music for Games



Steve Horowitz , Scott Looney Game audio and game scoring instructor at Pyramind Training and part-time faculty at Academy of Art University

Based on years of working in the field, as well as teaching the subject at colleges and universities, The Theory and Practice of Writing Music for Games is an invaluable resource for those looking for a classroom tested, directed course of study. Each chapter builds on the next and guides the reader step by step through the essentials. Along with all the theory, a multitude of clearly defined hands-on projects and exercises are included, designed to prepare the reader to go out into the field with a complete understanding of the art and craft of music composition for games and visual media.

CRC Press
January 2024 : 244pp
Pb: 978-1-032-53863-1 : **£63.99**
Hb: 978-1-032-54008-5 : **£165**
eBook: 978-1-003-41472-8
* For **full contents** and more information, visit: **www.routledge.com/9781032538631**

World Building for Game Designers

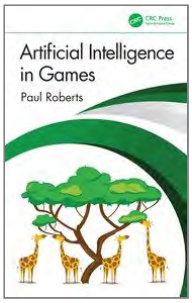
Steve Dee

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 : 328pp
Pb: 978-1-032-85681-0 : **£48.99**
Hb: 978-1-032-86229-3 : **£125**
* For **full contents** and more information, visit: **www.routledge.com/9781032856810**

Artificial Intelligence in Games



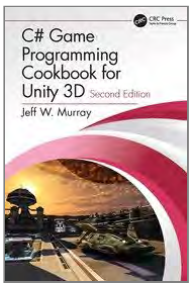
Paul Roberts

This book covers all the necessary topics that a professional game AI programmer needs to know, from math and steering behaviours to terrain analysis, pathfinding, decision making, and more. Written to be easily accessible, each topic is accompanied by an example game, where the reader can add their own code to see the effects their changes have. This book will be suitable for students and aspiring games programmers looking to gain a grounding in game AI techniques.

CRC Press
July 2022 : 310pp
Pb: 978-1-032-03322-8 : **£52.99**
Hb: 978-1-032-30595-0 : **£120**
eBook: 978-1-003-30583-5
* For **full contents** and more information, visit: **www.routledge.com/9781032033228**

2ND EDITION

C# Game Programming Cookbook for Unity 3D



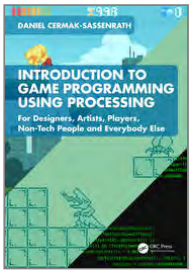
Jeff W. Murray Psychic Parrot Games, Ottawa, Ontario, Canada

This second edition of C# Game Programming Cookbook for Unity expounds upon the first with more details and techniques. With a fresh array of chapters, updated C# code and examples, Jeff W. Murray's book will help the reader understand structured game development in Unity unlike ever before. New to this edition is a step-by-step tutorial for building a 2D infinite runner game from the framework and scripts included in the book. The book contains a flexible and reusable framework in C# suitable for all game types. From game state handling to audio mixers to asynchronous scene loading, the focus of this book is building a reusable structure to take care of many of the most used systems.

CRC Press
March 2021 : 316pp
Pb: 978-0-367-32164-2 : **£54.99**
Hb: 978-0-367-32170-3 : **£105**
eBook: 978-0-429-31713-2
* For **full contents** and more information, visit: **www.routledge.com/9780367321642**

Introduction to Game Programming using Processing

For Designers, Artists, Players, Non-Tech People and Everybody Else



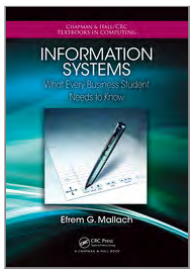
Daniel Cermak-Sassenrath

This is an introductory textbook focusing on games (specifically interaction and graphics) as a pathway into programming. It empowers its readers to do basic programming, prototyping, creating games and other highly interactive applications, all from scratch and without any prior programming knowledge. This book is a great resource for students and aspiring professionals looking for an approachable entry into game programming.

CRC Press
June 2024 : 348pp
Pb: 978-1-032-38613-3 : **£47.99**
Hb: 978-1-032-38622-5 : **£130**
eBook: 978-1-003-34591-6
* For **full contents** and more information, visit: **www.routledge.com/9781032386133**

Information Systems

What Every Business Student Needs to Know



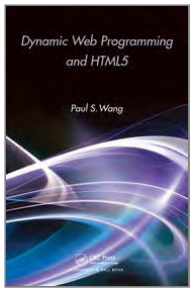
Efrem G. Mallach Rhode Island College, Providence, and Kea Company, New Bedford, Massachusetts, USA

Series: Chapman & Hall/CRC Textbooks in Computing

Most information systems (IS) texts overwhelm business students with overly technical information they may not need in their careers. This textbook takes a new approach to the required IS course for business majors. For each topic covered, the text highlights key "Take-Aways" that alert students to material they will need to remember during their careers. Sections titled "Where You Fit In" and "Why This Chapter Matters" explain how the topics being covered will impact students once they are on the job. Review questions, discussion questions, and summaries are included in each chapter.

Chapman & Hall
August 2015 : 480pp
Pb: 978-1-482-22370-5 : **£105**
Hb: 978-1-138-41293-4 : **£180**
eBook: 978-0-429-17412-4
* For **full contents** and more information, visit: **www.routledge.com/9781482223705**

Dynamic Web Programming and HTML5



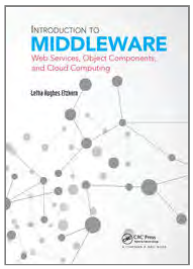
Paul S. Wang Kent State University, OH, USA

Helping readers master web development, this comprehensive and up-to-date guide covers specific web programming languages, APIs, and coding techniques and provides an in-depth understanding of the underlying concepts, theory, and principles. The author leads readers through page structuring, page layout/styling, user input processing, dynamic user interfaces, database-driven websites, and mobile website development. Numerous examples illustrate how the programming techniques and other elements work together to achieve practical goals. Encouraging hands-on practice, the book's companion website offers live examples, code, and additional resources.

Chapman & Hall
November 2012 : 664pp
Pb: 978-1-439-87182-9 : **£84.99**
Hb: 978-1-138-43615-2 : **£180**
eBook: 978-0-429-16962-5
* For **full contents** and more information, visit: **www.routledge.com/9781439871829**

Introduction to Middleware

Web Services, Object Components, and Cloud Computing



Letha Hughes Etzkorn

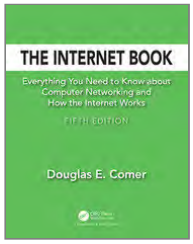
Middleware is a software layer that lies underneath applications and is used to allow multiple applications to interconnect, while hiding the complexities of the underlying network, operating system, and physical connections from the application programmer. This class-tested textbook provides a comparative view of the major paradigms and technologies used today in Middleware. The strengths and weaknesses of each approach are examined. Example implementations of each type of middleware are included in the Technology Review sections in each chapter and are used in the comparisons. Suggested programming assignments and homework problems are provided with each chapter.

Chapman & Hall
June 2020 : 688pp
Pb: 978-0-367-57359-1 : **£44.99**
Hb: 978-1-498-75407-1 : **£105**
eBook: 978-1-315-11867-3
* For **full contents** and more information, visit: **www.routledge.com/9780367573591**

5TH EDITION

The Internet Book

Everything You Need to Know about Computer Networking and How the Internet Works



Douglas E. Comer Purdue University, Indiana, USA

This book explains how computers communicate, what the Internet is, how the Internet works, and what services the Internet offers. It is designed for readers who do not have a strong technical background — early chapters clearly explain the terminology and concepts needed to understand all the services. It helps the reader to understand the technology behind the Internet, appreciate how the Internet can be used, and discover why people find it so exciting. In addition, it explains the origins of the Internet and shows the reader how rapidly it has grown. It also provides information on how to avoid many of the scams and exaggerated marketing claims made by ISPs.

Chapman & Hall
September 2018 : 404pp
Pb: 978-1-138-33029-0 : **£81.99**
Hb: 978-1-138-33133-4 : **£81.99**
eBook: 978-0-429-44735-8
* For **full contents** and more information, visit: **www.routledge.com/9781138330290**

2ND EDITION

A Concise Introduction to Machine Learning

A.C. Faul University of Cambridge, UK

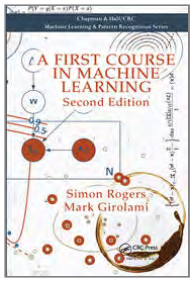
Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

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
April 2025 : 334pp
Pb: 978-1-032-87814-0 : **£48.99**
Hb: 978-1-032-87817-1 : **£130**
eBook: 978-1-351-20475-0
* For **full contents** and more information, visit: **www.routledge.com/9781032878140**

2ND EDITION

A First Course in Machine Learning



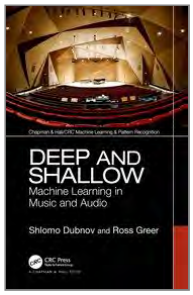
Simon Rogers , Mark Girolami

The new edition of this popular, undergraduate textbook has been revised and updated to reflect current growth areas in Machine Learning. The new edition includes three new chapters with more detailed discussion of Markov Chain Monte Carlo techniques, Classification and Regression with Gaussian Processes, and Dirichlet Process models. Previous chapters have also been updated to reflect new developments in Machine Learning, and correct any previous errors in the text.

Chapman & Hall
June 2020 : 428pp
Pb: 978-0-367-57464-2 : **£39.99**
Hb: 978-1-498-73848-4 : **£64.99**
eBook: 978-1-315-38215-9
* For **full contents** and more information, visit: **www.routledge.com/9780367574642**

Deep and Shallow

Machine Learning in Music and Audio



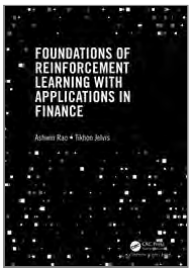
Shlomo Dubnov , Ross Greer

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

Providing an essential and unique bridge between the theories of signal processing, machine learning and artificial intelligence (AI) in music, this book provides a holistic overview of foundational ideas in music, from the physical and mathematical properties of sound to symbolic representations. Surveying state of the art methods in applications of deep neural networks to audio and sound computing, as well as offering a research perspective that suggests future challenges in music and AI research, this book appeals to both students of AI and music, as well as industry professionals in the fields of machine learning, music and AI.

Chapman & Hall
December 2023 : 344pp
Pb: 978-1-032-13391-1 : **£45.99**
Hb: 978-1-032-14618-8 : **£120**
eBook: 978-1-003-24019-8
* For **full contents** and more information, visit: **www.routledge.com/9781032133911**

Foundations of Reinforcement Learning with Applications in Finance



Ashwin Rao Stanford University, USA**, Tikhon Jelvis**

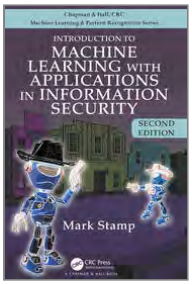
Series: Chapman & Hall/CRC Mathematics and Artificial Intelligence Series

This book aims to demystify Reinforcement Learning, and to make it a practically useful tool for those studying and working in applied areas — especially finance. RL is emerging as a viable and powerful technique for solving a variety of complex problems across industries that involve Sequential Optimal Decisioning under Uncertainty. Its penetration in high-profile problems like self-driving cars, robotics, and strategy games points to a future where Reinforcement Learning algorithms will have decisioning abilities far superior to humans. This book introduces the foundations of RL in a way that balances depth of understanding with clear, minimally technical delivery.

Chapman & Hall
December 2022 : 522pp
Hb: 978-1-032-12412-4 : **£76.99**
eBook: 978-1-003-22919-3
* For **full contents** and more information, visit: **www.routledge.com/9781032124124**

2ND EDITION

Introduction to Machine Learning with Applications in Information Security



Mark Stamp Department of Computer Science, San Jose State University

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

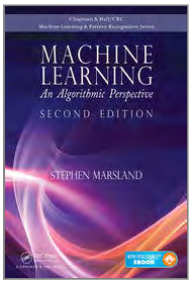
Introduction to Machine Learning with Applications in Information Security, Second Edition provides a classroom-tested introduction to a wide variety of machine learning and deep learning algorithms and techniques, reinforced via realistic applications. The book is accessible and doesn't prove theorems, or dwell on mathematical theory. The goal is to present topics at an intuitive level, with just enough detail to clarify the underlying concepts. The applications presented serve to demystify the topics by illustrating the use of various learning techniques in straightforward scenarios.

Chapman & Hall
December 2024 : 548pp
Pb: 978-1-032-20717-9 : **£44.99**
Hb: 978-1-032-20492-5 : **£62.99**
eBook: 978-1-003-26487-3
* For **full contents** and more information, visit: **www.routledge.com/9781032207179**

2ND EDITION

Machine Learning

An Algorithmic Perspective, Second Edition



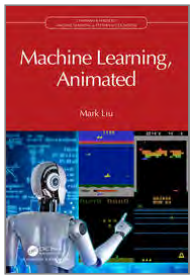
Stephen Marsland Massey University, Palmerston North, New Zealand

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

This bestseller helps students understand the algorithms of machine learning. It puts them on a path toward mastering the relevant mathematics and statistics as well as the necessary programming and experimentation. Along with improved Python code, this second edition includes two new chapters on deep belief networks and Gaussian processes. It incorporates new material on the support vector machine, random forests, the perceptron convergence theorem, filters, and more. All of the code is available on the author's website.

Chapman & Hall
October 2014 : 458pp
Hb: 978-1-466-58328-3 : **£74.99**
eBook: 978-0-429-10250-9
* For **full contents** and more information, visit: **www.routledge.com/9781466583283**

Machine Learning, Animated



Mark Liu

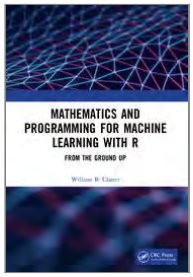
Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

The release of ChatGPT has kicked off an arms race in Machine Learning (ML), however ML has also been described as a black box and very hard to understand. This book eases you into basic ML concepts and summarises the learning process in three words: initialize, adjust and repeat. [eBook+ Version] In addition, this eBook+ version allows readers to witness these principles in action, containing 24 distinct and engaging animations created from lessons within the book.

Chapman & Hall
October 2023 : 464pp
Hb: 978-1-032-46214-1 : **£72.99**
eBook: 978-1-003-38058-0 : **£74.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032462141**

Mathematics and Programming for Machine Learning with R

From the Ground Up



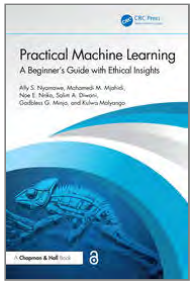
William Claster

The language of machine learning is programming, and this textbook helps novice programmers acquire step-by-step skills needed to understand and implement algorithms. Beginning with simple implementations and moving to the modern object-oriented paradigm, the text presents important basic algorithms and powerful deep learning algorithms. It begins with basic concepts in R and proceeds to basic concepts in math and statistics, all done from a programming point of view and then to the implementation of several algorithms. Strong emphasis is placed on improving the programming skills and implementing full-fledged algorithms.

CRC Press
October 2020 : 430pp
Pb: 978-0-367-50785-5 : **£48.99**
Hb: 978-0-367-56194-9 : **£99.99**
eBook: 978-1-003-05122-0
* For **full contents** and more information, visit: **www.routledge.com/9780367507855**

Practical Machine Learning

A Beginner's Guide with Ethical Insights



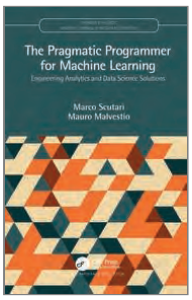
Ally S. Nyamawe , Mohamedi M. Mjahidi , Noe E. Nnko , Salim A. Diwani , Godbless G. Minja , Kulwa Malyango

This book enables beginners to construct practical, real-world solutions powered by machine learning across diverse application domains. It demonstrates the fundamental techniques involved in data collection, integration, cleansing, transformation, development, and deployment of machine learning models. It emphasizes the importance of integrating responsible and explainable AI into machine learning models, ensuring these principles are prioritized rather than treated as an afterthought.

Chapman & Hall
February 2025 : 226pp
Pb: 978-1-032-77029-1 : **£48.99**
Hb: 978-1-032-78216-4 : **£190**
* For **full contents** and more information, visit: **www.routledge.com/9781032770291**

The Pragmatic Programmer for Machine Learning

Engineering Analytics and Data Science Solutions



Marco Scutari Istituto Dalle Molle**, Mauro Malvestio**

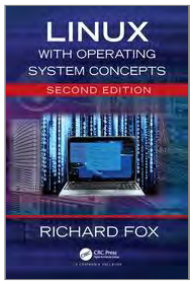
Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

Machine learning has redefined the way we work with data and is increasingly becoming an indispensable part of everyday life, yet software engineering has played a remarkably small role compared to other disciplines. Comprising a complete overview of how to design machine learning pipelines, this book provides a multi-disciplinary view of how traditional software learning practices can be integrated with the workflows of domain experts. This guide to software engineering will appeal to machine learning and data science specialists, whilst also utilising natural language and clear case studies to be accessible for students of computer science and aspiring programmers.

Chapman & Hall
April 2025 : 356pp
Pb: 978-0-367-25506-0 : **£44.99**
Hb: 978-0-367-26350-8 : **£72.99**
eBook: 978-0-429-29283-5
* For **full contents** and more information, visit: **www.routledge.com/9780367255060**

2ND EDITION

Linux with Operating System Concepts



Richard Fox Northern Kentucky University, Highland Heights, USA

Linux with Operating System Concepts merges conceptual operating system (OS) and Unix/Linux topics into one cohesive textbook for undergraduate students. The book can be used for a one- or two-semester course on Linux or Unix. It is complete with review sections, problems, definitions, and concepts. The book has been updated to systemd Linux and the newer services like Cockpit, NetworkManager, firewalld and journald. This edition explores Linux beyond CentOS/Red Hat by adding detail on Debian distributions. Content across most topics has been updated and improved.

Chapman & Hall
December 2021 : 620pp
Pb: 978-1-032-06345-4 : **£82.99**
Hb: 978-1-032-06670-7 : **£205**
eBook: 978-1-003-20332-2
* For **full contents** and more information, visit: **www.routledge.com/9781032063454**

3RD EDITION

Operating System Design

The Xinu Approach

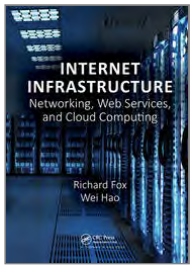
Douglas Comer

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 : 576pp
Hb: 978-1-032-98099-7 : **£79.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032980997**

Internet Infrastructure

Networking, Web Services, and Cloud Computing



Richard Fox , Wei Hao

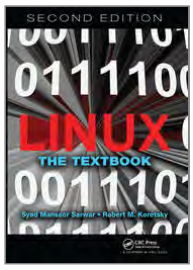
This book is a comprehensive introduction to Internet Infrastructure. It covers wired and wireless networks, the Internet (specifically the TCP/IP protocol), the domain name system (DNS), web servers and the HTTP/HTTPS protocols, web caches and various proxy server protocols, establishing IP addresses, and cloud computing. The book also includes forms of encryption technologies, securing networks and servers, network analysis tools, load balancing, mechanisms for redundancy, and more. Each concept chapter is followed by a case study chapter to illustrate the concepts presented. The case study chapters are set up so that readers can install servers and experiment with their configurations.

CRC Press
June 2020 : 632pp
Pb: 978-0-367-57279-2 : **£46.99**
Hb: 978-1-138-03991-9 : **£130**
eBook: 978-1-315-17557-7
* For **full contents** and more information, visit: **www.routledge.com/9780367572792**

2ND EDITION

Linux

The Textbook, Second Edition



Syed Mansoor Sarwar , Robert M Koretsky

Linux: The Textbook, Second Edition provides comprehensive coverage of the contemporary use of the Linux operating system for every level of student or practitioner, from beginners to advanced users. The text clearly illustrates system-specific commands and features using Debian-family Debian, Ubuntu, and Linux Mint, and RHEL-family CentOS, and stresses universal commands and features that are critical to all Linux distributions.

Chapman & Hall
June 2020 : 688pp
Pb: 978-0-367-57106-1 : **£38.99**
Hb: 978-1-138-71008-5 : **£105**
eBook: 978-1-315-19685-5
* For **full contents** and more information, visit: **www.routledge.com/9780367571061**

2ND EDITION

Mastering Modern Linux

Paul S. Wang Kent State University, OH, USA

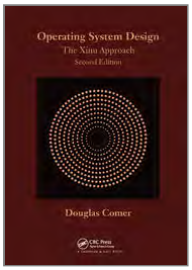
This popular textbook has been well received in the marketplace, since its publication in 2010. The Linux system is now much more widely used and have evolved in significant ways, since the publication of the first edition. Popular Linux distributions have moved ahead and matured. New distributions, such as Mint, have become widely used. Linux is now much more GUI (graphical user interface) oriented and can compete with MS Windows and MAC OS on many levels. The book will be updated to reflect all of these recent developments and advances, while preserving the overall structure and most of the topics in the first edition.

Chapman & Hall
June 2018 : 386pp
Pb: 978-0-815-38098-6 : **£59.99**
Hb: 978-0-815-38111-2 : **£130**
eBook: 978-1-351-21130-7
* For **full contents** and more information, visit: **www.routledge.com/9780815380986**

2ND EDITION

Operating System Design

The Xinu Approach, Second Edition



Douglas Comer , Douglas Comer

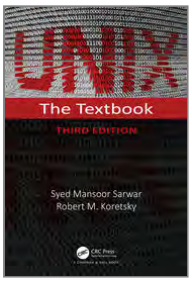
Avoiding the typical black box approach found in other operating system textbooks, this bestselling book explains how to build an operating system from the ground up. It removes the mystery from operating system design and consolidates the body of material into a systematic discipline. The text presents a hierarchical design paradigm that organizes major operating system components in an orderly, understandable manner. This second edition has been completely rewritten with updated code throughout and examples for two low-cost experimenter boards.

Chapman & Hall
June 2020 : 702pp
Pb: 978-0-367-57593-9 : **£39.99**
Hb: 978-1-498-71243-9 : **£84.99**
eBook: 978-0-429-19074-2
* For **full contents** and more information, visit: **www.routledge.com/9780367575939**

3RD EDITION

UNIX

The Textbook, Third Edition

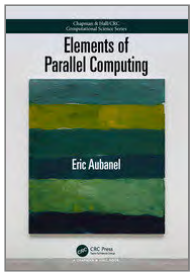


Syed Mansoor Sarwar , Robert M. Koretsky

This third edition of a bestseller has been completely revised and expanded to include seven new chapters covering Python fundamentals, Unix system administration fundamentals, and more. Designed for undergraduate students taking Unix or operating systems courses, the text provides comprehensive coverage of Unix system programming and administration. Each chapter presents web resources, summaries, questions, and problems.

Chapman & Hall
October 2016 : 1380pp
Hb: 978-1-482-23358-2 : **£115**
eBook: 978-1-315-37320-1
* For **full contents** and more information, visit: **www.routledge.com/9781482233582**

Elements of Parallel Computing



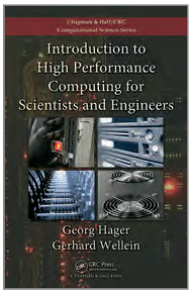
Eric Aubanel

Series: Chapman & Hall/CRC Computational Science

This textbook covers the core principles of parallel computing using language-neutral programming models together with abstract machine models. It focuses on patterns of parallel programming and mental models of parallel computing, using a task graph approach. Pseudocode is used for the programming examples in order to capture the essential behavior, without getting tied up in syntactical details. The author provides implementations of all examples in several parallel programming languages as part of the supplementary material.

Chapman & Hall
December 2016 : 238pp
Pb: 978-1-498-72789-1 : **£62.99**
Hb: 978-1-138-47087-3 : **£180**
eBook: 978-1-315-26958-0
* For **full contents** and more information, visit: **www.routledge.com/9781498727891**

Introduction to High Performance Computing for Scientists and Engineers



Georg Hager University of Erlangen Nuremberg, Germany**, Gerhard Wellein** University of Erlangen Nuremberg, Germany

Series: Chapman & Hall/CRC Computational Science

Written by HPC experts, this book provides a solid introduction to current mainstream computer architecture, dominant parallel programming models, and useful optimization strategies for scientific HPC. It facilitates an intuitive understanding of performance limitations without relying on heavy computer science knowledge. The authors highlight the importance of performance modeling of applications on all levels of a system's architecture and include numerous case studies drawn from their experiences in HPC user support, performance optimization, and benchmarking. Downloadable code and an annotated bibliography are available on the book's website.

CRC Press
July 2010 : 356pp
Pb: 978-1-439-81192-4 : **£74.99**
Hb: 978-1-138-47089-7 : **£170**
eBook: 978-0-429-19061-2
* For **full contents** and more information, visit: **www.routledge.com/9781439811924**

Fundamentals of Parallel Multicore Architecture

Yan Solihin

This text provides all the material for a graduate or senior undergraduate course that focuses on the architecture of multicore processors. The book is also useful as a reference for professionals who deal with programming on multicore or designing multicore chips. It addresses programming issues in shared memory multiprocessors, covers the architectures for shared memory multiprocessors, and contains interviews with experts in parallel multicore architecture. It also offers many pedagogical features, including mini case studies, alternative points of view, examples, and online programming assignments and solutions.

Chapman & Hall
June 2020 : 494pp
Pb: 978-0-367-57528-1 : **£44.99**
Hb: 978-1-482-21118-4 : **£99.99**
eBook: 978-0-429-06941-3
* For **full contents** and more information, visit: **www.routledge.com/9780367575281**

Parallel Programming for Modern High Performance Computing Systems

Pawel Czarnul

This book covers parallel programming for modern high performance computing systems.It discusses state-of-the-art computing devices and systems,, including multicore and manycore CPUs, accelerators, and coprocessors. It also introduces parallelization through programming paradigms. The practical and useful elements of the most important APIs for programming parallel HPC systems are discussed, including MPI, OpenMP, Pthreads, CUDA, OpenCL, and OpenACC. It also demonstrates how selected APIs can be used to implement programming paradigms. The book also presents hybrid codes that integrate selected APIs for potentially multi-level parallelization.

Chapman & Hall
June 2020 : 330pp
Pb: 978-0-367-57212-9 : **£42.99**
Hb: 978-1-138-30595-3 : **£91.99**
eBook: 978-1-315-14440-5
* For **full contents** and more information, visit: **www.routledge.com/9780367572129**

GPU Parallel Program Development Using CUDA

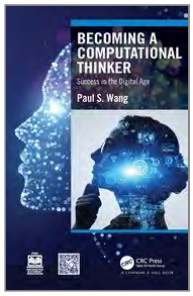
Tolga Soyata

This book teaches GPU programming by showing differences among families of GPUs. It emphasizes concepts that will remain relevant for a long time, rather than concepts that are platform-specific, while emphasizing the performance improvements that can be obtained from platform-dependent code.This three-part book starts by explaining parallelism using CPU multi-threading in Part I and teaches GPU massive parallelism in Part II by providing comparisons to CPU multi-threading. Part III of the book explores popular CUDA libraries, the OpenCL programming language, GPU programming using other programming languages and API libraries, and the deep learning library cuDNN.

Chapman & Hall
June 2020 : 476pp
Pb: 978-0-367-57224-2 : **£44.99**
Hb: 978-1-498-75075-2 : **£66.99**
eBook: 978-1-315-36829-0
* For **full contents** and more information, visit: **www.routledge.com/9780367572242**

Becoming a Computational Thinker

Success in the Digital Age



Paul S Wang

This book has a single purpose: to help everyone become a computational thinker. Computational thinking (CT) is thinking informed by the digital age, and a computational thinker is someone who can apply that thinking everywhere and anywhere. Through practical examples and easy-to-grasp terminology, this book is a guide to navigating the digital world and improving one's efficiency, productivity, and success immediately.

Chapman & Hall
January 2024 : 331pp
Pb: 978-1-032-56898-0 : **£38.99**
Hb: 978-1-032-56899-7 : **£56.99**
eBook: 978-1-003-43768-0
* For **full contents** and more information, visit: **www.routledge.com/9781032568980**

Coding Android Apps

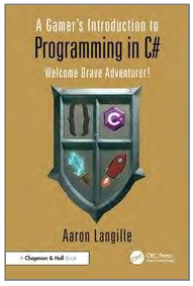
Margaret Kozak Polk

As Android apps continue to grow in popularity and an associated job market emerges, the ability to develop software and applications for Android smartphones will only grow more relevant in the foreseeable future. This book is particularly appealing for students of mobile apps development courses offered in computer science and information technology departments, as well as information systems disciplines within business schools, at both the undergraduate and graduate levels.

Chapman & Hall
August 2024 : 308pp
Pb: 978-1-032-25888-1 : **£58.99**
Hb: 978-1-032-26059-4 : **£145**
eBook: 978-1-003-28632-5
* For **full contents** and more information, visit: **www.routledge.com/9781032258881**

A Gamer's Introduction to Programming in C#

Welcome Brave Adventurer!



Aaron Langille

The first in an ongoing series designed to take readers from zero experience to writing their own video games and interactive digital experiences using industry standard languages and tools, this book is a great way to turn a love of video games into a new love of programming. It teaches the coding ins-and-outs of how we keep track of high scores, what video game heroes and loot boxes are made of, how the dreaded RNG or, random number generation works, and much, much more. Engaging and concise, this book is appealing to both a general readership as well as course convenors and students of programming.

Chapman & Hall
September 2024 : 342pp
Pb: 978-1-032-39122-9 : **£47.99**
Hb: 978-1-032-39123-6 : **£125**
eBook: 978-1-003-34848-1
* For **full contents** and more information, visit: **www.routledge.com/9781032391229**

2ND EDITION

Intermediate C Programming

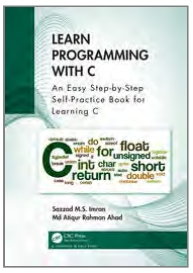
Yung-Hsiang Lu Purdue University, West Lafayette, IN**, George K. Thiruvathukal** Loyola University Chicago, Chicago, Illinois

Revised for a new second edition, Intermediate C Programming provides a stepping-stone for intermediate-level students to go from writing short programs to writing real programs well. It shows students how to identify and eliminate bugs, write clean code, share code with others, and use standard Linux-based tools, such as ddd and valgrind. Including additional student and instructor resources available online, this book is particularly appealing as a classroom resource.

CRC Press
February 2024 : 432pp
Pb: 978-1-032-18981-9 : **£47.99**
Hb: 978-1-032-19174-4 : **£120**
eBook: 978-1-003-25798-1
* For **full contents** and more information, visit: **www.routledge.com/9781032189819**

Learn Programming with C

An Easy Step-by-Step Self-Practice Book for Learning C

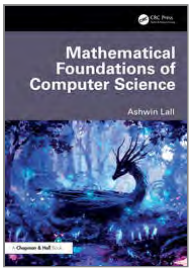


Sazzad M.S. Imran , Md Atiqur Rahman Ahad

Authored by two standout professors in the fields of Computer Science and Technology with extensive experience in instructing, Learn Programming with C is a comprehensive and accessible guide to programming with one of the most popular languages. Written for the novice C programmer, especially undergraduate and graduate students, this book's line-by-line explanation of code and succinct writing style makes it an excellent companion for classroom teaching, learning and programming labs.

Chapman & Hall
January 2024 : 580pp
Pb: 978-1-032-28355-5 : **£59.99**
Hb: 978-1-032-29908-2 : **£165**
eBook: 978-1-003-30262-9
* For **full contents** and more information, visit: **www.routledge.com/9781032283555**

Mathematical Foundations of Computer Science

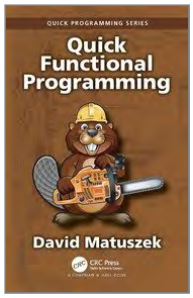


Ashwin Lall Denison University, 100 W College Street, Granville, OH 43023, USA

Mathematical Foundations of Computer Science introduces students to the discrete mathematics needed later in their Computer Science coursework with theory of computation topics interleaved throughout. Students learn about mathematical concepts just in time to apply them to theory of computation ideas. For instance, sets motivate the study of finite automata, direct proof is practised using closure properties, induction is used to prove the language of an automaton, and contradiction is used to apply the pumping lemma.

Chapman & Hall
November 2024 : 228pp
Pb: 978-1-032-46787-0 : **£44.99**
Hb: 978-1-032-46789-4 : **£120**
eBook: 978-1-003-38328-4
* For **full contents** and more information, visit: **www.routledge.com/9781032467870**

Quick Functional Programming



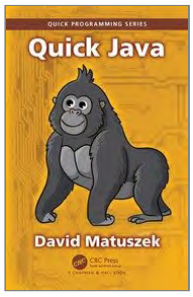
David Matuszek

Series: Quick Programming

"Pure" functional programming, abandoning all the conventional programming techniques, really is difficult. But you don't have to do that. Think of it this way: conventional programming consists of a collection of hand tools, and functional programming adds a power tool to the mix. Just one—it doesn't do everything, and you still need all the other tools, but where you can use it, it saves a lot of work. This handy, concise guide cuts to the core of what you need to know to enable you to utilize functional programming, quickly and easily. It clarifies what functional programming is and showcases its benefits while using familiar languages like Python 3 and Java.

Chapman & Hall
June 2023 : 146pp
Pb: 978-1-032-41531-4 : **£22.99**
Hb: 978-1-032-41532-1 : **£79.99**
eBook: 978-1-003-35854-1
* For **full contents** and more information, visit: **www.routledge.com/9781032415314**

Quick Java



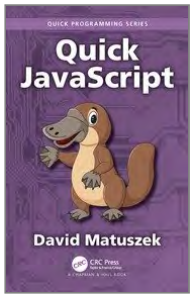
David Matuszek

Series: Quick Programming

This book is written for the programmer who doesn't need to be taught how to program, just how to do it in Java. All the things that go inside a class, most of which are practically identical to C++. After that, all the various and complicated kinds of classes and interfaces, and how they relate to each other in large-scale programs. JUnit is covered in details, some functional programming, a little about parallel programming, and more than enough to get you started in building GUIs and doing animation. There's a lot in this little book, and while you may not learn Java in a weekend, it is a great start.

Chapman & Hall
September 2023 : 234pp
Pb: 978-1-032-50277-9 : **£22.99**
Hb: 978-1-032-51583-0 : **£79.99**
eBook: 978-1-003-40294-7
* For **full contents** and more information, visit: **www.routledge.com/9781032502779**

Quick JavaScript



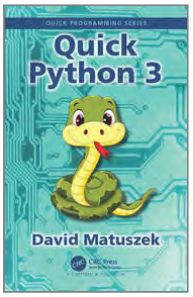
David Matuszek

Series: Quick Programming

This book will get you programming in JavaScript as quickly as possible. In addition, it will provide you with a basic understanding of the Document Object Model, the massive data structure used to represent web pages. With these tools, you will be able to build interactive web pages. JavaScript is the language—the only language—used by browsers. To create interactive web pages, you need to know both JavaScript and the DOM. This book will get you started.

Chapman & Hall
April 2023 : 186pp
Pb: 978-1-032-41756-1 : **£22.99**
Hb: 978-1-032-41757-8 : **£79.99**
eBook: 978-1-003-35960-9
* For **full contents** and more information, visit: **www.routledge.com/9781032417561**

Quick Python 3



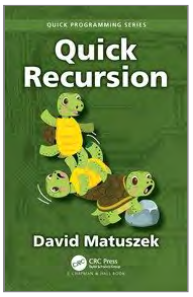
David Matuszek

Series: Quick Programming

This handy, concise guide cuts to the core of what you need to know to enable you to pick up Python 3. Like any mainstream language, Python has loops, if statements, assignment statements, functions, etc. This book shows you what these look like in Python 3 without getting bogged down on applications. It also explores Python 3's less familiar with iterators, like list comprehensions and dictionaries. It covers a selection of library functions which are immediately useful, and provides further information on where to find more.

Chapman & Hall
February 2023 : 127pp
Pb: 978-1-032-41091-3 : **£22.99**
Hb: 978-1-032-41092-0 : **£79.99**
eBook: 978-1-003-35621-9
* For **full contents** and more information, visit: **www.routledge.com/9781032410913**

Quick Recursion



David Matuszek

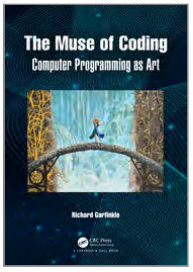
Series: Quick Programming

Recursion is the best tool for working with trees and graphs. But perhaps you've studied recursion and decided it's too complicated. You just can't think that way. That limits the kind of programming you can do. This book will show you how you can write recursive programs. Once you understand a few simple rules, you will wonder why you ever thought recursion was complicated. You'll be able to write recursive programs quickly and easily.

Chapman & Hall
February 2023 : 160pp
Pb: 978-1-032-41758-5 : **£22.99**
Hb: 978-1-032-41759-2 : **£79.99**
eBook: 978-1-003-35961-6
* For **full contents** and more information, visit: **www.routledge.com/9781032417585**

The Muse of Coding

Computer Programming as Art



Wojciech Salabun Oakland University, USA

The Muse of Coding gives students and experienced programmers a way to see coding as an art and themselves as artists whose personal views, experiences and ways of thinking can make their programs better for themselves and their users. Not confined to a single language or style of coding, this book provides a widely applicable framework for people to learn what languages and styles work best for them at present and as the field evolves. It can be used as a classroom text or for personal study and enrichment.

Chapman & Hall
March 2024 : 304pp
Pb: 978-1-032-60606-4 : **£47.99**
Hb: 978-1-032-60607-1 : **£120**
eBook: 978-1-003-45986-6
* For **full contents** and more information, visit: **www.routledge.com/9781032606064**

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

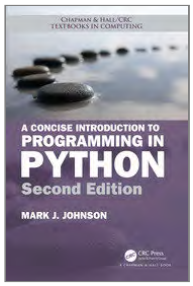
Sujith Samuel Mathew University of Adelaide, Australia**, Mohammad Amin Kuhail , Maha Hadid , Shahbano Farooq**

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 : 316pp
Pb: 978-1-032-66831-4 : **£48.99**
Hb: 978-1-032-66833-8 : **£89.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032668314**

2ND EDITION

A Concise Introduction to Programming in Python



Mark J. Johnson Central College, Iowa, USA

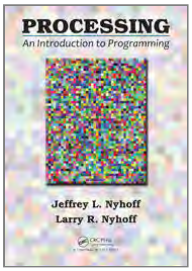
Series: Chapman & Hall/CRC Textbooks in Computing

A Concise Introduction to Programming in Python, Second Edition provides a hands-on and accessible introduction to writing software in Python, with no prior programming experience required. The text offers sections designed for approximately one class period each, and proceeds gradually from procedural to object-oriented design. Examples, exercises, and projects are included from diverse application domains, including finance, biology, image processing, and textual analysis. It also includes a brief "How-To" sections that introduce optional topics students may be interested in exploring. The text is written to be read, making it a good fit in flipped classrooms.

Chapman & Hall
March 2018 : 227pp
Pb: 978-1-138-08258-8 : **£46.99**
Hb: 978-1-138-08255-7 : **£150**
eBook: 978-1-315-11242-8
* For **full contents** and more information, visit: **www.routledge.com/9781138082588**

Processing

An Introduction to Programming



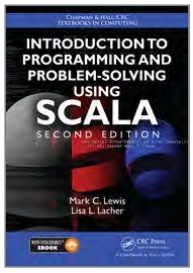
Jeffrey L. Nyhoff Trinity Christian College, Palos Heights, Illinois, USA**, Larry R. Nyhoff** Calvin College, Grand Rapids, Michigan, USA

Originally designed to make it simpler for digital artists to learn to program, Processing is a wonderful first language for anyone to learn. Given its origins, programming graphics, animations, and interactivity is much simpler in Processing, thus providing a much-needed visual approach to programming instruction in computer science as well as the arts and humanities. However, current books on Processing are either artistically oriented or proceed at a pace that is not really accessible for novices. This gentle introduction to computer programming using Processing includes the standard programming constructs, as well as examples that use animation and interactive graphics.

Chapman & Hall
May 2017 : 576pp
Pb: 978-1-482-25595-9 : **£59.99**
Hb: 978-1-138-37371-6 : **£130**
eBook: 978-1-315-11892-5
* For **full contents** and more information, visit: **www.routledge.com/9781482255959**

2ND EDITION

Introduction to Programming and Problem-Solving Using Scala



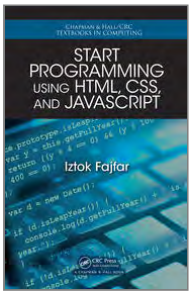
Mark C. Lewis Trinity University, San Antonio, Texas, USA**, Lisa Lacher** University of Houston, Texas, USA

Series: Chapman & Hall/CRC Textbooks in Computing

Mark Lewis' Introduction to the Art of Programming Using Scala was the first textbook to use Scala for introductory CS courses. Scala continues to gain significance among professional developers, and a new edition of this popular textbook is needed to update the book from Scala 2.9 to Scala 2.12. The second edition will be divided into two textbooks. The first volume is designed for CS1 courses and will focus on programming and problem-solving using Scala. The book will be significantly updated throughout to bring the code up-to-date for Scala 2.11 and 2.12.

Chapman & Hall
August 2016 : 590pp
Pb: 978-1-498-73095-2 : **£59.99**
eBook: 978-1-315-38260-9
* For **full contents** and more information, visit: **www.routledge.com/9781498730952**

Start Programming Using HTML, CSS, and JavaScript



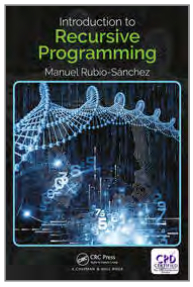
Iztok Fajfar University of Ljubljana, Slovenia

Series: Chapman & Hall/CRC Textbooks in Computing

This text is a manual for undergraduate students in engineering and the natural sciences to discover how computer programming works. Using a dialog format between two students and a professor, the text teaches students how the mainstream web languages HTML, CSS, and JavaScript interact and how to harness their capabilities in practical settings. Each chapter focuses on a specific theme supported by a gradual development of engaging worked examples of live web documents and applications using the three languages.

Chapman & Hall
September 2015 : 468pp
Pb: 978-1-498-73144-7 : **£94.99**
Hb: 978-1-138-41290-3 : **£175**
eBook: 978-0-429-08345-7
* For **full contents** and more information, visit: **www.routledge.com/9781498731447**

Introduction to Recursive Programming



Manuel Rubio-Sanchez

Recursion is an important problem-solving skill that is considered to be one of the most difficult topics to master by CS1/2 students. The main goal of the book is to help students assimilate its fundamental concepts by analyzing a large number of problems of different nature. The material is presented at a slower pace than traditional textbooks, which usually devote only one chapter to the topic. In this regard, the book not only covers classical problems found in the literature in greater depth, but it introduces richer related problems as well. This will allow students to gain more insight by comparing the solutions, and by tackling more problems.

CRC Press
September 2017 : 450pp
Pb: 978-1-498-73528-5 : **£66.99**
Hb: 978-1-138-10521-8 : **£140**
eBook: 978-1-315-12085-0
* For **full contents** and more information, visit: **www.routledge.com/9781498735285**

Learning Advanced Python by Studying Open Source Projects

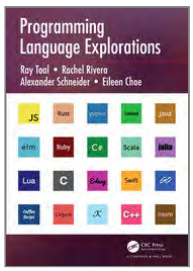
Rongpeng Li

Series: Chapman & Hall/CRC The Python Series

This book helps readers overcome the difficulty in their day-to-day tasks and seek insights from solutions in famous open source projects. Different from a technical manual, it mixes the technical knowledge, real-world applications and more theoretical content, providing readers with a practical and engaging approach to learning Python.

Chapman & Hall
November 2023 : 138pp
Pb: 978-1-032-32816-4 : **£42.99**
Hb: 978-1-032-32818-8 : **£170**
eBook: 978-1-003-31690-9
* For **full contents** and more information, visit: **www.routledge.com/9781032328164**

Programming Language Explorations



Ray Toal , Rachel Rivera , Alexander Schneider , Eileen Choe

The book is a programming languages textbook disguised as a tour of modern programming languages. As readers move through each language, they will encounter numerous examples introducing its key features. The book explains why each feature is in the language, pointing out (1) how it improves upon similar features in previous (and related) languages, and (2) how it is an instance of a more general concept. The book is not organized around the concepts; rather, the language-independent concepts are introduced as needed. An appendix lists and organizes each concept, in outline or glossary form, together with a mind map figure.

Chapman & Hall
September 2016 : 362pp
Pb: 978-1-498-73846-0 : **£67.99**
Hb: 978-1-138-41289-7 : **£160**
eBook: 978-1-315-31433-4
* For **full contents** and more information, visit: **www.routledge.com/9781498738460**

Business Analysis, Requirements, and Project Management

A Guide for Computing Students

Karl Cox

The biggest problem in software development is building the wrong product because IT people do not understand what business people want. This textbook explains how to model a product proposal from a business perspective, its processes, and IT requirements, as well as managing the project to build the project. It links business and IT requirements with project management in an incremental and straightforward approach.Designed for computing students, it presents a step-by-step approach, examples, explanations, exercises, and answers. The text gives students what they need to get through requirements and management courses and prepares them for professional practice.

Auerbach Publications
October 2021 : 218pp
Pb: 978-0-367-76684-9 : **£48.99**
Hb: 978-1-032-10975-6 : **£130**
eBook: 978-1-003-16811-9
* For **full contents** and more information, visit: **www.routledge.com/9780367766849**

Optimizing Project Management

Te Wu

Optimizing Project Management is for both aspiring and practicing project management professionals. It covers the core concepts, practices, and skills that are useful for developing new ideas, planning activities, implementing projects, and conduct planning and controlling of schedule, budget, and scope. The text is particularly useful for students, project professionals wanting to refresh their knowledge, and those pursuing project management certifications. This book is aligned with the Project Management Body of Knowledge,® Sixth Edition and covers all ten knowledge areas plus some additional knowledge domains.

Auerbach Publications
May 2020 : 372pp
Pb: 978-0-367-42992-8 : **£36.99**
eBook: 978-1-003-00111-9
* For **full contents** and more information, visit: **www.routledge.com/9780367429928**

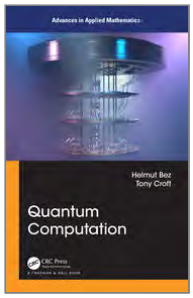
The Sensible Guide to Program Management Professional (PgMP)® Success

Te Wu

This book helps program managers to pass the Program Management Professional (PgMP®) certification exam by explaining the core concepts, providing 420 exam questions, and helping program managers develop a test taking strategy that works. Written by the CEO of PMO Advisory, which has a record of 99.5% first time pass rate, this book can be an indispensable resource for all serious professionals pursuing the PgMP credential. By registering with PMO Advisory, a PMI® Global Registered Education Provider, readers can have free access to an online exam simulator for 30 days and other valuable PgMP support resources.

Auerbach Publications
July 2021 : 314pp
Pb: 978-0-367-70237-3 : **£52.99**
Hb: 978-1-032-03319-8 : **£135**
eBook: 978-1-003-14516-5
* For **full contents** and more information, visit: **www.routledge.com/9780367702373**

Quantum Computation



Helmut Bez , Tony Croft

Series: Advances in Applied Mathematics

This book presents the mathematics of quantum computation. The purpose is to introduce the topic of quantum computing to students in computer science, physics and mathematics who have no prior knowledge of this field. The book is written in two parts. The primary mathematical topics required for an initial understanding of quantum computation are with in Part I: sets, functions, complex numbers and other relevant mathematical structures from linear and abstract algebra. Part II discusses quantum information, quantum measurement, and quantum algorithms. These topics provide foundations upon which more advanced topics may be approached with confidence.

Chapman & Hall
February 2023 : 391pp
Hb: 978-1-032-20648-6 : **£76.99**
eBook: 978-1-003-26456-9
* For **full contents** and more information, visit: **www.routledge.com/9781032206486**

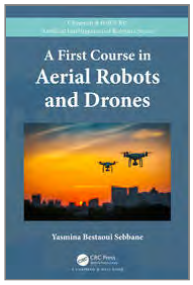
A Concise Introduction to Robot Programming with ROS2

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 in ROS2, the new version of ROS. It is not necessary to have previous experience in ROS2 as it will describe its concepts, tools, and methodologies from the beginning without needing previous experience in ROS. It will appeal to motivated engineering students, engineers and professionals working with robot programming.

Chapman & Hall
September 2022 : 264pp
Pb: 978-1-032-26465-3 : **£42.99**
Hb: 978-1-032-26720-3 : **£105**
eBook: 978-1-003-28962-3
* For **full contents** and more information, visit: **www.routledge.com/9781032264653**

A First Course in Aerial Robots and Drones



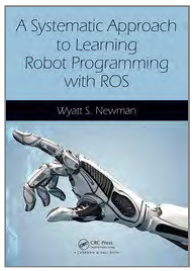
Yasmina Bestaoui Sebbane Universite d'Evry, France

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

A First Course in Aerial Robots and Drones provides an accessible and student friendly introduction to aerial robots and drones. Drones figure prominently as opportunities for students to learn various aspects of aerospace engineering and design. Drones offer an enticing entry point for STEM studies. As the use of drones in STEM studies grows, there is an emerging generation of drone pilots who are not just good at flying, but experts in specific niches, such as mapping or thermography. Suitable for undergraduate students, this textbook provides students and other readers with methods for solving problems and improving their science skills.

Chapman & Hall
February 2022 : 216pp
Hb: 978-0-367-63138-3 : **£82.99**
eBook: 978-1-003-12178-7
* For **full contents** and more information, visit: **www.routledge.com/9780367631383**

A Systematic Approach to Learning Robot Programming with ROS

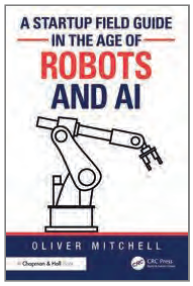


Wyatt Newman Case Western Reserve University, Cleveland, Ohio, USA

ROS is becoming the de facto means of robot programming, and is expected to be crucial for robotics development in self-driving cars, service robots, military robots, industrial robots, aerial drones, underwater robots, and smart buildings and cities. This text is for senior undergraduate and graduate students, as well as professionals learning or working in automation. The ROS style of programming offers many benefits to developers, including: access to a large library of ROS packages; open-source repositories; rapid prototyping of new robots, sensors and actuators; ability to develop code in realistic dynamic simulations; and ability to deploy systems that exploit distributed processing.

Chapman & Hall
September 2017 : 530pp
Pb: 978-1-498-77782-7 : **£62.99**
Hb: 978-1-138-09630-1 : **£150**
eBook: 978-1-315-15269-1
* For **full contents** and more information, visit: **www.routledge.com/9781498777827**

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 : 162pp
Pb: 978-1-032-82749-0 : **£31.99**
Hb: 978-1-032-83247-0 : **£115**
* For **full contents** and more information, visit: **www.routledge.com/9781032827490**

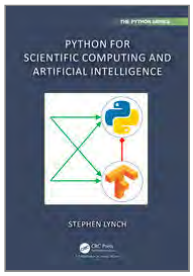
An Introduction to Scientific Computing with MATLAB® and Python Tutorials

Sheng Xu

This book serves as a textbook for a first introductory course on scientific computing. It covers preliminary numerical concepts and techniques to get students started in scientific computing. The prerequisites are only calculus and linear algebra, so a student can take the course in the second year. Many numerical techniques, such as those for ordinary and partial differential equations, iterative methods for eigenvalue problems, and methods for constrained optimization, are not included, because specialized courses focused on these numerical techniques are available in most universities. Tutorials for MatLab and Python use are included.

Chapman & Hall
August 2024 : 397pp
Pb: 978-1-032-06318-8 : **£56.99**
Hb: 978-1-032-06315-7 : **£84.99**
eBook: 978-1-003-20169-4
* For **full contents** and more information, visit: **www.routledge.com/9781032063188**

Python for Scientific Computing and Artificial Intelligence



Stephen Lynch

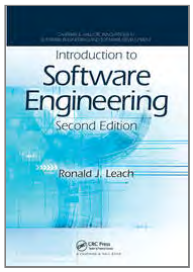
Series: Chapman & Hall/CRC The Python Series

This book is split into 3 parts: in Section 1, the reader is introduced to the Python programming language and shown how Python can aid in the understanding of advanced High School Mathematics. In Section 2, the reader is shown how Python can be used to solve real-world problems from a broad range of scientific disciplines. Finally, in Section 3, the reader is introduced to neural networks and shown how TensorFlow (written in Python) can be used to solve a large array of problems in Artificial Intelligence (AI). The book is beginner friendly and has a strong practical emphasis on programming and computational modelling.

Chapman & Hall
June 2023 : 334pp
Pb: 978-1-032-25871-3 : **£57.99**
Hb: 978-1-032-25873-7 : **£140**
eBook: 978-1-003-28581-6
* For **full contents** and more information, visit: **www.routledge.com/9781032258713**

2ND EDITION

Introduction to Software Engineering



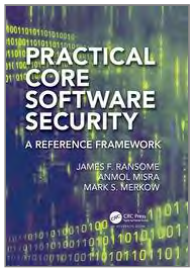
Ronald J. Leach

Adding material on open source and agile development models, this second edition equips students with the fundamentals to prepare them for satisfying careers as software engineers. The text helps students understand software development techniques and processes at a reasonably sophisticated level. It covers each major phase of the software development life cycle, from developing software requirements to software maintenance. It also discusses project management and explains how to read software engineering literature.

Chapman & Hall
June 2020 : 426pp
Pb: 978-0-367-57503-8 : **£44.99**
Hb: 978-1-498-70527-1 : **£94.99**
eBook: 978-1-315-37166-5
* For **full contents** and more information, visit: **www.routledge.com/9780367575038**

Practical Core Software Security

A Reference Framework

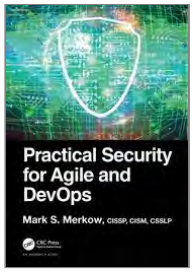


James F. Ransome , Anmol Misra Cisco Systems, Inc., San Jose, California, USA**, Mark S. Merkow** Technical Security Strategy, Scottsdale, Arizona, USA

The textbook explains developer-centric software security, a holistic process to engage creativity for security. As long as software is developed by humans, it requires the human element to fix it. The text outlines a step-by-step process for software security that is relevant to today's technical, operational, business, and development environments but focused on educating graduate and undergraduate students. The text focuses on what humans can do to control and manage a secure software development process in the form of best practices and metrics. Although security issues will always exist, the text teaches teach how to maximize the ability to minimize vulnerabilities

Auerbach Publications
August 2022 : 286pp
Pb: 978-1-032-27603-8 : **£74.99**
Hb: 978-1-032-33314-4 : **£180**
eBook: 978-1-003-31907-8
* For **full contents** and more information, visit: **www.routledge.com/9781032276038**

Practical Security for Agile and DevOps



Mark S. Merkow Technical Security Strategy, Scottsdale, Arizona, USA

This text offers college students in Information Security Programs an accessible and practical guide on securing software development practices, regardless of which development methodology is used. It is written with a contemporary view on securing all types of software development practices or methodologies with in-depth, practical, and accessible advice on software security that stands up to advancements and threats to Internet technology. After reviewing software methodologies incusing agile, the book explains successful secure, resilient, and agile software development practices.

Auerbach Publications
February 2022 : 236pp
Pb: 978-1-032-15120-5 : **£59.99**
Hb: 978-1-032-20647-9 : **£160**
eBook: 978-1-003-26556-6
* For **full contents** and more information, visit: **www.routledge.com/9781032151205**

4TH EDITION

Requirements Engineering for Software and Systems

Phillip A. Laplante The Pennsylvania State University, Malvern, USA**, Phillip A. Laplante , Mohamad Kassab , Mohamad Kassab**

Series: Applied Software Engineering Series

This textbook provides a comprehensive treatment of the theoretical and practical aspects of discovering, analyzing, modeling, validating, testing, and writing requirements for software systems. New chapters examine nonfunctional requirements and requirements of systems using disruptive technologies such as blockchain. Also new are sections on Model-Based System Engineering and SysML, an appendix on IBM DOORS Requirements Management Tool, and a review of the state of the practice. Updates include new material on UML, the ISO functional size measurement method, and a discussion of the latest requirements tools.

Auerbach Publications
June 2022 : 428pp
Pb: 978-1-032-27599-4 : **£59.99**
Hb: 978-0-367-65452-8 : **£140**
eBook: 978-1-003-12950-9
* For **full contents** and more information, visit: **www.routledge.com/9781032275994**

Security for Software Engineers

James N. Helfrich

Most textbooks about Computer Security targets end-users, or CIT/IT professionals. Few if any truly target undergraduate software engineering students. This book is designed to address this shortcoming. It is divided into four units, each targeting activities that a software engineer will likely be involved in within industry. These areas are: attack vectors, code hardening, privacy, and social engineering. Each topic is explored from a theoretical and a practical-application standpoint. This text will equip students to make knowledgeable security decisions, be productive members of a security review team, and write code that protects a user's information assets.

Chapman & Hall
September 2020 : 350pp
Pb: 978-0-367-65681-2 : **£39.99**
Hb: 978-1-138-58382-5 : **£84.99**
eBook: 978-0-429-50647-5
* For **full contents** and more information, visit: **www.routledge.com/9780367656812**

Software Design by Example

A Tool-Based Introduction with JavaScript

Greg Wilson

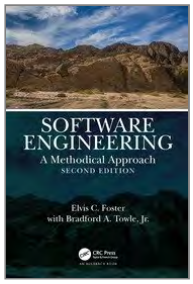
The best way to learn design in any field is to study examples, and some of the best examples of software design come from the tools programmers use in their own work. This book build small versions of the things programmers use in order to demystify them. This book can be used for self-paced study, in an undergraduate course on software design, or as the core of an intensive week-long workshop for working programmers. Each chapter has a set of exercises ranging in size and difficulty from half a dozen lines to a full day's work. Readers should be familiar with the basics of modern JavaScript, but the more advanced features are explained and illustrated as they are introduced.

Chapman & Hall
December 2022 : 339pp
Pb: 978-1-032-33023-5 : **£42.99**
Hb: 978-1-032-39967-6 : **£110**
eBook: 978-1-003-31780-7
* For **full contents** and more information, visit: **www.routledge.com/9781032330235**

2ND EDITION

Software Engineering

A Methodical Approach, 2nd Edition



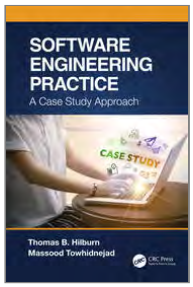
Elvis Foster , Bradford Towle Jr.

This text provides a comprehensive, but concise introduction to software engineering. It adopts a methodical approach to solving software engineering problems, proven over several years of teaching, with outstanding results. The book covers concepts, principles, design, construction, implementation, and management issues of software engineering. With an emphasis on object-oriented development, the second edition features new chapters on software engineering projects, management support systems, and software engineering frameworks and patterns as a significant building block for the design and construction of contemporary software systems.

Auerbach Publications
July 2021 : 578pp
Pb: 978-0-367-74601-8 : **£59.99**
Hb: 978-0-367-76943-7 : **£120**
eBook: 978-0-367-74602-5
* For **full contents** and more information, visit: **www.routledge.com/9780367746018**

Software Engineering Practice

A Case Study Approach



Thomas B. Hilburn Embry-Riddle Aeronautical Univ, Daytona Beach, Florida, USA**, Massood Towhidnejad** Embry-Riddle Aeronautical Univ, Daytona Beach, Florida, USA

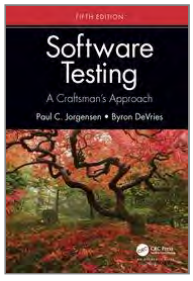
This textbook explains software engineering through the use of a case study on the software development lifecycle. The case study covers the development of a DigitalHome (DH) System. A set of scenarios that provide a realistic framework for use of the DH System material are included along with exercises that provide students with an opportunity to engage in the software development practice within a team environment. Each chapter includes mini tutorials that introduce various software engineering topics discussed. Teacher notes and other web resources are available upon qualified course adoption.

Chapman & Hall
December 2020 : 356pp
Pb: 978-0-367-68864-6 : **£66.99**
Hb: 978-1-466-59167-7 : **£170**
eBook: 978-0-429-16849-9
* For **full contents** and more information, visit: **www.routledge.com/9780367688646**

5TH EDITION

Software Testing

A Craftsman's Approach, Fifth Edition

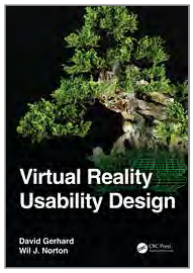


Paul C. Jorgensen Grand Valley State University, Allendale, Michigan, USA**, Byron DeVries**

The 5th Edition of Software Testing: A Craftsman's Approach responds to feedback from users and is a major rewrite, deleting outdated material and adding new sections on model-based testing and feature interaction testing. One major change is the shift to Java for both the procedural and object-oriented examples. The examples are updated and include an event-driven example. The fifth edition streamlines examples and more tightly coordinates the chapters. This best-selling textbook retains its strong emphasis on theory and rigor.

Auerbach Publications
August 2022 : 550pp
Pb: 978-0-367-76762-4 : **£39.95**
Hb: 978-0-367-35849-5 : **£74.99**
eBook: 978-1-003-16844-7
* For **full contents** and more information, visit: **www.routledge.com/9780367767624**

Virtual Reality Usability Design

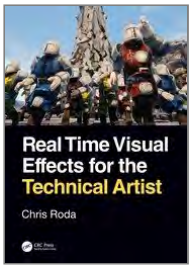


David Gerhard , Wil J. Norton

The development of effective and usable software for spatial computing platforms like Virtual Reality requires an understanding of how these devices create new possibilities (and new perils) when it comes to interactions between humans and computers. Virtual Reality Usability Design provides readers with an understanding of the techniques and technologies required to design engaging and effective VR applications. Full of real-world examples, this book is an indispensable guide for any practicing VR developer interested in making efficient and effective interfaces.

CRC Press
February 2023 : 408pp
Pb: 978-1-032-19132-4 : **£49.99**
Hb: 978-1-032-19869-9 : **£130**
eBook: 978-1-003-26123-0
* For **full contents** and more information, visit: **www.routledge.com/9781032191324**

Real Time Visual Effects for the Technical Artist

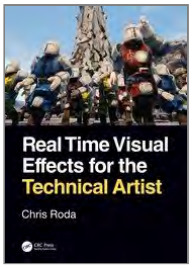


Chris Roda

Built upon a career of over twenty years in the feature film visual effects and the real-time video game industries and tested on graduate and undergraduate students, this book introduces the reader to the technical aspects of real-time visual effects, written for digital artists. Real Time Visual Effects for the Technical Artist is written to compliment undergraduate or graduate level courses focussed on the fundamentals of modern real-time visual effects.

CRC Press
March 2022 : 410pp
Pb: 978-0-367-44448-8 : **£46.99**
Hb: 978-0-367-86012-7 : **£120**
eBook: 978-1-003-00979-5
* For **full contents** and more information, visit: **www.routledge.com/9780367444488**

Real Time Visual Effects for the Technical Artist



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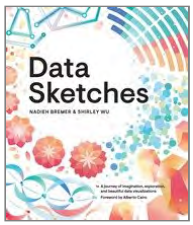
eBook: 978-1-003-00979-5
* For **full contents** and more information, visit: **www.routledge.com/9780367444488**

Data Sketches

A journey of imagination, exploration, and beautiful data visualizations



Nadieh Bremer , Shirley Wu

Series: AK Peters Visualization Series

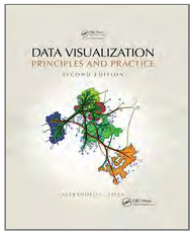
In Data Sketches, Nadieh Bremer and Shirley Wu document the creative and collaborative process behind 24 unique data visualization projects, spanning different topics, technologies, and forms. Features: Technical write-ups with beginner-friendly explanations of core concepts; Practical lessons on data and design challenges; Full-color; Interview with Tamara Munzner; Foreword by Alberto Cairo. This book is perfect for anyone interested or working in data visualization and information design, especially those who want to take their work to the next level and are inspired by unique and compelling data-driven storytelling.

A K Peters/CRC Press
February 2021 : 428pp
Pb: 978-0-367-00008-0 : **£37.99**
Hb: 978-0-367-00012-7 : **£99.99**
eBook: 978-0-429-44501-9
* For **full contents** and more information, visit: **www.routledge.com/9780367000080**

2ND EDITION

Data Visualization

Principles and Practice, Second Edition



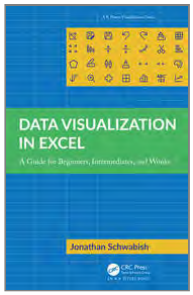
Alexandru C. Telea University of Groningen, The Netherlands

This book explores the study of processing and visually representing data sets. Data visualization is closely related to information graphics, information visualization, scientific visualization, and statistical graphics. This second edition presents a better treatment of the relationship between traditional scientific visualization and information visualization, a description of the emerging field of visual analytics, and updated techniques using the GPU and new generations of software tools and packages. This edition is also enhanced with exercises and downloadable code and data sets.

A K Peters/CRC Press
September 2014 : 620pp
Hb: 978-1-466-58526-3 : **£82.99**
eBook: 978-0-429-07408-0
* For **full contents** and more information, visit: **www.routledge.com/9781466585263**

Data Visualization in Excel

A Guide for Beginners, Intermediates, and Wonks



Jonathan Schwabish

Series: AK Peters Visualization Series

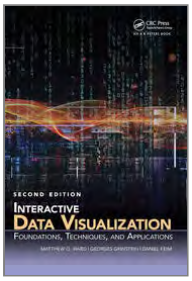
Data Visualization in Excel closes the gap between what people think Excel can do and what they can achieve in the tool. Over the past few years, recognition of the importance of effectively visualizing data has led to an explosion data analysis and visualization software tools. But for many people, Microsoft Excel continues to be the workhorse for their data visualization needs, not to mention the only tool that many data workers have access to.This book is the perfect guide for anyone who wants to create better, more effective, and more engaging data visualizations.

A K Peters/CRC Press
May 2023 : 400pp
Pb: 978-1-032-34326-6 : **£26.99**
Hb: 978-1-032-34328-0 : **£81.99**
eBook: 978-1-032-48782-3 : **£22.99**
* For **full contents** and more information, visit: **www.routledge.com/9781032343266**

2ND EDITION

Interactive Data Visualization

Foundations, Techniques, and Applications, Second Edition

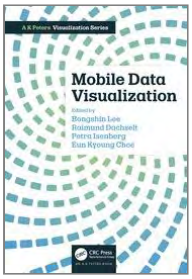


Matthew O. Ward , Georges Grinstein , Daniel Keim

In color throughout, this popular book provides all the theory, details, and tools necessary to build visualizations and systems involving the visualization of data. It explains basic terminology and concepts, algorithmic and software engineering issues, and commonly used techniques and high-level algorithms. Full source code is provided for completing implementations. This edition includes new related readings, exercises, and programming projects; better quality figures and numerous new figures; and a new chapter on techniques for time-oriented data.

A K Peters/CRC Press
March 2021 : 578pp
Pb: 978-0-367-78348-8 : **£42.99**
Hb: 978-1-482-25737-3 : **£99.99**
eBook: 978-0-429-17322-6
* For **full contents** and more information, visit: **www.routledge.com/9780367783488**

Mobile Data Visualization



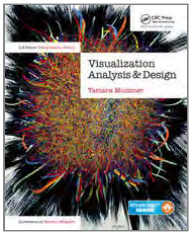
Edited by **Bongshin Lee , Raimund Dachselt , Petra Isenberg , Eun Kyoung Choe**

Series: AK Peters Visualization Series

Mobile Data Visualization is the first book to provide an overview of how to effectively visualize, analyze, and communicate data on mobile devices. Drawing from the expertise, research, and experience of an international range of academics and practitioners from across the domains of Visualization, Human Computer Interaction, and Ubiquitous Computing, the book explores the challenges of mobile visualization and explains how it differs from traditional data visualization. It highlights opportunities for reaching new audiences with engaging, interactive, and compelling mobile content.

Chapman & Hall
December 2021 : 346pp
Pb: 978-0-367-53471-4 : **£42.99**
Hb: 978-0-367-54842-1 : **£105**
eBook: 978-1-003-09082-3
* For **full contents** and more information, visit: **www.routledge.com/9780367534714**

Visualization Analysis and Design



Tamara Munzner University of British Columbia, Vancouver, Canada

Series: AK Peters Visualization Series

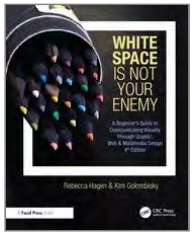
This book provides a systematic, comprehensive framework for thinking about visualization in terms of principles and design choices. It features a unified approach encompassing information visualization techniques for abstract data, scientific visualization techniques for spatial data, and visual analytics techniques for interweaving data transformation and analysis with interactive visual exploration. Suitable for both beginners and more experienced designers, the book does not assume any experience with programming, mathematics, human–computer interaction, or graphic design.

A K Peters/CRC Press
December 2014 : 428pp
Hb: 978-1-466-50891-0 : **£66.99**
eBook: 978-0-429-08890-2
* For **full contents** and more information, visit: **www.routledge.com/9781466508910**

4TH EDITION

White Space Is Not Your Enemy

A Beginner's Guide to Communicating Visually Through Graphic, Web & Multimedia Design



Rebecca Hagen President & Principle designer, Sky Lake Studio**, Kim Golombisky** Univ. of South Florida, USA

DESIGNING a website or brochure without an art background? Then step away from the computer and read this engaging conversational introduction to visual communications first. Written for the beginner, White Space Is Not Your Enemy is a practical graphic design and layout guide that introduces the concepts and practices necessary for producing effective visual communication across a variety of formats—from web to print. This beautifully illustrated full-color book covers all of the basics to help you develop your eye and produce evocative designs that work.

CRC Press
December 2024 : 304pp
Pb: 978-1-032-10434-8 : **£39.99**
Hb: 978-1-032-10435-5 : **£105**
eBook: 978-1-003-21532-5
* For **full contents** and more information, visit: **www.routledge.com/9781032104348**

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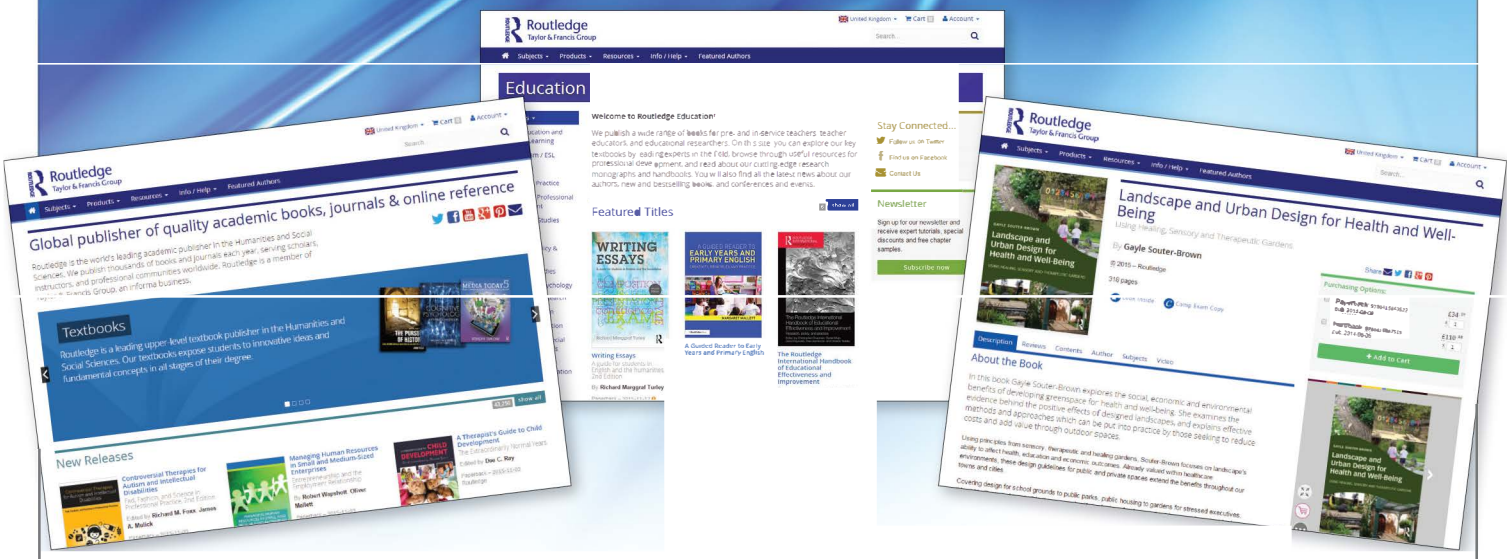

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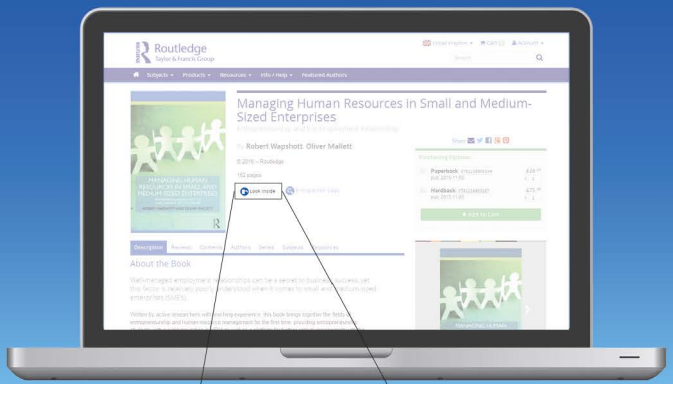

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