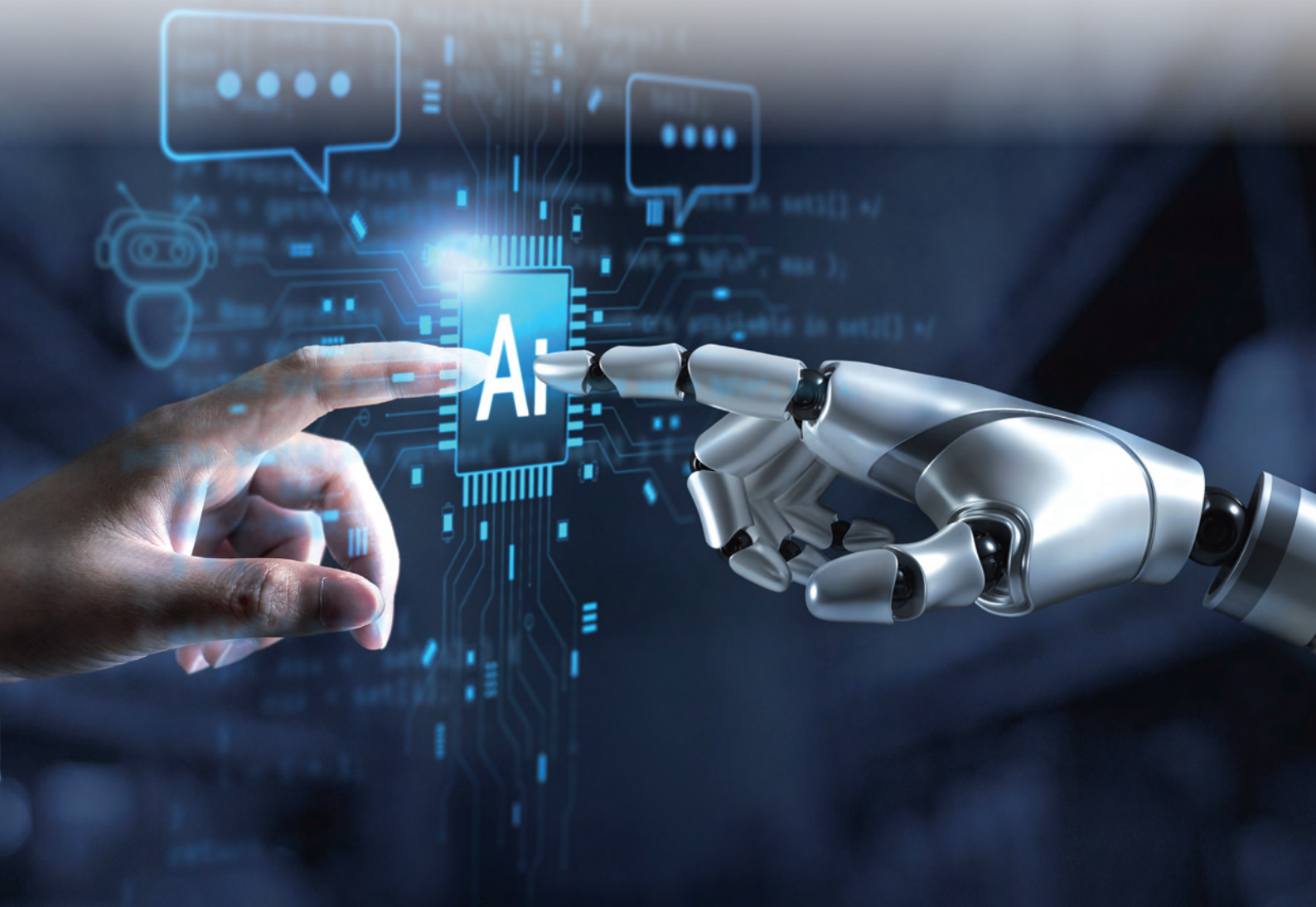




Computer Science 2026



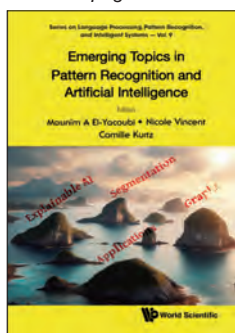
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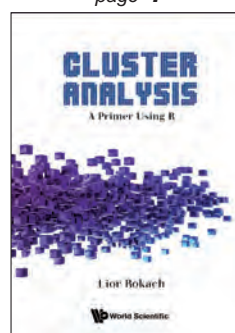
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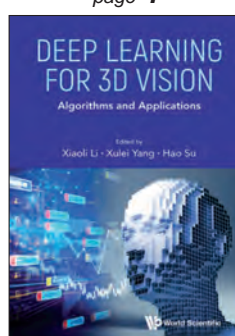
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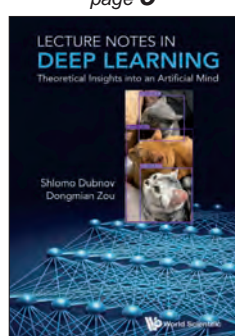
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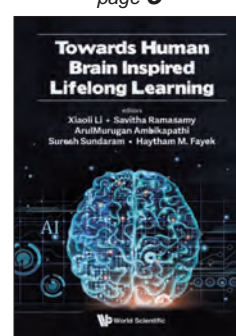
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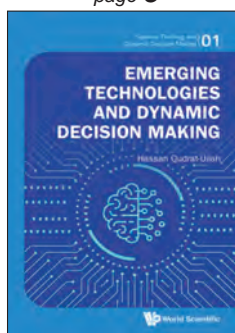
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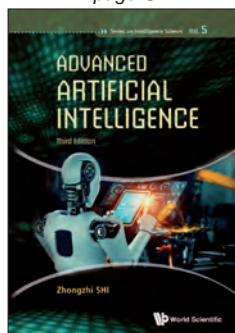
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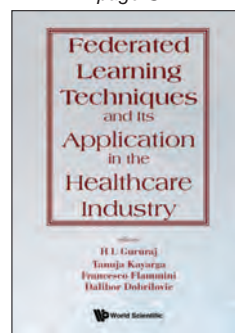
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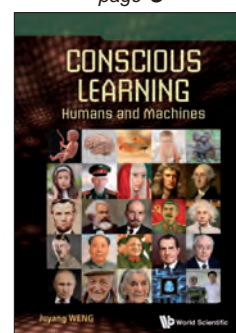
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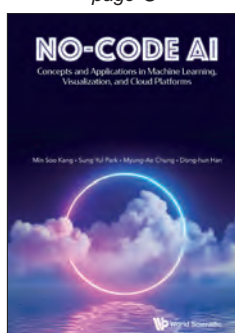
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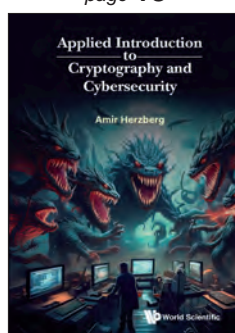
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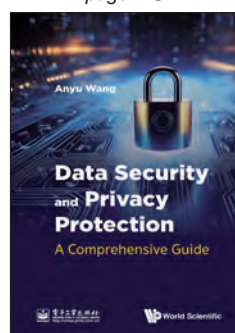
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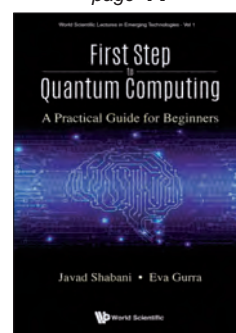
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Series on Language Processing, Pattern Recognition, and Intelligent Systems - Vol 9

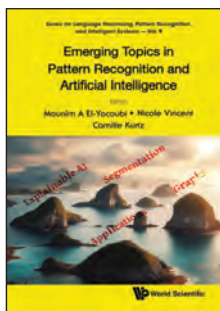
EMERGING TOPICS IN PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE

edited by **Mounim A El-Yacoubi** (*Institut Polytechnique de Paris, France*), **Nicole Vincent** (*Université Paris Cité, France*) & **Camille Kurtz** (*Université Paris Cité, France*)

The unique compendium covers a wide range of recent advanced contributions in Pattern Recognition and Artificial Intelligence, both in theoretical aspects and applications. It highlights the importance of Deep Learning in various domains, from acquisition to Decision Making.

Readership: Researchers, professionals, academics and graduate students in artificial intelligence, machine learning and deep learning.

344pp	Sep 2024	
978-981-128-911-8	US\$118	£110
978-981-128-912-5(ebook)	US\$189	£175



PROGRAMMING BIG DATA APPLICATIONS

Scalable Tools and Frameworks for Your Needs

by **Domenico Talia** (*University of Calabria, Italy*), **Paolo Trunfio** (*University of Calabria, Italy*), **Fabrizio Marozzo** (*University of Calabria, Italy*), **Loris Belcastro** (*University of Calabria, Italy*), **Riccardo Cantini** (*University of Calabria, Italy*) & **Alessio Orsino** (*University of Calabria, Italy*)

Programming Big Data Applications introduces and discusses models, programming frameworks and algorithms to process and analyze large amounts of data. In particular, the book provides an in-depth description of the properties and mechanisms of the main programming paradigms for big data analysis, including MapReduce, workflow, BSP, message passing, and SQL-like.

Readership: Undergraduate and graduate students in computer science, computer engineering, data science, and data engineering. PhD students and researchers in computer science and engineering, and data science.

296pp	May 2024	
978-1-80061-504-5	US\$98	£90
978-1-80061-505-2(ebook)	US\$157	£145



STATISTICAL MACHINE LEARNING WITH APPLICATIONS IN FINANCE

by **Gordon Ritter** (*Columbia University, USA & New York University, USA & Baruch College, USA*)

This unique compendium develops a general approach to building models of economic and financial processes, with a focus on statistical learning techniques that scale to large data sets. It introduces the key elements of a parametric statistical model: likelihood, prior, and posterior, and show how to use them to make predictions.

Readership: Professionals, academics, researchers, and graduate students in artificial intelligence/machine learning, neural networks, pattern recognition, and machine perception/computer vision.

480pp	Nov 2025	
978-981-123-233-6	US\$128	£120
978-981-123-234-3(ebook)	US\$205	£190



CLUSTER ANALYSIS

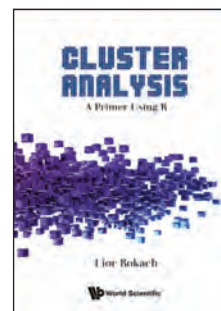
A Primer Using R

by **Lior Rokach** (*Ben-Gurion University of the Negev, Israel*)

At its core, the book delves deeply into various clustering algorithms, covering partitioning methods, hierarchical methods, and advanced techniques such as mixture density-based clustering, graph clustering, and grid-based clustering. Each method is presented with clear, concise explanations, supported by illustrative examples and hands-on implementations in the R programming language — a popular and powerful tool for data analysis and visualization.

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of machine learning, statistics, social sciences, data analysis, data science, data mining and bioinformatics.

304pp	Oct 2024	
978-981-129-747-2	US\$108	£100
978-981-129-748-9(ebook)	US\$173	£160



World Scientific Series on Future Computing Paradigms and Applications

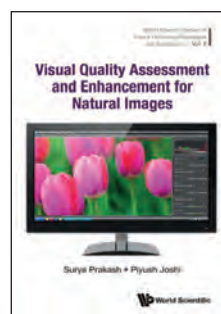
VISUAL QUALITY ASSESSMENT AND ENHANCEMENT FOR NATURAL IMAGES

by **Surya Prakash** (*Indian Institute of Technology Indore, India*) & **Piyush Joshi** (*Indian Institute of Information Technology Sri City, Chittoor, India*)

This book covers different quality assessment techniques for natural images. It further discusses image enhancement techniques that are based on estimated quality. This book presents image quality assessment techniques for different distortions, such as poor contrast, poor illumination, noise and artifacts in deblocked images. Also presented are quality-aware techniques for image enhancement for different distortions. Review and objective questions (with answers) for each chapter will be available online as part of the supplementary material.

Readership: Advanced undergraduate and graduate students, and researchers specialising in Artificial Intelligence, Computer Vision, Pattern Recognition and Image Analysis; practitioners in the fields of Image processing, Computer vision and Image quality assessment; technologists in the digital media industry.

300pp	Sep 2025	
978-981-125-728-5	US\$78	£70
978-981-125-729-2(ebook)	US\$125	£115



DEEP LEARNING FOR 3D VISION

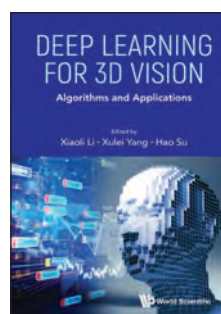
Algorithms and Applications

edited by **Xiaoli Li** (*A*STAR, Singapore*), **Xulei Yang** (*A*STAR, Singapore*) & **Hao Su** (*University of California San Diego, USA*)

This book collates the most recent research advances in 3D deep learning, including algorithms and applications, with a focus on efficient methods to tackle the key technical challenges in current 3D deep learning research and adoption, therefore making 3D deep learning more practical and feasible for real-world applications.

Readership: Advanced undergraduate and graduate students, researchers and practitioners in the fields of 3D computer vision, robot perception and autonomous driving.

492pp	Sep 2024	
978-981-128-648-3	US\$158	£145
978-981-128-649-0(ebook)	US\$253	£230



LECTURE NOTES IN DEEP LEARNING

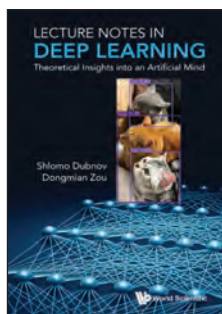
Theoretical Insights into an Artificial Mind

by **Shlomo Dubnov** (*University of California, San Diego, USA*) & **Dongmian Zou** (*Duke Kunshan University, China*)

The compendium provides an introduction to the theory of deep learning, from basic principles of neural network modeling and optimization to more advanced topics of neural networks as Gaussian processes, neural tangent and information theory.

Readership: Researchers, professionals, academics, and undergraduate and graduate students in artificial intelligence and data bases/info science.

230pp	Jul 2025	
978-981-128-157-0(pbk)	US\$48	£45
978-981-128-062-7	US\$88	£80
978-981-128-063-4(ebook)	US\$141	£130



DATA MINING AND WAREHOUSING TECHNIQUES WITH MACHINE LEARNING CONCEPTS

by **P Vijayakumar** (*University College of Engineering Tindivanam, India*) & **L Jegatha Deborah** (*University College of Engineering Tindivanam, India*)

This unique compendium elaborates the basic perceptions of data warehouses and data mining. The former part of the book covers concepts like introduction to data warehouses, the need for using such data warehouses and key terminologies used in this framework. The latter part of the book covers the data mining concepts and the data mining techniques used in various applications and also explains the machine learning techniques in detail with suitable examples wherever essential.

Readership: Researchers, professionals, academics and graduate students in machine learning, databases and data mining.

300pp	Jun 2025	
978-981-9803-12-5	US\$108	£100
978-981-9803-13-2(ebook)	US\$173	£160



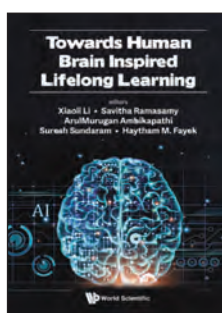
TOWARDS HUMAN BRAIN INSPIRED LIFELONG LEARNING

edited by **Xiaoli Li** (*A*STAR, Singapore*), **Savitha Ramasamy** (*A*STAR, Singapore*), **ArulMurugan Ambikapathi** (*Lam Research, Singapore*), **Suresh Sundaram** (*Indian Institute of Science, Bangalore, India*) & **Haytham M Fayek** (*RMIT University, Australia*)

This book is a comprehensive compilation of diverse methods for continual learning, crafted by leading researchers in the field, along with their practical applications. These methods encompass various approaches, such as adapting existing paradigms like zero-shot learning and Bayesian learning, leveraging the flexibility of network architectures, and employing replay mechanisms to enable learning from streaming data without catastrophic forgetting of previously acquired knowledge.

Readership: Researchers and Practitioners of AI Practitioners, who envision deployment of AI solutions in environments where the data is bound to drift and performance of the model drops for streaming data, PhD scholars and researchers interested in research of Artificial General Intelligence.

276pp	May 2024	
978-981-128-670-4	US\$98	£90
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Systems Thinking and Dynamic Decision Making - Vol 1

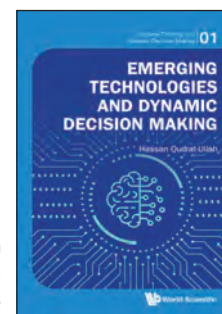
EMERGING TECHNOLOGIES AND DYNAMIC DECISION MAKING

by **Hassan Qudrat-Ullah** (*York University, Canada*)

The book addresses the interplay between technology and decision-making, providing detailed case studies from sectors like healthcare, finance, and emergency management. It highlights the societal and ethical challenges posed by rapid technological integration, such as issues of equity, transparency, and privacy. Additionally, it offers a dynamic perspective on decision-support systems, big data, and real-time analytics, showing how organizations can leverage these advancements to enhance strategic outcomes.

Readership: Professionals, researchers, and decision-makers seeking to navigate the intersection of emerging technologies and dynamic decision-making frameworks.

476pp	Sep 2025	
978-981-9811-89-2	US\$148	£135
978-981-9811-90-8(ebook)	US\$237	£220



Series on Intelligence Science - Vol 5

ADVANCED ARTIFICIAL INTELLIGENCE

3rd Edition

by **Zhongzhi Shi** (*Chinese Academy of Sciences, China*)

This third edition comprehensively captures the cutting-edge research achievements of AI. Topics are thoroughly revised and updated, presenting the latest techniques and strategies to address the impending challenges facing computer scientists today.

Readership: Researchers, professionals, academics and graduate students in artificial intelligence, machine learning and pattern recognition.

392pp	Nov 2024	
978-981-129-398-6	US\$148	£135
978-981-129-399-3(ebook)	US\$237	£220



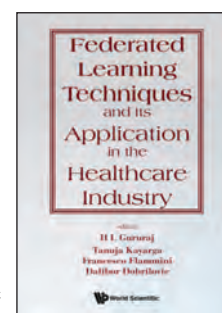
FEDERATED LEARNING TECHNIQUES AND ITS APPLICATION IN THE HEALTHCARE INDUSTRY

edited by **H L Gururaj** (*Manipal Institute of Technology, India*), **Tanuja Kayarga** (*Vidyavardhaka College of Engineering, India*), **Francesco Flammini** (*University of Applied Sciences and Arts of Southern Switzerland, Switzerland*) & **Dalibor Dobrilovic** (*University of Novi Sad, Serbia*)

This book comprises chapters on applying Federated models in the field of healthcare industry. Federated Learning mainly concentrates on securing the privacy of data by training local data in a shared global model without putting the training data in a centralized location.

Readership: Academics/Researchers in machine learning, artificial intelligence, cyber security and blockchain technology.

240pp	Jun 2024	
978-981-128-793-0	US\$88	£80
978-981-128-794-7(ebook)	US\$141	£130



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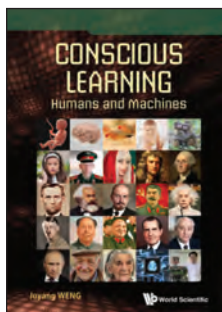
Series on Intelligence Science - Vol 6

CONSCIOUS LEARNING

Humans and Machines

by **Juyang Weng** (*Brain-Mind Institute, USA*)

This popular science compendium provides an approximate, holistic but first ever solution to the four Holy Grail questions: How does a brain work? How does the brain learn? How does its consciousness arise? How does learning require consciousness?



The volume explains how human brains require and learn consciousness and why the new AI will overcome the current lack of conscious learning algorithms in AI. For human societies, it suggests how governments can make their taxpayers safer, more prosper and happier. For future AI, it calls for a thorough investigation in scientific infrastructures like government and private funding agencies, publication venues, professional societies and administrators that evaluate research. Why did a conscious learning algorithm not have a healthy environment to study? Why could rampant misconducts of data deletion in deep learning be allowed to grossly exaggerate AI performances for so long? The author's real-life accounts reveal deep reasons.

The useful reference text benefits laymen in all walks of life, as well as professionals, researchers, academics and students in any areas.

Readership: Researchers, professionals, academics, undergraduate and graduate students in AI and robotics.

200pp	Jan 2026	
978-981-126-439-9	US\$58	£55
978-981-126-440-5(ebook)	US\$98	£90

SELF AND SENSE OF AGENCY IN ARTIFICIAL SYSTEMS

by **Verena Hafner** (*Humboldt University Berlin, Germany*) & **Guido Schillaci**

This book will explain the development of the self and self-agency in humans, and discuss what could be transferred to artificial systems. The state of the art of research in developmental robotics related to the self will be illustrated with many examples.

Readership: Researchers and graduate students in the fields of Computer Science & AI, Cognitive Science, Developmental Robotics, and Developmental Psychology.

200pp	Jan 2026	
978-981-128-330-7	US\$88	£80
978-981-128-331-4(ebook)	US\$141	£130

NO-CODE AI

Concepts and Applications in Machine Learning, Visualization, and Cloud Platforms

by **Min Soo Kang** (*Eulji University, South Korea*), **Sung Yul Park** (*LG U+, South Korea*), **Myung-Ae Chung** (*Eulji University, South Korea*) & **Dong-hun Han** (*Eulji Medical Intelligence Information Center, South Korea*)



This book is a beginner-friendly guide to artificial intelligence (AI), ideal for those with no technical background. It introduces AI, machine learning, and deep learning basics, focusing on no-code methods for easy understanding.

Readership: Advanced undergraduate and graduate students or artificial intelligence and machine learning; researchers, and practitioners in the fields of IT, AI; and individuals new to AI.

404pp	Aug 2024	
978-981-129-391-7(pbk)	US\$88	£80
978-981-129-388-7	US\$188	£175
978-981-129-389-4(ebook)	US\$301	£275

AN INTRODUCTION TO PYTHON FOR QUANTITATIVE FINANCE

From Scratch to Productivity

by **Paul Alexander Bilokon** (*Thalesians Ltd, UK*)

Written by a data scientist with decades of practical experience on some of the most challenging datasets, this book caters to both novices and professionals working in the fields of data science and machine learning. It enables novices to enter these fields with confidence and ease. There are no formal prerequisites. An introduction to Python is included.

Readership: Aspiring Data Scientists and Machine Learning (ML) experts — undergraduate, graduate, and independent. Also applicable to Software developers, engineers, and others working in technical professions interested in learning about Data Science and Machine Learning; and Managers working in financial, technological, and medical organisations, interested in learning about Data Science and Machine Learning.

300pp	Jan 2026	
978-981-121-572-8	US\$98	£90
978-981-121-573-5(ebook)	US\$157	£145

MACHINE LEARNING FOR MALWARE DETECTION

edited by **Edward Raff** (*Booz Allen Hamilton, USA*) &

Charles K Nicholas (*University of Maryland, Baltimore County, USA*)

This comprehensive collection guides ML practitioners and researchers into the state-of-the-art and underlying insights needed to work in and research problems at the intersection of machine learning and cyber security, particularly around the problem of malware targeting the Windows platform.

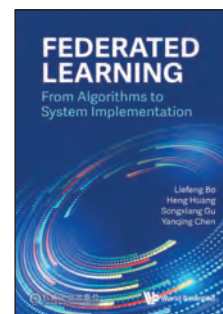
Readership: Researchers, professionals, academics, and graduate students in AI, machine learning and digital security.

450pp	Mar 2026	
978-981-126-203-6	US\$148	£135
978-981-126-204-3(ebook)	US\$237	£220

FEDERATED LEARNING

From Algorithms to System Implementation

by **Liefeng Bo** (*JD Technology, China*), **Heng Huang** (*JD Technology, China*), **Songxiang Gu** (*JD Technology, China*) & **Yanqing Chen** (*JD Technology, China*)



This book provides a comprehensive review and summary of federated learning technology, as well as presenting numerous novel federated learning algorithms which no other books have summarized. The work also references the most recent papers, articles and reviews from the past several years to keep pace with the academic and industrial state of the art of federated learning.

Readership: Advanced undergraduate and graduate students, researchers and practitioners with somewhat knowledge about machine learning, distributed system and privacy preserving technologies. This book will serve as a greate reference for readers who has experiences of federated learning algorithms, building privacy preserving machine learning applications or solving real-world problems with privacy-restricted scenarios.

548pp	Sep 2024	
978-981-129-254-5	US\$168	£155
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TO HALT OR NOT TO HALT? THAT IS THE QUESTION

by **Cristian S Calude** (University of Auckland, New Zealand)

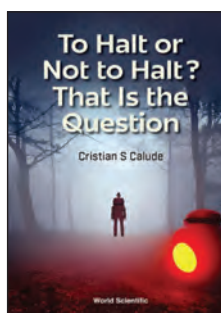
"Journey with Calude through this varied terrain of spectacular insights. In an age when super AI's menace, it is good to see what the unfettered human spirit can accomplish, and be proud."

Gregory Chaitin

Author of *Algorithmic Information Theory*

Readership: Undergraduate and graduate students, researchers and practitioners in the fields of computer science, mathematics, logic, philosophy, physics, and a large category of educated readers.

332pp	Apr 2024	
978-981-123-227-5	US\$128	£120
978-981-123-228-2(ebook)	US\$205	£190



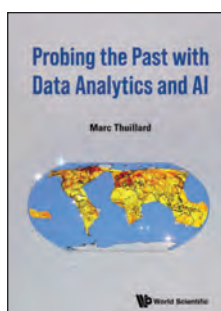
PROBING THE PAST WITH DATA ANALYTICS AND AI

by **Marc Thuillard** (Latena, Switzerland)

This comprehensive compendium explains the technical challenges and opportunities behind the most recent and successful applications in artificial intelligence [AI] and data analytics. It focuses on applications that have the power to be adapted to many different fields and explains how AI can be implemented as an assistant in digital humanities. It also introduces new methods and applications in classification trees, networks, and Bayesian learning.

Readership: Researchers, professionals, academics and graduate students in AI/ML, neural networks, bioinformatics and digital humanities.

220pp	Aug 2025	
978-981-9807-36-9	US\$78	£70
978-981-9807-37-6(ebook)	US\$125	£115



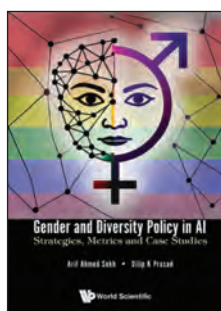
GENDER AND DIVERSITY POLICY IN AI

Strategies, Metrics and Case Studies
by **Arif Ahmed Sekh** (UiT The Arctic University of Norway, Norway) &
Dilip K Prasad (UiT The Arctic University of Norway, Norway)

This unique compendium explores the crucial role of inclusivity in the development, deployment, and governance of artificial intelligence systems. It addresses the growing ethical and social concerns surrounding the lack of representation in AI, emphasizing how gender and diversity are integral to creating fair, responsible, and innovative technologies.

Readership: Researchers, professionals, academics and graduate students in machine learning and AI, and innovation and technology.

205pp	Aug 2025	
978-981-9807-23-9	US\$78	£70
978-981-9807-24-6(ebook)	US\$125	£115



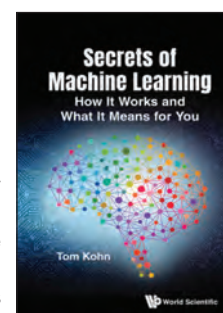
SECRETS OF MACHINE LEARNING

How It Works and What It Means for You
by **Tom Kohn**

Journalist and news product manager Tom Kohn gets to the heart of the revolutionary new technology that is developing all around us, explaining with precision how the different facets of machine learning work, how companies are using it, and why it is permeating all parts of society right now. The book guides readers through the arcane science and jargon in a clear and understandable way, but is detailed enough that it doesn't gloss over the hard technical concepts.

Readership: Pitched at a wide audience, with the educated layperson in mind. It could also be useful to undergraduates who want some idea of where this technology is headed, with an eye toward the workforce. Organizations subject to or involved in machine learning would be appropriate e.g. finance, healthcare, retail, commerce or government technology departments for those who wish to upskill their workers in machine learning.

240pp	Apr 2024	
978-1-80061-502-1(pbk)	US\$28	£25
978-1-80061-488-8	US\$68	£65
978-1-80061-489-5(ebook)	US\$109	£100



DETECTING ONLINE PROPAGANDA AND MISINFORMATION

edited by **Mark Last** (Ben-Gurion University of the Negev, Israel), **Marina Litvak** (Sami Shamoon College of Engineering, Israel) & **Lin Miao** (Beijing Information Science & Technology University, China)

This unique compendium provides a comprehensive overview of the state-of-the-art methods in the extremely "hot" area of online propaganda detection and monitoring. It discusses the difficulties of developing automated methods and systems for online propaganda and misinformation detection, along with the potential contributions of machine learning techniques.

Readership: Researchers, professionals, academics, graduate students in AI, machine learning and information sciences.

160pp	Aug 2025	
978-981-128-185-3	US\$68	£65
978-981-128-186-0(ebook)	US\$109	£100



HANDS-ON COMPUTER VISION

by **Marc Pomplun** (University of Massachusetts Boston, USA)

The proposed book will not only teach readers the fundamental methods and concepts in computer vision, but it will also show them in detail how to implement the most important algorithms efficiently.

Readership: Undergraduates, graduates, and professionals studying/dealing with machine perception/computer vision, pattern recognition/image analysis, software engineering/programming, neural networks, robotics & automated systems.

650pp	Jan 2026	
978-981-4571-97-5(pbk)	US\$78	£70
978-981-4571-96-8	US\$129	£120

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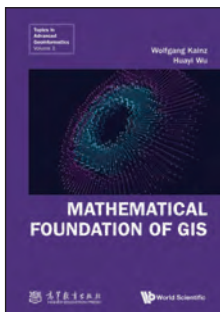
Topics in Advanced Geoinformatics - Vol 2

MATHEMATICAL FOUNDATION OF GISby **Wolfgang Kainz** (University of Vienna, Austria) & **Huayi Wu** (Wuhan University, China)

This unique compendium introduces essential mathematical knowledge related to GIS, including mathematical logic, geometry, algebra, topology, set theory, graph theory, probability theory and statistics, as well as uncertainty theory.

Readership: Researchers, professionals, academics and graduate students in fuzzy logic, mathematical logic and geology/earth studies.

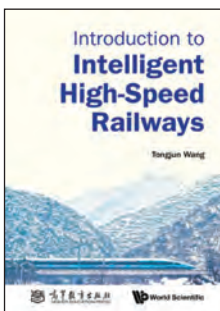
228pp	Jul 2024	
978-981-129-287-3	US\$88	£80
978-981-129-288-0(ebook)	US\$141	£130

**INTRODUCTION TO INTELLIGENT HIGH-SPEED RAILWAYS**by **Tongjun Wang** (China State Railway Group, China)

This volume supports a growing need for specialized training and disciplined construction practices while offering insights into the future of intelligent high-speed railways. It serves as an invaluable resource for students, researchers, and professionals seeking to develop intelligent transportation solutions.

Readership: Graduate students, researchers and professionals specialising in rail transit design, construction and operation, and governments.

504pp	Jan 2025	
978-981-128-744-2	US\$158	£145
978-981-128-745-9(ebook)	US\$253	£230



World Scientific Series on Future Computing Paradigms and Applications - Vol 3

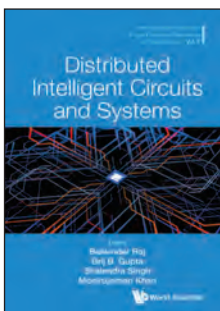
DISTRIBUTED INTELLIGENT CIRCUITS AND SYSTEMS

edited by **Balwinder Raj** (Dr B R Ambedkar National Institute of Technology, India), **Brij B Gupta** (Asia University, Taiwan), **Shalendra Singh** (Pranveer Singh Institute of Technology, India) & **Monirujjaman Khan** (North South University, Bangladesh)

The main objective of this book is to provide insights into recent advances in distributed intelligent circuits, systems and their applications. Distributed intelligence is the key enabler for innovations in machine-to-machine communications. The innovations are directed towards keeping existing algorithms as the base and developing new intelligent systems by employing smart technologies. Artificial intelligence (AI) and, more specifically, deep learning (DL) are receiving significant attention in assisting doctors in the detection of disease patterns without much human intervention. In agriculture, robots automate slow, repetitive and dull tasks, allowing farmers to focus more on improving overall production yields.

Readership: Graduate and post-graduate students, and researchers specialising in electronics engineering and computer engineering.

452pp	Mar 2024	
978-981-127-952-2	US\$158	£145
978-981-127-953-9(ebook)	US\$253	£230

**SENSORS AND THE INTERNET OF THINGS**

Acquisition and Use of Big Data
by **Alexander W Koch** (Technical University of Munich, Germany)

The Internet of Things (IoT) has revolutionized the way we live, work, and interact with our surroundings. Sensor systems play a crucial role in these technological advancements, and their integration with IoT has revolutionized the way data is acquired, processed, and utilized. This book offers a structured understanding of sensor technologies, principles, applications, and their integration into IoT systems, thereby bridging the gap between sensors and IoT applications.

Readership: Advanced undergraduate and graduate students and practitioners in the fields of computer science, engineering, measurement systems, and physics; and scientists, engineers, and decision makers in industry.

200pp	Feb 2026	
978-981-128-518-9	US\$78	£70
978-981-128-519-6(ebook)	US\$125	£115



Computational and Experimental Methods in Structures - Vol 15

PROBABILISTIC OPTIMISATION OF COMPOSITE STRUCTURES

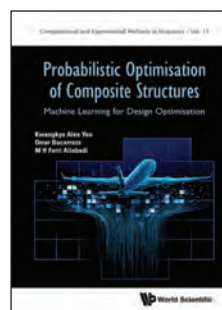
Machine Learning for Design Optimisation
by **Kwangkyu Alex Yoo** (Imperial College London, UK & Deep.Meta, UK), **Omar Bacarreza** (Imperial College London, UK & ORCA Computing, UK) & **M H Ferri Aliabadi** (Imperial College London, UK)

"The authors tackle a key challenge in aerospace engineering: creating lighter, more efficient, and sustainable aircraft without compromising safety. By simplifying the complexities of traditional probabilistic design, they offer a framework that allows early consideration of more variables — essential for addressing large-scale design problems."

Dimitrios Bekas, Airbus Operations GmbH

Readership: This book targets undergraduate and postgraduate students in the fields of aerospace engineering, mechanical engineering, and design engineering. It is also aimed at professional engineers and researchers in the aircraft, motor, civil engineering, wind energy, offshore oil & gas, and naval architecture industries.

208pp	Apr 2025	
978-1-80061-684-4	US\$88	£80
978-1-80061-685-1(ebook)	US\$141	£130

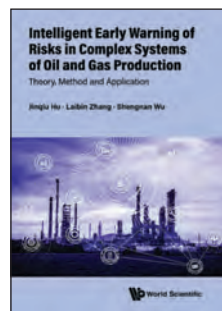
**INTELLIGENT EARLY WARNING OF RISKS IN COMPLEX SYSTEMS OF OIL AND GAS PRODUCTION**

Theory, Method and Application
by **Jinqiu Hu, Laibin Zhang & Shengnan Wu** (China University of Petroleum-Beijing, China)

This book is a compilation of over a decade's worth of insights from the authors' research group on dynamic risk assessment and intelligent early warning systems. Highly technical approaches are provided to address the engineering requirements for the safe operation of complex systems in oil and gas production.

Readership: Graduate students and researchers in safety and reliability since it involves the recent frontiers in safety and reliability engineering. Benefit highly trained safety engineers in the oil and gas sectors, and other industrial sectors since it provides supplementary practical field applications to clarify complex technical topics within each chapter.

400pp	Jul 2025	
978-981-9810-12-3	US\$138	£125
978-981-9810-13-0(ebook)	US\$221	£205



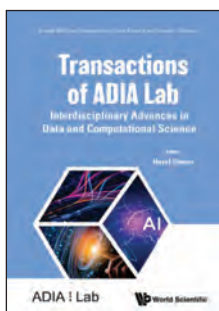
TRANSACTIONS OF ADIA LAB INTERDISCIPLINARY ADVANCES IN DATA AND COMPUTATIONAL SCIENCE

Edited by **Horst Simon**
(ADIA Lab, United Arab Emirates)

This inaugural volume reflects the Lab's rapid evolution into a global research hub, showcasing significant contributions in computational finance, the digital economy, advanced computational methods, and trustworthy AI. The collection highlights groundbreaking advancements, including geometric approaches to asset allocation, AI-driven financial modeling, quantum-safe encryption, and ethical frameworks for AI. By bridging theory and practice, the publication underscores ADIA Lab's commitment to developing innovative, real-world solutions that address some of today's most pressing challenges in finance, technology, and beyond.

Readership: Researchers, scientists, and professionals in computational and data science; as well as advanced academics and industry practitioners seeking applications of AI, HPC, and data science.

440pp **May 2025**
978-981-98-1303-2 **US\$148** **£135**



World Scientific Series on
Financial Data Analytics

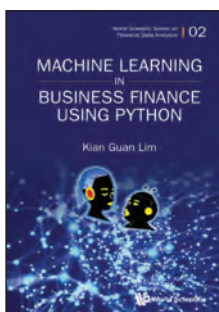
MACHINE LEARNING IN BUSINESS FINANCE USING PYTHON

by **Kian Guan Lim** (Singapore Management University, Singapore)

This book is an introduction to machine learning using Python programming language with applications in finance and business. Coverages include the prediction methods of logistic regression, Naïve Bayes, k-Nearest Neighbor, Support Vector Machine, Random Forest, Gradient Boosting, and various types of Neural Networks. Performance measurements and assessments of feature importance are also explained.

Readership: For undergraduate and graduate students in Machine Learning and Algorithms, Quantitative Finance, Computational Finance, Machine Learning, and Business Finance, as well as general public readers who want to improve their general knowledge on Machine Learning.

270pp **Aug 2025**
978-981-9811-23-6 **US\$88** **£80**
978-981-9811-68-7(ebook) **US\$141** **£130**



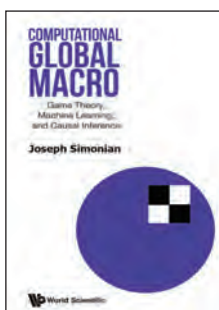
COMPUTATIONAL GLOBAL MACRO

Game Theory, Machine Learning, and
Causal Inference
by **Joseph Simonian**
(Autonomous Investment Technologies, USA)

Computational Global Macro offers investors a new paradigm for the analysis of geopolitical risk. By drawing on game theory, machine learning, and causal inference, the book provides investors with a novel framework for analyzing the political and economic interactions between global actors. In doing so, it presents a counterpoint to the often informal and speculative approach to geopolitical analysis that is prevalent in the research produced by investment firms.

Readership: Students, researchers and investment professionals who are interested in applying sophisticated quantitative tools to their analysis of geopolitical and macro themes.

188pp **Jan 2025**
978-981-129-395-5 **US\$78** **£70**
978-981-129-396-2(ebook) **US\$125** **£115**



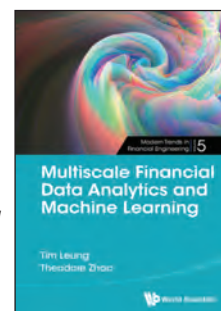
Modern Trends in Financial Engineering - Vol 5 MULTISCALE FINANCIAL DATA ANALYTICS AND MACHINE LEARNING

by **Tim Leung** (University of Washington, USA)
& **Theodore Zhao** (Microsoft Research, USA)

Multiscale Financial Data Analytics and Machine Learning offers a systematic and comprehensive study on the multiscale approach to financial data analytics and machine learning. This book covers an array of multiscale methods to discover the properties of various timescales embedded in a financial time series, including noise-assisted empirical mode decomposition methods.

Readership: Advanced undergraduate students, Master students, and PhD students in quantitative finance, econometrics, statistics, data science, and machine learning.

200pp **Nov 2025**
978-981-129-596-6 **US\$98** **£90**
978-981-129-597-3(ebook) **US\$157** **£145**



Transformations in Banking, Finance and
Regulation - Vol 15

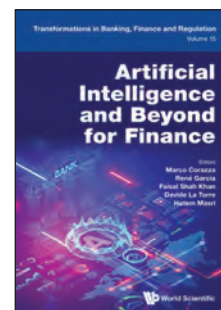
ARTIFICIAL INTELLIGENCE AND BEYOND FOR FINANCE

edited by **Marco Corazza** (Ca' Foscari University of Venice, Italy), **René Garcia** (University of Montreal, Canada & SKEMA Business School Canada, Canada), **Faisal Shah Khan** (Rethinc. Labs, UNC Kenan-Flagler Business School, USA & SKEMA Business School Raleigh, USA), **Davide La Torre** (SKEMA Business School, France) & **Hatem Masri** (Applied Science University, Bahrain)

This book focuses on recent applications of AI to finance, in particular: how ML algorithms can forecast signals in the modern dynamic financial world, enabling investors to make data-driven decisions in this rapidly evolving market. No matter the specific industry or application, AI has become a new engine of growth. Both finance and banking have been leveraging AI technologies and algorithms, applying them to automate routine tasks, procedures and forecasting, thereby improving overall customer experience.

Readership: Academics, practitioners, financial investors.

428pp **Aug 2024**
978-1-80061-520-5 **US\$148** **£135**
978-1-80061-521-2(ebook) **US\$237** **£220**



THE DIGITAL CHAMPION

Best Practices and Insights for
the Successful Transformation of
Enterprises and Companies

by **Marc Helmold** (IU Internationale Hochschule, Germany), **Ayşe Kucuk Yilmaz** (Eskisehir Technical University, Turkey) & **Tracy Dathe** (Macromedia University of Applied Sciences, Germany)

In addition to applications and concepts of digitalization and artificial intelligence, this book describes how companies can implement strategies to successfully transform a company into a digital champion. In addition, numerous practical examples in the areas of supply chain management, production, sustainability and education are presented.

Readership: Undergraduates, graduates and MBA students in Data Science, AI, Operations, and Business, as well as managers and experts across the value chain.

304pp **Nov 2024**
978-981-129-305-4 **US\$118** **£110**
978-981-129-306-1(ebook) **US\$189** **£175**



Artificial Intelligence in Organizations:
Transformative Technologies, Applications,
and Impacts

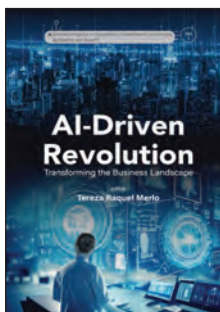
AI-DRIVEN REVOLUTION

Transforming the Business Landscape
edited by **Tereza Raquel Merlo**
(University of North Texas, USA)

The book embarks on an in-depth exploration of AI technologies such as machine learning, natural language processing, and robotics, and their role in driving digital transformation. The chapters utilize detailed case studies to showcase how leading companies have implemented AI to revolutionize their business models, enhance efficiency, and create new value propositions.

Readership: This book is designed for business executives, managers, technology professionals, and students interested in gaining a competitive advantage at all levels, from large corporation to startup.

410pp	Oct 2025	
978-1-80061-656-1	US\$138	£125
978-1-80061-657-8(ebook)	US\$221	£205



Artificial Intelligence in Organizations:
Transformative Technologies, Applications,
and Impacts - Vol 3

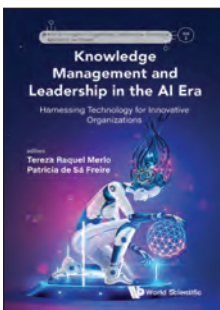
KNOWLEDGE MANAGEMENT AND LEADERSHIP IN THE AI ERA

Harnessing Technology for Innovative Organizations
edited by **Tereza Raquel Merlo** (University of North Texas, USA) & **Patricia de Sá Freire** (Federal University of Santa Catarina, Brazil)

The book explores the convergence of AI, knowledge management, and leadership, offering actionable strategies to address the challenges and opportunities of the 21st-century digital era. With a focus on diverse businesses and regions worldwide, it delivers fresh perspectives on global knowledge management practices and technological accessibility.

Readership: This book is aimed at students, researchers and practitioners in knowledge management and AI. The book will also appeal to professionals and academics in the fields of data analytics, information systems and similar areas.

360pp	Mar 2026	
978-1-80061-740-7	US\$128	£120
978-1-80061-741-4(ebook)	US\$205	£190



INDUSTRY 4.0

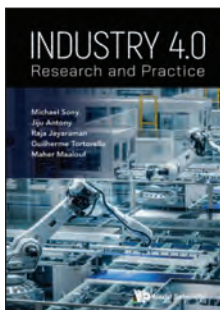
Research and Practice

by **Michael Sony** (Oxford Brookes University, UK), **Jiju Antony** (Northumbria University, UK), **Raja Jayaraman** (New Mexico State University, USA), **Guilherme Tortorella** (University of Melbourne, Australia) & **Maher Maalouf** (Khalifa University, UAE)

Industry 4.0: Research and Practice offers a non-technical introduction to the rapidly evolving landscape of the Fourth Industrial Revolution. With advancements in artificial intelligence, big data, cyber-physical systems, and the Internet of Things (IoT), organisations across the world are experiencing a profound digital transformation.

Readership: The book is primarily targeted at senior managers, senior academics, business leaders and practitioners of Industry 4.0. Students and lecturers, especially in MBA and MSc courses at business and engineering schools, would also benefit. The book could be a useful training resource for middle and senior managers wishing to implement Industry 4.0 in their businesses.

400pp	Aug 2025	
978-1-80061-732-2(pbk)	US\$48	£45
978-1-80061-724-7	US\$128	£120
978-1-80061-725-4(ebook)	US\$205	£190



Digital Transformation: Accelerating
Organizational Intelligence - Vol 6

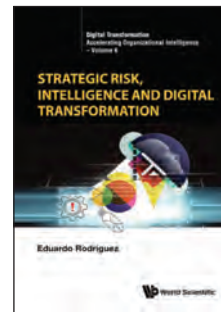
STRATEGIC RISK, INTELLIGENCE AND DIGITAL TRANSFORMATION

by **Eduardo Rodriguez** (Wenzhou – Kean University, China & IQAnalytics Inc., Canada)

In this book, the study of strategic risk is not only for its control and mitigation using analytics and digital transformation in organizations, but also it is about the strategic risks that digital transformation can bring to organizations. In this book, the study of strategic risk is not only for its control and mitigation using analytics and digital transformation in organizations, but also it is about the strategic risks that digital transformation can bring to organizations. Strategic risk control is one of the goals in creating intelligent organizations and at the same time it is part of the appetite for creating smarter organizations to support organizations' development.

Readership: Postgraduate students in Data Science, Risk Management, Finance.

496pp	May 2024	
978-981-127-859-4	US\$148	£135
978-981-127-860-0(ebook)	US\$237	£220



DATA STRATEGY AND AI VALUE CREATION

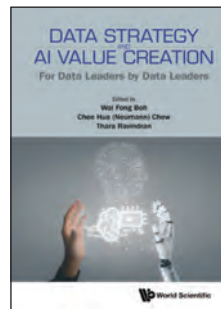
For Data Leaders by Data Leaders

edited by **Wai Fong Boh**, **Chee Hua (Neumann) Chew** & **Thara Ravindran**
(Nanyang Technological University, Singapore)

A collection of contemporary important topics, written by distinguished data leaders from different industries and academics conducting research about data strategy and use of AI in organizations

Readership: Professionals in the AI and data analytics industry; C-suite officers; AI Entrepreneurs; Academics in the field of data management and AI; Postgraduate students in Information Systems and Management.

200pp	Apr 2025	
978-981-9800-84-1	US\$78	£70
978-981-9800-85-8(ebook)	US\$125	£115



Artificial Intelligence in Organizations:
Transformative Technologies, Applications,
and Impacts - Vol 2

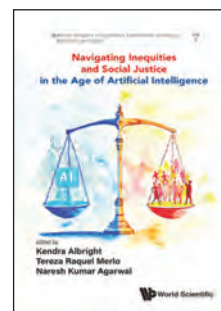
NAVIGATING INEQUITIES AND SOCIAL JUSTICE IN THE AGE OF ARTIFICIAL INTELLIGENCE

edited by **Kendra Albright** (Kent State University, USA), **Tereza Raquel Merlo** (University of North Texas, USA) & **Naresh Kumar Agarwal** (Simmons University, USA)

This volume explores the intersection of AI with knowledge management, ethics, and social justice, shedding light on how technology can perpetuate or mitigate societal inequities. Key topics include bias in AI algorithms, ethical frameworks for AI governance, equitable access to technology, the role of knowledge management in promoting inclusive decision-making, and the impact of AI in education.

Readership: This book is targeted towards students, practitioners, and researchers in knowledge management and artificial intelligence, as well as general readers with an interest in these fields. The book will also appeal to professionals and academics in the fields of data analytics, information systems and similar areas.

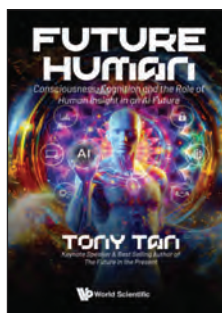
300pp	Feb 2026	
978-1-80061-737-7	US\$108	£100
978-1-80061-738-4(ebook)	US\$173	£160



FUTURE HUMAN

Consciousness, Cognition and the Role of Human Insight in an AI Future
by **Tony Tan** (*Imperium, Singapore*)

Future Human is a visionary exploration of the intersection between humanity and the rapidly evolving field of artificial intelligence. Authored by Tony Tan, a distinguished figure in the artificial intelligence (AI) and technology industry, the book promises to unravel the complexities of AI, its integration into daily life, and its profound implications for the future of human civilisation.



Readership: Professionals in the technology sector working directly in AI and related fields; researchers and students studying AI, ethics, and societal impacts; industry professionals involved in integrating AI into their operations; tech enthusiasts with a keen interest in the future of AI and its societal implications; corporations, business leaders, and decision-makers looking to understand AI's impact on their industries; ethics and policy experts focused on ethical frameworks and regulatory issues; policymakers and regulators in governments concerned with the implications of AI on society; readers interested in AI, technology, and its broader impacts.

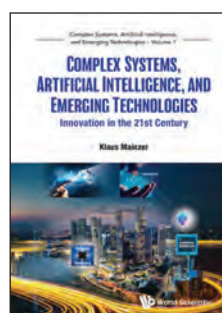
324pp	Feb 2025	
978-981-9800-76-6(pbk)	US\$36	£35
978-981-129-898-1	US\$68	£65

Complex Systems, Artificial Intelligence, and Emerging Technologies - Vol 1

COMPLEX SYSTEMS, ARTIFICIAL INTELLIGENCE, AND EMERGING TECHNOLOGIES

Innovation in the 21st Century

by **Klaus Mainzer** (*Technical University of Munich, Germany*)



The book opens up a platform for innovative research and critical discussions that bridge theoretical frameworks with practical applications. It investigates the foundations, methodologies, and implications of complex dynamic systems and artificial intelligence.

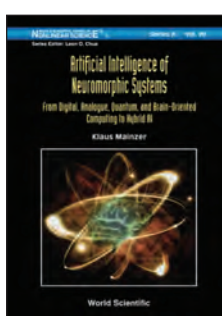
Readership: Students, researchers, and general readers in introductory and interdisciplinary courses on complex dynamic systems and AI across natural, engineering, and social sciences, as well as innovation policy practitioners in companies and government.

180pp	Nov 2025	
978-981-98-1313-1	US\$78	£70
978-981-98-1314-8(ebook)	US\$125	£115

World Scientific Series on Nonlinear Science Series A - Vol 99

ARTIFICIAL INTELLIGENCE OF NEUROMORPHIC SYSTEMS

From Digital, Analogue, Quantum, and Brain-Oriented Computing to Hybrid AI
by **Klaus Mainzer** (*Technical University of Munich, Germany*)



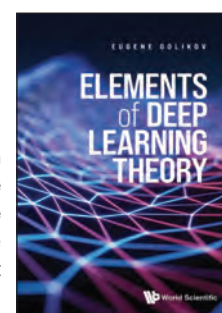
This book argues for neuromorphic systems as a technology of the future, which are oriented towards the energy efficiency of natural brains.

Readership: Academia, graduate students, advanced researchers in the interdisciplinary field of neuromorphic computing from foundations of digital, analogue, real, and quantum computability to electrical, electronic, and photonic engineering, material science of neuromorphic chips, brain and cognitive research, machine learning and artificial intelligence.

436pp	Jan 2025	
978-981-129-007-7	US\$148	£135
978-981-129-008-4(ebook)	US\$237	£220

ELEMENTS OF DEEP LEARNING THEORY

by **Eugene Golikov** (*École Polytechnique Fédérale de Lausanne, Switzerland*)



While the field of Deep Learning has been advancing at frightening speeds during the last ten years, we do not have a plausible theoretical explanation of its success yet. One can safely say that Deep Learning works, but nobody really understands why. Nevertheless, starting around five years before now, a decent number of theoretical papers specifically concerning neural nets started to emerge at top machine learning venues. This makes us think that the core of Deep Learning theory has already started to crystallize.

Readership: Graduate in computer science and mathematics interested in deep learning theory, researchers in deep learning.

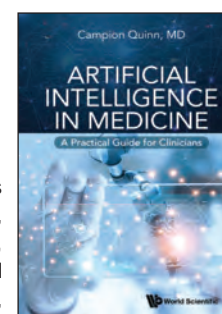
200pp	Dec 2025	
978-981-127-126-7	US\$88	£80
978-981-127-127-4(ebook)	US\$141	£130

ARTIFICIAL INTELLIGENCE IN MEDICINE

A Practical Guide for Clinicians

by **Campion Quinn**

(*Rockville Medical, LLC, USA*)



The book delves into the foundational concepts and historical development of AI in medicine, highlighting data collection, preprocessing, and feature extraction crucial for medical applications. It showcases the benefits of AI, such as accurate diagnoses and personalized treatments, while addressing ethical and regulatory considerations.

Readership: Healthcare professionals including, physicians, physician assistants, nurse practitioners, nurses, medical students, healthcare administrators, chief information officers, pharmaceutical executives, medical researchers, medical content providers, medical educators, policy makers, health informaticians, ethicists, legal experts, industry professionals (AI technology companies), and AI enthusiasts. Sectors that would be interested in this book include: computer sciences, artificial intelligence, healthcare, academic, pharmaceutical, medical device, business, and healthcare administration and management.

356pp	Mar 2024	
978-981-128-456-4(pbk)	US\$68	£65
978-981-128-410-6	US\$148	£135
978-981-128-411-3(ebook)	US\$237	£220

AI, Memristors and Nonlinear Dynamics - Vol 1

ARTIFICIAL INTELLIGENCE AND QUANTUM DYNAMICS FOR MEMRISTOR-SYSTEM COMPUTING

edited by **Ivan Zelinka** (*Technical University of Ostrava, Czech Republic*) & **Guanrong Chen** (*City University of Hong Kong, Hong Kong*)

This book covers state-of-the-art topics in the multidisciplinary areas of Artificial Intelligence (AI) and advanced conventional as well as memristor-based computing systems. It aims to explore the theoretical foundations of memristors in computing and modeling, with potential applications in and along with quantum computing and nonlinear dynamical systems, such as computing capabilities and complex dynamics of memristors, including phenomena of chaos and bifurcation.

Readership: Graduate students, academics and researchers in the fields of computer science, artificial intelligence, electrical engineering and applied physics as well as professionals in tech innovation sectors.

500pp	Mar 2026	
978-981-129-895-0	US\$158	£145
978-981-129-896-7(ebook)	US\$253	£230

RESHAPING EXPERIMENTAL ORGANIC RESEARCH WITH SMART *IN SILICO* TOOLS

Invitation to Artificial Intelligence-Equipped Organic Lab
by **Anatoly M Belostotskii** (*Bar-Ilan University, Israel*)

"This book is quite comprehensive as it enables an organic chemist to carry out synthetic planning, structure elucidation and instrumental separation of organic compounds with the help of AI-based machine learning."

Irishi N N Namboothiri
Professor of Chemistry,

Indian Institute of Technology (IIT) Bombay, India

Readership: Academics, researchers, post-docs and graduate students working in organic, bioorganic and medicinal chemistry in universities, colleges, research institutes, and the industry (including pharmaceutical companies). Lecturers of advanced courses and seminars in computational chemistry, organic synthesis, and drug discovery.

350pp	Jan 2026	
978-981-128-167-9	US\$128	£120
978-981-128-168-6(ebook)	US\$205	£190

PHILOSOPHICAL LOGIC

A Phenomenological Approach

by **Andrew Schumann** (*University of Information Technology and Management, Poland*)

This book is an accessible introduction to philosophical logic's phenomenological approach, elucidating its principles and demonstrating its utility in uncovering the origins and development of logic.

Readership: This book is suitable for scholars and students of philosophy — particularly those studying logic, phenomenology, and the history of logical reasoning; mathematics, particularly univalent foundations, homotopy theory, and advanced logical frameworks — and computer science — particularly in artificial intelligence, machine learning, and computational logic. It is also suitable for technology practitioners engaged in AI, machine learning, and data science, or general enthusiasts interested in the evolution of logic, its historical roots, and its contemporary applications in science and technology.

300pp	Dec 2025	
978-981-98-1328-5	US\$118	£110
978-981-98-1329-2(ebook)	US\$189	£175

Advances in Pattern Analysis and Intelligent Sensing: Volume 2

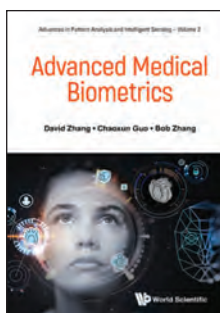
ADVANCED MEDICAL BIOMETRICS

by **David Zhang** (*The Chinese University of Hong Kong, Shenzhen, China*), **Chaoyun Guo** (*The Chinese University of Hong Kong, Shenzhen, China*) & **Bob Zhang** (*University of Macau, China*)

This book provides the advanced sensing technologies including multi-sensor collaborative sensing for pulse signal acquisition, sensor array design for breath odor perception, and voice signal acquisition.

Readership: Graduate and senior undergraduate students from computer science, artificial intelligence, and machine learning.

326pp	Dec 2025	
978-981-98-1746-7	US\$128	£120
978-981-98-1747-4(ebook)	US\$205	£190



INTRODUCTION TO DATA SCIENCE FOR ENGINEERING STUDENTS

by **Ilias Bilonis** (*Purdue University, USA*)

This book offers engineering students a concise and practical introduction to data science — no prior experience required.

Readership: Undergraduate students in any engineering discipline (mechanical, aerospace, civil, chemical, electrical) and Professional engineers.

324pp	Feb 2026	
978-981-98-2243-0	US\$128	£120
978-981-98-2244-7(ebook)	US\$205	£190

NON-AXIOMATIC LOGIC

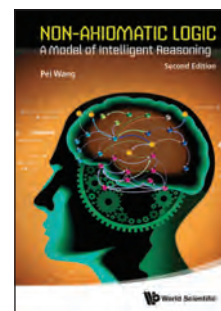
A Model of Intelligent Reasoning

2nd Edition

by **Pei Wang** (*Temple University, USA*)

This 2nd edition features:

- **New theoretical advancements** in NAL design, particularly in later chapters.
- **Clearer exposition** of core concepts, including the rationale behind NAL's formalism.
- **Practical insights** into key design choices for computer implementations.
- **Enhanced pedagogy:** Detailed examples, chapter summaries, and end-of-chapter exercises to reinforce learning.
- **Critical context:** Footnotes comparing NAL to alternative models and exploring advanced topics.
- **Meticulous revisions:** Corrections of errors and typos for improved accuracy.



Readership: Readers with a college-level background in AI, computer science, or mathematical logic.

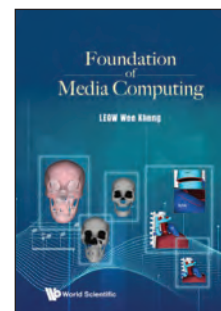
350pp	Oct 2025	
978-981-98-1942-3	US\$128	£120
978-981-98-1943-0(ebook)	US\$205	£190

FOUNDATION OF MEDIA COMPUTING

by **Wee Kheng LEOW**

(*National University of Singapore*)

This comprehensive book presents the foundation of media computing that cuts across various areas, including computer vision, computational photography, computational geometry, 3D computer graphics modeling, surgery planning and simulation, and music computing. It emphasizes both mathematical foundation and practical applications.



Readership: Graduate students, advanced graduate students, professionals, researchers and academics in computer vision and image analysis.

650pp	Feb 2026	
978-981-98-1805-1	US\$178	£165
978-981-98-1949-2(pbk)	US\$78	£70
978-981-98-1806-8(ebook)	US\$285	£260

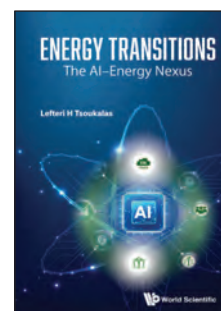
ENERGY TRANSITIONS

The AI–Energy Nexus

by **Lefteri H Tsoukalas**

(*Purdue University, USA*)

The book proposes a realistic path to Net Zero: a nuclear energy transition empowered by artificial intelligence. AI is reframed not just as a high-consumption technology, but as a key enabler in managing complex, distributed energy systems. With sharp insights and evidence-based critique, it redefines the debate on climate, energy, and innovation — calling for realism, urgency, and a reorientation of strategy.



This book is essential reading for policymakers, technologists, energy analysts, and critical thinkers. Blending insights from climate policy, energy engineering, AI systems, and economic modeling, this book challenges conventional climate narratives and offers a blueprint for a more realistic, resilient energy future.

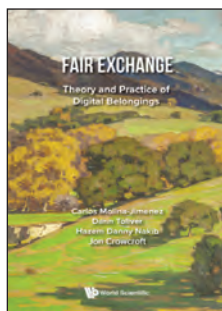
Readership: Advanced undergraduate students in energy, environment, AI and machine learning, early graduate students in engineering, ecology and economics; policy makers, investment analysts; energy analysts.

300pp	Feb 2026	
978-981-98-2043-6	US\$98	£90
978-981-98-2044-3(ebook)	US\$157	£145

Computer Security / Blockchain

FAIR EXCHANGE

Theory and Practice of Digital Belongings
by **Carlos Molina-Jimenez** (University of Cambridge, UK), **Dann Toliver** (University of Cambridge, UK), **Hazem Danny Nakib** (University of Cambridge, UK) & **Jon Crowcroft** (University of Cambridge, UK)



"The authors give a clear exposition of the key features of fair exchange protocols. They establish a framework for fair exchange and discuss different instantiations. They cover risks from both a technical perspective but also those that extend beyond the protocols including legal considerations. This is an important and interesting read for anybody with an interest in this vital component of the digital economy."

Professor Chris Hankin
Imperial College London

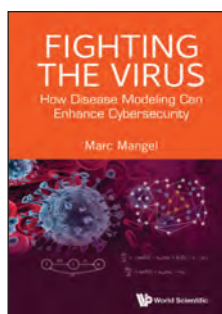
Readership: Researchers (from academia and industry); Industry practitioners (technology, e-commerce, marketplaces); Postgraduate students; Libraries.

292pp	Mar 2024	
978-1-80061-516-8	US\$98	£90
978-1-80061-517-5(ebook)	US\$157	£145

FIGHTING THE VIRUS

How Disease Modeling Can Enhance Cybersecurity

by **Marc Mangel** (University of Bergen, Norway & University of California, Santa Cruz, USA)



"As someone with considerable experience in population biology, I can highly recommend this book to anyone interested in cyber security and/or disease dynamics. This book is much more than a technical exercise; it is a true scientific enterprise filled with guidance and thoughts on how one tackles complex problems.. If I was still teaching my course on population dynamics, I would surely add a cyber-security extension to my module on disease dynamics and I would draw heavily on Mangel's thoughtful and pedagogically strong book."

Bernie Roitberg
Professor Emeritus, Simone Fraser University

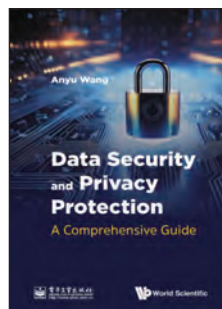
Readership: Advanced undergraduate or graduate courses and also intended for established researchers.

300pp	Jun 2025	
978-981-128-756-5	US\$108	£100
978-981-128-757-2(ebook)	US\$173	£160

DATA SECURITY AND PRIVACY PROTECTION

A Comprehensive Guide

by **Anyu Wang** (Cloud Security Alliance Great China Region, China)



This book provides a comprehensive introduction, with expert coverage of essential topics related to data security and privacy protection. This book ensures that practitioners of information security, data security, cloud computing and privacy protection have a systematic understanding of data security threats and data security frameworks

Readership: Masters in Cybersecurity, Undergraduate students, Industry/Practitioner.

624pp	Apr 2025	
978-981-9800-27-8	US\$168	£155
978-981-9800-28-5(ebook)	US\$269	£250

APPLIED INTRODUCTION TO CRYPTOGRAPHY AND CYBERSECURITY

by **Amir Herzberg**
(University of Connecticut, USA)



This book is a comprehensive introduction to applied cryptography and cybersecurity, covering both the critical theoretical foundations and the practical aspects, including labs. The topics covered include shared and public key cryptosystems, authentication schemes and protocols, integrity (hashing, Merkle trees/accumulators and blockchains), signatures and key exchange, resiliency to corruptions, the Transport Layer Security (TLS) and Secure Sockets Layer (SSL) protocols, public key infrastructure (PKI), including certificate transparency (CT), human-centered security and cryptography, and (post)quantum cryptography.

Readership: Undergraduate and graduate students reading courses on cryptography and cyber security.

730pp	Dec 2025	
978-981-9800-77-3(pbk)	US\$98	£90
978-981-129-910-0	US\$188	£175
978-981-129-911-7(ebook)	US\$301	£275

COMPUTER SECURITY

3rd Edition

by **Wenliang Du** (Syracuse University, USA)

This unique compendium is based on the author's teaching and research experiences. It covers the fundamental principles in cybersecurity and helps readers understand how various attacks work, what their fundamental causes are, how to defend against them, and how various defense mechanism's function.

Readership: Researchers, professionals, academics, undergraduate and graduate students in digital security.

543pp	Nov 2025	
978-981-126-329-3	US\$138	£125

BLOCKCHAIN, CRYPTOCURRENCY AND DEFI SYSTEMS

Concepts and Applications

by **Bina Ramamurthy** (University at Buffalo, USA) & **Kumar Madurai** (Novosem, USA)



Blockchain is being touted as the next Internet revolution akin to the worldwide web and e-commerce. This unique compendium lays the foundations for the conceptual understanding of the components necessary to build blockchain-based applications. The volume provides more than 100 illustrations and examples of these applications in various business domains. Hands-on demonstrations on software will help to instal and explore the tools and techniques discussed.

Readership: Researchers, professionals, academics, and graduate students in digital security and innovation/technology and information management.

350pp	Nov 2025	
978-981-125-638-7(pbk)	US\$58	£55
978-981-125-571-7	US\$98	£90
978-981-125-572-4(ebook)	US\$157	£145

For more information,
visit: www.worldscientific.com

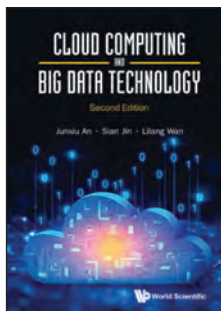


Data Analytics / Big Data

CLOUD COMPUTING AND
BIG DATA TECHNOLOGY

2nd Edition

by **Junxiu An** (Chengdu University of Information Technology, China), **Sian Jin** (Temple University, USA) & **Lilang Wang** (Chengdu University of Information Technology, China)



This book comprehensively introduces the basic knowledge and main technologies of cloud computing and big data. It covers cloud computing, big data technology, virtualization technology, data centers, parallel computing and clustering technology, cloud storage technology, OpenStack, Hadoop, Spark, Storm, and cloud computing simulation.

Readership: Researchers, professionals, academics, undergraduate and graduate students in databases/information sciences.

376pp	Jul 2025	
978-981-98-1291-2	US\$108	£100
978-981-98-1292-9 (ebook)	US\$173	£160

Advances and Opportunities with Big Data and Analytics

APPLIED HEALTH CARE ANALYTICS

Enabling Transformative Health Care through Data Science, Machine Learning, and Cognitive Computing

by **Mark Albert** (Loyola University, USA), **Plamen Petrov** (Deloitte Consulting, USA) & **Rajeev Ronanki** (Deloitte Consulting, USA)

Medical technology breakthroughs, economic pressures and demographic trends are driving that transformation, but key enablers and catalysts for those changes are advancements in Analytics, Data Science, Cognitive Computing, and Machine Learning. Massive volumes of data are created during regular healthcare administration, delivery, and research operations; additionally, outside the medical community people produce data as part of their daily activities and social interactions that can be mined for medical use. How can this data be put to use in an ethical way respecting privacy and security to achieve the goal of high quality, accessible and affordable Healthcare? Advanced analytics and cognitive computing are a big part of the answer. In *Applied Health Care Analytics*, the authors provide a concise yet comprehensive review of the key enabling tech and explain how those technologies are becoming the backbone of the Healthcare of tomorrow.

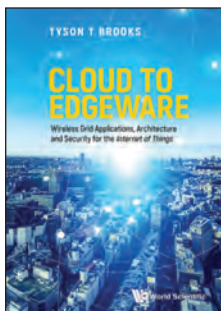
Readership: Supplementary textbook for postgraduate students in advance analytics and cognitive computing courses in Computer Science or Artificial Intelligence/Machine Learning degrees.

300pp	Dec 2025	
978-981-3142-54-1	US\$115	£105
978-981-3142-55-8 (ebook)	US\$185	£170

CLOUD TO EDGEWARE

Wireless Grid Applications, Architecture and Security for the Internet of Things

by **Tyson T Brooks** (Syracuse University, USA)



This comprehensive book presents a new approach to dynamic distributed virtual systems. Wireless grids edgware promises new cloud to edge secure architectures with mobile security for the Internet of Things (IoT). The scope covers frameworks and models for wireless grids edgware, as well as open specifications and new applications called gridlets and wiglets.

Readership: Researchers, academics, professionals and graduate students in information science, digital security, parallel computing, networking and knowledge information management.

428pp	Apr 2024	
978-981-4630-80-1	US\$148	£135
978-981-4630-81-8 (ebook)	US\$237	£220

Innovation

INNOVATIVE APPROACHES TO
DECISION MAKING

Bridging IT and Decision Science

edited by **Yong Shi** (University of Nebraska at Omaha, USA & Chinese Academy of Sciences, China) & **Gang Kou** (Southwestern University of Finance and Economics, China)

This book highlights the enduring synergy between information technology and decision-making tools, showcasing how advancements in one field drive progress in the other. Featuring the discoveries of esteemed researchers from the *International Journal of Information Technology and Decision Making*, it provides an insightful exploration of foundational concepts and cutting-edge techniques.

Readership: Practitioners and researchers specializing in the fields of information technology and decision making.

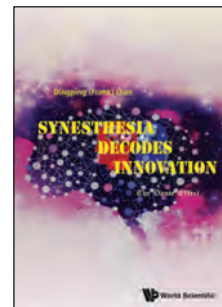
300pp	Sep 2025	
978-981-9810-15-4	US\$118	£110
978-981-9810-16-1 (ebook)	US\$189	£175

SYNESTHESIA DECODES
INNOVATION

The Dante Effect

by **Dingping (Frank) Qian**

"This book provides a way for mankind to think about how to use computers to algorithmically solve problems in the future. This is a breakthrough and popularization creating new entry points."



Weishu Chen,

former Professor of International Economics, Fudan University
Co-founder of Pudong Development Bank, Shanghai, China

The process of decrypting innovation and creation, as a lurking nondescript so far, is theorized and operationalized based upon interdisciplinary taskings.

First comes the mapping between real world and human brain; innovation is redefined as discovering new interrelationships in the brain using an algorithm, well-defined in 5 steps, of searching unknown relations herein, and the psychological synesthesia governing communications in the brain is dutifully augmented and made to function accordingly. The Dante effect then binds the fresh interactions into a metaphoric tome which is mapped back to the real world to become an up-to-date theory or a new appliance.

Since the author has been nurtured both in Chinese spiritual excellence and advanced Western cultures, this book is penned in a provocative style of knowledgeably poetic prose that will appeal to a broad audience.

Readership: Researchers, professionals, academics and graduate students in innovation, technology and information management.

524pp	Jun 2024	
978-981-124-968-6	US\$168	£155
978-981-124-969-3 (ebook)	US\$269	£250

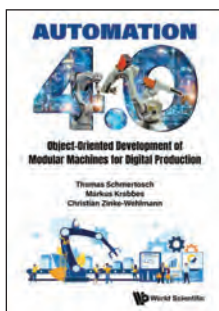
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<https://www.worldscientific.com/page/nobeltitles>



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AND ON THE NOBEL PRIZES

AUTOMATION 4.0

Object-Oriented Development of Modular Machines for Digital Production
by **Thomas Schmertoch** (Leipzig University of Applied Sciences, Germany),
Markus Krabbes (Merseburg University of Applied Sciences, Germany) &
Christian Zinke-Wehlmann (Institute for Applied Informatics at the Leipzig University, Germany)



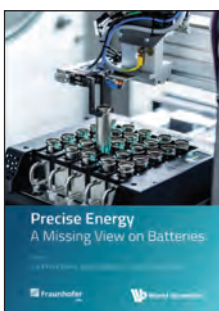
This book presents solution strategies that address the additional demands of modularization on the structure and component selection of automation systems flexibly, sustainably and with minimal engineering effort. These include aspects of real-time capability as well as machine safety and the selection of a suitable fieldbus, human – machine communication and the ability to interact in digital production.

Readership: Students of automation technology, mechatronics and industrial engineering with a focus on electrical engineering/ automation as well as for development and design engineers in those fields

352pp	Mar 2025	
978-981-129-701-4	US\$118	£110
978-981-129-702-1(ebook)	US\$189	£175

PRECISE ENERGY

A Missing View on Batteries
edited by **Kai Peter Birke** (University of Stuttgart, Germany & Fraunhofer Institute for Manufacturing Engineering and Automation, Germany), **Sabri Baazouzi** (Fraunhofer Institute for Manufacturing Engineering and Automation, Germany) & **Julian Joël Grimm** (Fraunhofer Institute for Manufacturing Engineering and Automation, Germany)



This book provides a unique compass towards future battery cell design, delivers potentials and limits of battery cell development and answers which battery cell technologies will survive and dominate.

Readership: Researchers, postgraduate and advanced undergraduate students, industry professionals, specialising in battery cell R&D and manufacturing, as well as governments and civil servants who wish to understand the topic.

300pp	May 2025	
978-981-128-204-1	US\$108	£100
978-981-128-205-8(ebook)	US\$173	£160

NETWORKED SYSTEMS IN INDUSTRY 4.0

Bus Systems • Industrial Ethernet
• Mobile Communication • Cyber Physical Systems
by **Reinhard Langmann**
(EduNet World Association e.V., Germany)



The networking of devices, machines and systems plays a key role in Industry 4.0. This textbook conveys the basic knowledge required for the successful use of intelligent networked production systems.

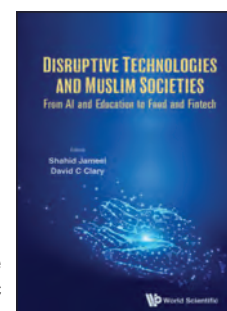
Readership: Graduate and undergraduate students from the fields of mechanical engineering, electrical engineering as well as process and environmental engineering.

440pp	Mar 2025	
978-981-129-655-0	US\$148	£135
978-981-129-656-7(ebook)	US\$237	£220

DISRUPTIVE TECHNOLOGIES AND MUSLIM SOCIETIES

From AI and Education to Food and Fintech

edited by **Shahid Jameel** (Oxford Centre for Islamic Studies, UK) & **David C Clary** (Oxford Centre for Islamic Studies, UK)



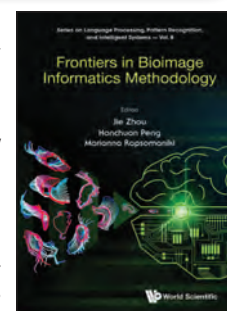
This edited volume brings together leading experts to explore the impact of disruptive technologies across a spectrum of Islamic countries and Muslim societies. Spanning artificial intelligence, science and technology, health and education, food systems, and fintech, the seventeen chapters of this collection offer a diverse array of perspectives.

Readership: This book is suitable for those in academia and business, either based in or researching the modern Islamic World. It is also suitable for those in industry, particularly in AI, energy, fintech, and food science.

444pp	Apr 2025	
978-1-80061-628-8	US\$138	£125
978-1-80061-629-5(ebook)	US\$221	£205

Pattern Recognition / Image Analysis / Computer Vision**FRONTIERS IN BIOIMAGE INFORMATICS METHODOLOGY**

edited by **Jie Zhou** (Northern Illinois University, USA), **Hanchuan Peng** (Southeast University, China), **Jason Swedlow** (University of Dundee, UK) & **Marianna Rapsomaniki** (IBM Research Europe, Switzerland)



This unique compendium provides state-of-the-art computational methodology and applications in bioimage informatics. It covers cutting-edge technology developments in biological image analysis, where images come from new modalities and are often large scale, high throughput and high dimensional. Contributed by world renowned researchers, this useful reference text presents case studies that can potentially help readers find approaches and resources to address their imminent scientific problems.

Readership: Researchers, professionals, academics and graduate students in image analysis, AI, bioinformatics, and neural networks.

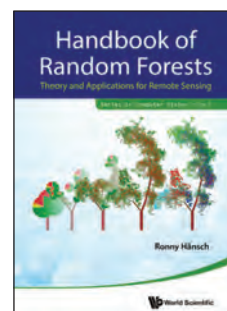
376pp	Apr 2024	
978-981-128-612-4	US\$128	£120
978-981-128-613-1(ebook)	US\$205	£190

Series in Computer Vision - Vol 7

HANDBOOK OF RANDOM FORESTS

Theory and Applications for Remote Sensing

by **Ronny Hänsch** (German Aerospace Center (DLR), Germany)



This compendium provides a hands-on description of Random Forests. It starts with a consistent introduction of general methods to create, train, and fuse ensembles of decision trees. Instead of limiting the discussion to the general-purpose layout of traditional Random Forests, this book outlines specifications during tree creation and training that are especially well suited to analyze structured data such as images.

Readership: Researchers, professionals, academics and graduate students in pattern recognition/image analysis, machine perception/ computer vision, and artificial intelligence.

300pp	Nov 2025	
978-981-3224-05-6	US\$128	£120
978-981-3224-06-3(ebook)	US\$205	£190



Series in Computer Vision - Vol 9

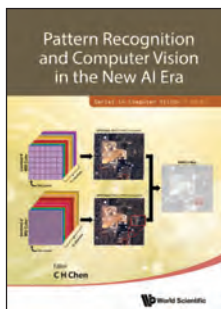
PATTERN RECOGNITION AND COMPUTER VISION IN THE NEW AI ERA

edited by **C H Chen** (*University of Massachusetts Dartmouth, USA*)

While traditional approaches in pattern recognition and computer vision have continued to evolve, along with the advances of artificial intelligence (AI), this unique compendium presents recent research activities in deep learning, graph-based and semantic-based approaches and applications.

Readership: Researchers, professionals, academics and graduate students in pattern recognition, computer vision and AI.

500pp	Jul 2025	
978-981-9807-14-7	US\$168	£155
978-981-9807-15-4(ebook)	US\$269	£250



Series in Machine Perception and Artificial Intelligence - Vol 90

WAVELET THEORY APPROACH TO PATTERN RECOGNITION

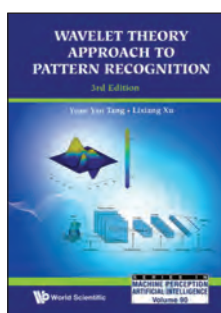
3rd Edition

by **Yuan Yan Tang** (*University Macau, China*) & **Lixiang Xu** (*Hefei University, China*)

This 3rd edition tackles the basic principle of deep learning as well as the application of combination of wavelet theory with deep learning to pattern recognition. Five new chapters related to the combination of wavelet theory and deep learning are added with many novel research results.

Readership: Researchers, professionals, academics and graduate students in pattern recognition/image analysis, machine perception, AI and electrical and electronic engineering.

564pp	Sep 2024	
978-981-128-404-5	US\$168	£155
978-981-128-405-2(ebook)	US\$269	£245



Series on Language Processing, Pattern Recognition, and Intelligent Systems - Vol 7

IMAGE ANALYSIS AND PATTERN RECOGNITION

State of the Art in the Russian Federation

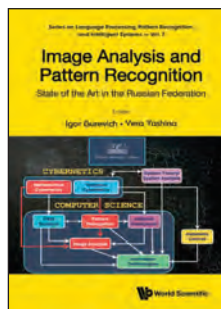
edited by **Igor Gurevich** (*Federal Research Centre "Computer Science and Control" of the Russian Academy of Sciences, Moscow, Russian Federation*) & **Vera Yashina** (*Federal Research Centre "Computer Science and Control" of the Russian Academy of Sciences, Moscow, Russian Federation*)

This collective compendium highlights the achievements of Soviet and Russian mathematical and computer science scientific schools in the area of image analysis and understanding, pattern recognition, artificial intelligence and adjacent fields of computer sciences and applied mathematics.

Contributed by renowned researchers, the materials collated are original papers never published before. This chapters provide good balance between fundamental and applied statements of problems and results.

Readership: Researchers, professionals, academics, and graduate students in pattern recognition/image analysis, theoretical computer science and AI.

1052pp	Mar 2025	
978-981-126-720-8	US\$288	£265
978-981-126-721-5(ebook)	US\$461	£425



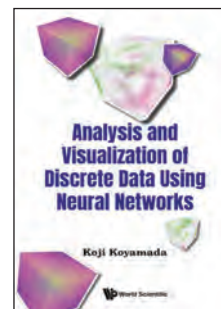
ANALYSIS AND VISUALIZATION OF DISCRETE DATA USING NEURAL NETWORKS

by **Koji Koyamada** (*Kyoto University, Japan*)

This book serves as a comprehensive step-by-step guide on data analysis and statistical analysis. It covers fundamental operations in Excel, such as table components, formula bar, and ribbon, and introduces visualization techniques and PDE derivation using Excel. It also provides an overview of Google Colab, including code and text cells, and explores visualization and deep learning applications.

Readership: The book is primarily intended for readers in the fields of data analysis, statistics, and applied mathematics. The target readership includes professionals, researchers, and students in both academia and industry. Discipline/Profession: Data analysts, Statisticians, Mathematicians, Researchers in applied sciences and engineering, Graduate and Undergraduate students in data analysis, statistics, and applied mathematics.

232pp	Feb 2024	
978-981-128-361-1	US\$88	£80
978-981-128-362-8(ebook)	US\$141	£130



SPARSE REPEAT CT SCANNING IN RADON SPACE

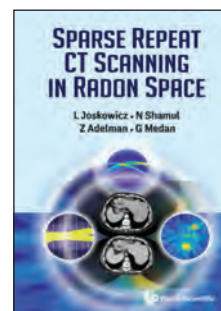
by **L Jaskowicz** (*The Hebrew University of Jerusalem, Israel*), **N Shamul** (*The Hebrew University of Jerusalem, Israel*), **Z Adelman** (*The Hebrew University of Jerusalem, Israel*) & **G Medan** (*The Hebrew University of Jerusalem, Israel*)

This comprehensive compendium introduces a unique and novel approach to X-ray dose reduction by sparse repeat scanning. Based on sparse sampling in Radon space, the methods obviate the need for image reconstruction and reduce X-ray dose by up to 10 times of the normal dose without compromising the robustness and accuracy of the measurements. The methods consist of automatic rigid and deformable registration and changes detection in subsequent CT scans, and real-time needle tracking during interventional procedures.

The technology is applicable to radiological follow-up of patients, to interventional radiology, and to related clinical procedures..

Readership: Researchers, professionals, academics and graduate students in biomedical engineering and machine perception.

180pp	Jan 2026	
978-981-127-023-9	US\$78	£70
978-981-127-024-6(ebook)	US\$125	£115



FUSING THE APPLICATION OF RADIATION IMAGING TECHNOLOGY WITH AI

From Theory to Reality

edited by **Zhiqiang Chen** (*Tsinghua University, China*)

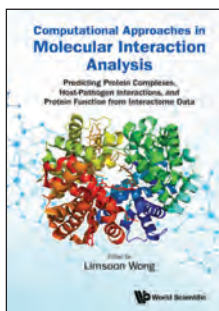
This title captures the wide application of state-of-the-art radiation imaging technologies and their integration with emerging technologies like Robotics and Artificial Intelligence to help deliver security solutions in various organisations. It also highlights how innovation can be harnessed to help ensure the safety and security of the general public, especially in the face of the COVID-19 pandemic. Readers can get a glimpse of how the presented technologies can streamline security operations and facilitate the free flow of travel and trade.

Readership: Industry practitioners, academics/researchers, government agencies.

260pp	Feb 2026	
978-981-129-446-4	US\$98	£90
978-981-129-447-1(ebook)	US\$157	£145

COMPUTATIONAL APPROACHES IN MOLECULAR INTERACTION ANALYSIS

Predicting Protein Complexes, Host-Pathogen Interactions, and Protein Function from Interactome Data
edited by **Limsoon Wong** (*National University of Singapore, Singapore*)



This book presents a curated collection of research articles from the Journal of Bioinformatics and Computational Biology, highlighting advances in protein-protein interaction-based computational methods for predicting protein complexes, host-pathogen interactions (HPIs), and protein functions.

Readership: Academics, researchers, graduate students in bioinformatics and computer science.

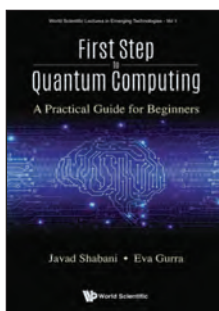
300pp	Mar 2025	
978-981-9807-17-8	US\$98	£90
978-981-9807-18-5(ebook)	US\$157	£145

Quantum Computing

World Scientific Lectures in Emerging Technologies - Vol 1

FIRST STEP TO QUANTUM COMPUTING

A Practical Guide for Beginners
by **Javad Shabani** (*New York University, USA*) & **Eva Gurra** (*New York University, USA*)



Quantum information is a young and evolving field. This compendium introduces quantum information in a comprehensive self-contained guide without assuming a wealth of knowledge prior to reading.

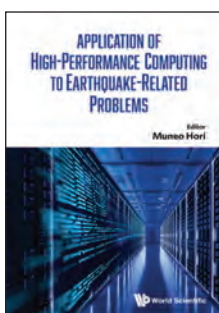
The volume highlights intuition on counter-intuitive topics such as quantum mechanics, basic mathematical tools and calculations involving linear algebra, and applies these concepts to quantum information with guided problems and coding exercises.

Readership: Researchers, professionals, academics, undergraduate and graduate students in supercomputing.

304pp	Nov 2024	
978-981-125-412-3(pbk)	US\$58	£55
978-981-125-319-5	US\$98	£90
978-981-125-320-1(ebook)	US\$157	£145

APPLICATION OF HIGH-PERFORMANCE COMPUTING TO EARTHQUAKE-RELATED PROBLEMS

edited by **Muneo Hori** (*Japan Agency for Marine-Earth Science and Technology, Japan*)



Discusses application of high-performance computing to earthquake-related problems, ranging from basics of high-performance computing to applications of regional-scale earthquake simulation

Readership: Researchers in the fields of earth sciences, earthquake engineering, disaster-related social science; Advanced undergraduate and graduate students in the fields of earth sciences, earthquake engineering, disaster-related social science.

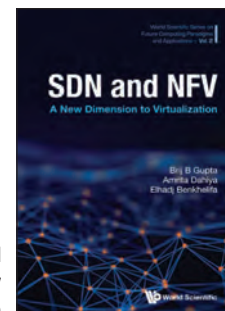
648pp	Jul 2024	
978-1-80061-462-8	US\$178	£165
978-1-80061-463-5(ebook)	US\$285	£260

Robotics / Medical

World Scientific Series on Future Computing Paradigms and Applications - Vol 2

SDN AND NFV

A New Dimension to Virtualization
by **Brij B Gupta** (*Asia University, ROC*), **Amrita Dahiya** (*Thapar Institute of Engineering and Technology, India*) & **Elhadj Benkhelifa** (*Staffordshire University, UK*)



This book illustrates the fundamentals and evolution of SDN and NFV and highlights how these two technologies can be integrated to solve traditional networking problems. In addition, it will focus on the utilization of SDN and NFV to enhance network security, which will open ways to integrate them with current technologies such as IoT, edge computing and blockchain, SDN-based network programmability, and current network orchestration technologies.

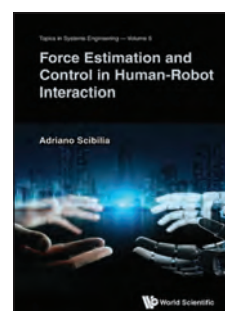
Readership: Graduate- and postgraduate-level students in Robotics and Automated Systems.

292pp	Feb 2024	
978-981-125-487-1	US\$98	£90
978-981-125-598-4(ebook)	US\$157	£145

Topics in Systems Engineering - Vol 5

FORCE ESTIMATION AND CONTROL IN HUMAN-ROBOT INTERACTION

by **Adriano Scibilia** (*STIIMA-CNR, Italy*)



The book addresses technological and scientific challenges that have been of interest to the academic world and industries. While providing a unique way of presenting those themes and proposing novel scientific contributions in addressing them (whose scientific validity is testified by the fact that widely renowned scientific journals and conferences have accepted all the proposed methodologies

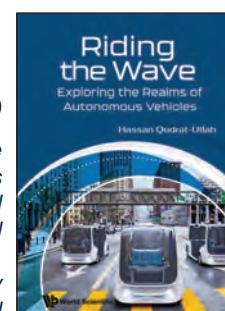
Readership: Suitable to advanced academic environments, where it may interest researchers, teachers, and graduate student that are interested in control and modeling techniques in automation-related fields.

196pp	Jul 2025	
978-981-98-1361-2	US\$78	£70
978-981-98-1362-9(ebook)	US\$125	£115

RIDING THE WAVE

Exploring the Realms of Autonomous Vehicles

by **Hassan Qudrat-Ullah** (*York Univ., Canada*)



"This volume provides a comprehensive coverage of various aspects of autonomous vehicles (AVs), in a form that is easy to read and follow. It covers the field's fundamental concepts, technological evolutions, ethics, legal and regulatory frameworks, industry needs and innovations, the societal and economic impacts of AVs, and future trends. It is a valuable resource for readers interested in the field of AVs, and may even be used as a textbook for an undergraduate introductory course on the topic."

Ben M Chen

Professor and Department Chair, Mechanical and Automation Engineering, Chinese University of Hong Kong, China & Lihua Xie, Director, Centre for Advanced Robotics Technology Innovation, President's Chair in Control Engineering

Readership: Professionals, researchers, policymakers, and enthusiasts seeking in-depth knowledge about the technology.

644pp	Oct 2024	
978-981-129-482-2	US\$188	£175
978-981-129-483-9(ebook)	US\$301	£275

BASIC HUMAN – ROBOT INTERACTION

by **David O Johnson**
(University of Kansas, USA)

The book's content is designed to provide practical guidance and insights for conducting experiments in Human – Robot Interaction (HRI) and publishing the results in scientific journals. It includes a detailed explanation of how to conduct HRI experiments and what to do and what not to do to get an article accepted for publication. It is tailored to those seeking to deepen their understanding of HRI methodologies, statistical measurements, and research design.

Readership: Advanced students, researchers, and professionals who are actively engaged or interested in the field of Human – Robot Interaction (HRI).

324pp	Mar 2024	
978-981-128-284-3	US\$148	£135
978-981-128-285-0(ebook)	US\$237	£220



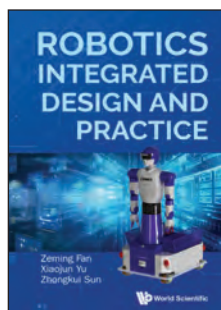
ROBOTICS INTEGRATED DESIGN AND PRACTICE

by **Zeming Fan** (Northwestern Polytechnical University, China) & **XiaoJun Yu** (Northwestern Polytechnical University, China)

This book offers a complete exploration of robot design, focusing on serial, parallel, and mobile robots, with in-depth guidance on intelligent sensing, navigation, motion control, and control systems

Readership: Senior undergraduate and post-graduate students majoring in robotics and related engineering fields, and scientific personnel working on the research, development and applications of robots.

400pp	Jul 2025	
978-981-9810-24-6	US\$138	£125
978-981-9810-25-3(ebook)	US\$221	£205



World Scientific Series on Emerging Technologies:
Avram Bar-Cohen Memorial Series

INTRODUCTION TO PROPULSION SYSTEMS FOR PROPELLER-DRIVEN SMALL AND MICRO AIRCRAFT

by **Eran Sher** (Technion – Israel Institute of Technology, Israel)

This book is designed for a one-semester elective course for aerospace engineering and mechanical engineering students focused on propeller-driven propulsion systems for small and micro unmanned aerial vehicles. The material presented is based on basic knowledge in thermodynamics, fluid mechanics, and heat transfer.

The book introduces readers to the basic principles of propulsion systems, and their performance at different altitudes. It outlines the variety of possible alternative propulsion systems as reflected in the literature. The book includes 11 chapters devoted to altitude atmospheric conditions, general principles of generating thrust, propellers' performance, four- and two-stroke cycle engines, gas exchange and combustion processes in Internal Combustion Engines (ICEs), engines' testing, critical limitations of scaling down of ICEs, electric motors, batteries, and alternative energy storages.

The book is rich in original well-designed diagrams and detailed equations development to ease understanding. Each chapter includes some comprehension questions, homework exercises, and selected major references for further reading.

Readership: Students opting for a one-semester elective course for aerospace engineering and mechanical engineering students.

210pp	Oct 2025	
978-981-129-591-1	US\$98	£90
978-981-129-592-8(ebook)	US\$157	£145

Theoretical Computer Science

QUERY COMPLEXITY

by **Robin Kothari** (Microsoft Quantum, USA), **Troy Lee** (Nanyang Technological University, Singapore), **Ilan Newman** (University of Haifa, Israel) & **Mario Szegedy** (Rutgers University, USA)

Query complexity addresses issues like the number of calls to a black box routine, the number of queries to a data structure or the number of steps made by a parallel processor. It has immense applications, and not surprisingly a large number of papers have been written on it.

Readership: Researchers, academics, professionals and graduate students in theoretical computer science.

200pp	Mar 2026	
978-981-3223-20-2	US\$88	£80
978-981-3223-21-9(ebook)	US\$141	£130

LOGICAL FOUNDATIONS OF COMPUTER SCIENCE

(In 2 volumes)
Vol 1: Propositional Logic
Vol 2: Predicate Logic

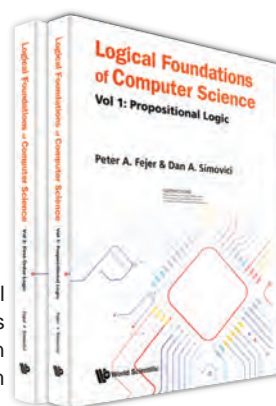
by **Peter A Fejer** (University of Massachusetts Boston, USA) & **Dan A Simovici** (University of Massachusetts Boston, USA)

Logic is a foundational mathematical discipline for Computer Science. This unique compendium provides the main ideas and techniques originating from logic. It is divided into two volumes — propositional logic and predicate logic. The volume presents some of the most important concepts starting with a variety of logic formalisms — Hilbert/Frege systems, tableaux, sequents, and natural deduction in both propositional and first-order logic, as well as transformations between these formalisms. Topics like circuit design, resolution, cutting planes, Hintikka sets, paramodulation, and program verification, which do not appear frequently in logic books are discussed in detail.

The useful reference text has close to 800 exercises and supplements to deepen understanding of the subject. It emphasizes proofs and overcomes technical difficulties by providing detailed arguments. Computer scientists and mathematicians will benefit from this volume.

Readership: Researchers, professionals, academics and graduate students in theoretical comp science and logic & set theory.

1336pp	Nov 2024	
978-981-128-936-1(Set)	US\$450	£415
978-981-128-934-7(Set)(ebook)	US\$720	£660



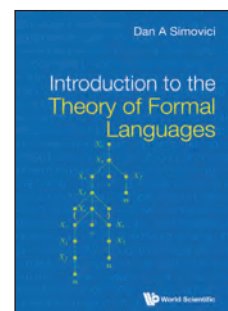
INTRODUCTION TO THE THEORY OF FORMAL LANGUAGES

by **Dan A Simovici**
(University of Massachusetts Boston, USA)

This unique volume is a succinct introduction to formal language theory suitable for an one-semester course. The main focus is on Chomsky's hierarchy of classes of languages ranging from regular languages to context-free, context-sensitive, and recursively enumerable languages. These classes are presented using both generative methods (grammars) as well as various analytical methods including finite automata, pushdown and linearly bounded automata, and Turing machine.

Readership: Graduates and undergraduates in theoretical computer science.

464pp	Jun 2024	
978-981-129-401-3	US\$148	£135
978-981-129-402-0(ebook)	US\$237	£220



DNA LOGIC DESIGN

Computing with DNA

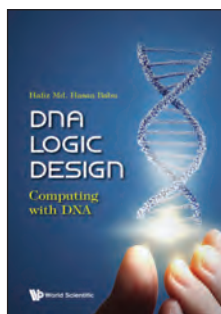
by **Hafiz Md. Hasan Babu**

(University of Dhaka, Bangladesh)

DNA Logic Design: Computing with DNA not only unravels the theoretical intricacies but also navigates the practical challenges, offering a comprehensive exploration of a groundbreaking field at the intersection of biology and computer science. The book starts with the basics of DNA computing, and then describes the fundamental operations of DNA computing.

Readership: Students, faculty members, and researchers specializing in fields related to biology, molecular biology, DNA Computing, reversible logic design, biocomputing, mathematics, computer science, and engineering.

292pp	May 2024	
978-981-128-771-8	US\$98	£90
978-981-128-772-5(ebook)	US\$157	£145



WSPC Book Series in
Unconventional Computing - Vol 3

ACTIN COMPUTATION

Unlocking the Potential of Actin Filaments for Revolutionary Computing Systems

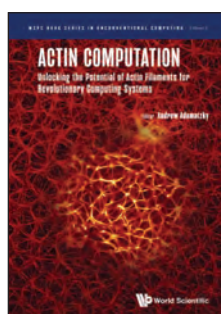
edited by **Andrew Adamatzky**

(University of the West of England, UK)

The book's theoretical and modelling framework serves as a crucial stepping stone towards the experimental realisation of actin-based cytoskeleton computers. Bridging the gap between theory and practice, researchers and scientists can leverage this knowledge to conduct experiments, validate hypotheses, and explore the practical implications of actin-based computing systems.

Readership: Primary: Computer architects, system developers, molecular biologists. Secondary: Popular computing-interested public.

328pp	May 2024	
978-981-128-506-6	US\$118	£110
978-981-128-507-3(ebook)	US\$189	£175



WSPC Book Series in
Unconventional Computing - Vol 5

POST-APOCALYPTIC COMPUTINGedited by **Andrew Adamatzky**

(University of the West of England, UK)

The book explores diverse topics such as the theory of computation, eternity of civilisations, computable knowledge, analog computation, bio-inspired fault tolerance, reversible cellular automata, catastrophe theory and the collapse of complex systems, bio-inspired soft robots, computing with exotic substrates (like clocks, stones and sticks, fluids, slime moulds, minimal resources), decomposition of meanings, collective computing, biological computing, neo-sentience, parallel algorithms and the metaphysics of the apocalypse.

Readership: Primary: Computer architects, system developers; Secondary: Popular computing-interested public.

548pp	Apr 2025	
978-981-129-713-7	US\$188	£175
978-981-129-714-4(ebook)	US\$301	£275

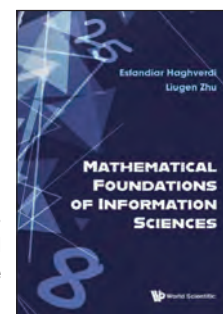
**MATHEMATICAL FOUNDATIONS OF INFORMATION SCIENCES**by **Esfandiar Haghighi** (Indiana UniversityBloomington, USA) & **Liugen Zhu** (Indiana

University Indianapolis, USA)

This is a concise book that introduces students to the basics of logical thinking and important mathematical structures that are critical for a solid understanding of logical formalisms themselves as well as for building the necessary background to tackle other fields that are based on these logical principles. Despite its compact and small size, it includes many solved problems and quite a few end-of-section exercises that will help readers consolidate their understanding of the material.

Readership: Undergraduate students in Informatics, Information Science, Computer Science, Data Science, Artificial Intelligence, Cognitive Science.

164pp	Apr 2024	
978-981-129-025-1(pbk)	US\$38	£35
978-981-128-888-3	US\$78	£70
978-981-128-889-0(ebook)	US\$125	£115



Series on Computers and Operations
Research - Vol 13

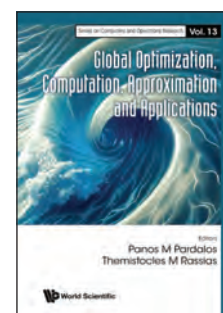
GLOBAL OPTIMIZATION, COMPUTATION, APPROXIMATION AND APPLICATIONSedited by **Panos M Pardalos** (University ofFlorida, USA) & **Themistocles M Rassias**

(National Technical University of Athens, Greece)

This unique volume focuses on results devoted to active current research in mathematical analysis with emphasis to optimization and applications. Effort is made for the featured book chapters to have an interdisciplinary approach to the problems treated.

Readership: Researchers, professionals, academics and graduate students in theoretical computer science, computer maths, and general applied maths.

600pp	May 2025	
978-981-9802-06-7	US\$178	£165
978-981-9802-07-4(ebook)	US\$285	£260



Series on Computers and Operations
Research - Vol 11

MATHEMATICAL ANALYSIS, DIFFERENTIAL EQUATIONS AND APPLICATIONSedited by **Themistocles M Rassias**

(National Technical University of Athens,

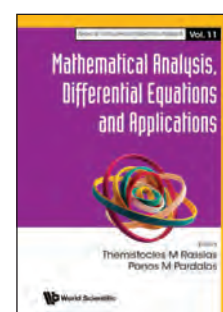
Greece) & **Panos M Pardalos** (University of

Florida, USA)

This comprehensive volume presents essential mathematical results devoted to topics of mathematical analysis, differential equations and their various applications. It focuses on differential operators, Wardowski maps, low-oscillation functions, Galois and Pataki connections, Hardy-type inequalities, to name just a few.

Readership: Researchers, professionals, academics and graduate students in theoretical computer science, computer maths, and general applied maths.

960pp	Sep 2024	
978-981-126-703-1	US\$228	£210
978-981-126-704-8(ebook)	US\$365	£335



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WSPC Book Series in

Unconventional Computing - Vol 4

REVERSIBLE WORLD OF CELLULAR AUTOMATA

Fantastic Phenomena and Computing in Artificial Reversible Universe

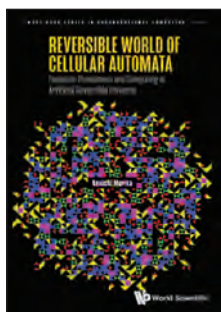
by **Kenichi Morita** (*Hiroshima University, Japan*)

This unique comprehensive compendium provides extensive studies on reversible cellular automata (RCAs), exhibiting a wide range of interesting phenomena similar to the Game-of-Life, a well-known irreversible CA.

The useful reference text also introduces innovative approaches to constructing universal computers in a reversible cellular space. Numerous figures are included to illustrate the evolution of RCA configurations, and to elucidate theoretical results on RCAs. Additionally, readers can observe evolution processes of various RCAs on the free CA simulator Golly using supplementary files.

Readership: Researchers, professionals, academics, and graduate students in theoretical computer science, complex systems and computer engineering.

348pp	Nov 2024	
978-981-128-032-0	US\$128	£120
978-981-128-033-7(ebook)	US\$205	£190



WSPC Book Series in

Unconventional Computing - Vol 6

ADVANCES IN QUANTUM COMPUTER MUSIC

edited by **Eduardo Reck Miranda**

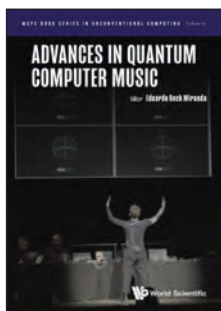
(*Plymouth University, UK*)

The modern music industry depends critically on computers. The development of conventional digital computing technology for music has been progressing in tandem with the evolution of computers since the 1950s. Therefore, future developments in quantum computing are most likely to impact the way in which musicians will create, perform, and conduct research.

Advances in Quantum Computer Music collates a comprehensive collection of chapters by pioneers of emerging interdisciplinary research at the crossroads of quantum computing and music. Together, these pioneers hope to anticipate and prototype the unprecedented new uses for this technology that are bound to emerge from their cutting-edge research.

Readership: Academic community and researchers in the field of Unconventional Computing, specifically Quantum Computing, musicians interested and/or working with Music Technology, and students and science journalists interested in arts-science topics.

308pp	Jan 2025	
978-981-9800-17-9	US\$98	£90
978-981-9800-18-6(ebook)	US\$157	£145



FOUNDATIONS OF COMPUTATION

Languages and Machines

by **Stephen A Fenner** (*University of South Carolina, USA*) & **Duncan A Buell** (*University of South Carolina, USA*)

This unique compendium presents the basics of the theory of computing at a level and in a manner that can be easily understood by computer science students in a large university. It offers the student a firm foundation in logical reasoning and covers many traditional topics in unconventional ways.

Readership: Researchers, professionals, academics and undergraduate and graduate students in theoretical computer science and software engineering.

200pp	Dec 2025	
978-981-129-710-6	US\$88	£80
978-981-129-711-3(ebook)	US\$141	£130

Applications

TEACHING AND LEARNING IN THE DIGITAL ERA

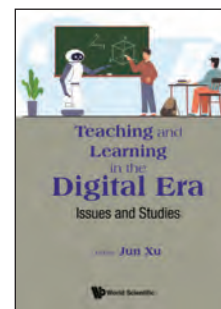
Issues and Studies

edited by **Jun Xu** (*King's Own Institute, Australia*)

This compendium looks at the current status and practices of teaching and learning facilitated/enabled by digital technologies, reviews challenges/issues associated with classroom teaching, online teaching and hybrid-learning, and discusses success factors and future directions of teaching and learning in the digital era.

Readership: Researchers, professionals, academics and graduate students in AI/Machine Learning, databases and digital security.

364pp	Apr 2024	
978-981-128-561-5	US\$148	£135
978-981-128-562-2(ebook)	US\$237	£220



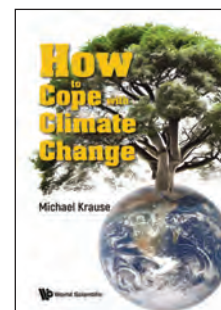
HOW TO COPE WITH CLIMATE CHANGE

by **Michael Krause**

This book also deals with the concept of change. How is a successful change defined? What steps are necessary, and which steps come first? Fortunately, there is good news. Innovation and human ingenuity will produce the tools needed to deal with the climate catastrophe. The only question is whether people will themselves be able to change to a sufficient degree. The whole process of change will take generations, it will have to be a joint effort, and the stakes are incredibly high.

Readership: General public, undergraduate and graduate students interested in climate change, green technologies and societal and behavioral change.

372pp	Feb 2024	
978-981-128-739-8(pbk)	US\$38	£35
978-981-128-683-4	US\$88	£80
978-981-128-706-0(ebook)	US\$141	£130



Advanced Series in Electrical and Computer Engineering - Vol 24

MULTIPLE ACCESS SYSTEMS FOR NEXT-GENERATION COMMUNICATIONS

Theory and Practice of Multiple Access Systems

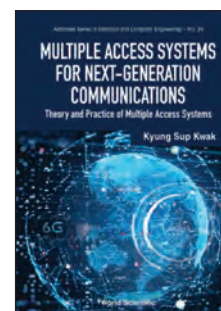
by **Kyung Sup Kwak**

(*Inha University, South Korea*)

This book provides a thorough examination of both traditional and emerging multiple access systems — Non-Orthogonal Multiple Access (NOMA) and Rate Splitting Multiple Access (RSMA) — essential for efficient and low-latency communication in the ecosystem of a Massive Internet of Things (Massive IoT). In particular, it discusses their potential role in enhancing 5G networks and their consideration as the standard for 6G multiple access.

Readership: Wireless communications engineers, computer and networking engineers, information scientists and engineers, electronics engineers, vehicular technology engineers.

416pp	Mar 2025	
978-981-9801-06-0	US\$148	£135
978-981-9801-07-7(ebook)	US\$237	£220



ADVANCES IN UNDERWATER ACOUSTICS, STRUCTURAL ACOUSTICS, AND COMPUTATIONAL METHODOLOGIES

(In 4 Volumes)

Volume 1: Underwater Acoustics

Volume 2: Structural Acoustics

Volume 3: Computational Acoustics

Volume 4: Aeroacoustics

edited by **Sean F Wu** (Wayne State University, USA) & **Steffen Marburg** (Technical University of Munich, Germany)

This set of volumes encompasses the study of acoustics to diverse environments ranging from underwater and marine environments, to structural and civil engineering, computational models and aerospace engineering. Each volume comprises peer-reviewed publications in the related field of acoustics from the past decade, arranged such as to review the existing literature, examine new methodologies and then explore novel applications of pioneering acoustic principles.



Readership: Practitioners and researchers specializing in the fields of acoustics and various fields of engineering including underwater/marine/ocean engineering, structural/civil engineering, computational modelling or aerospace engineering.

2400pp	Aug 2025	
978-981-9809-70-7(Set)	US\$1180	£1085
978-981-9809-71-4(Set)(ebook)	US\$2368	£2180

THE MISCHIEF OF MATH

Short Stories of Clowns, Contortionists, and Court-Jesters

by **Inavamsi Enaganti** (Param Innovation Centre, India), **Nivedita Ganesh** (New York University, USA) & **Bud Mishra** (New York University, USA)Illustrated by: **Alexander Lu**

Embark on a whimsical odyssey through the realms of ethics in AI bots, logic, game theory, paradoxes, biases, fake data detection, graph theory, and so much more! Within these pages you'll find a collection of fictional short stories that weave together the intriguing, the counterintuitive and the downright quirky with bold characters from every walk of life.



Readership: Undergraduate and students in the second half of high school, particularly in the fields of mathematics, computer science, engineering, economics, business, political science, and social science.

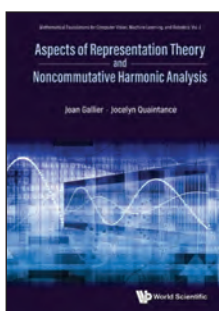
200pp	Jul 2024	
978-981-128-802-9(pbk)	US\$25	£25
978-981-128-759-6	US\$48	£45
978-981-128-760-2(ebook)	US\$98	£90

Mathematical Foundations for Computer Vision, Machine Learning, and Robotics - Vol 2

ASPECTS OF REPRESENTATION THEORY AND NONCOMMUTATIVE HARMONIC ANALYSIS

by **Jean Gallier & Jocelyn Quaintance** (University of Pennsylvania, USA)

This book presents the theory of harmonic analysis for noncommutative compact groups.



Readership: Second-year graduate masters/PhD students in mathematics and engineering.

768pp	Feb 2025	
978-981-9810-81-9	US\$168	£155
978-981-9810-82-6(ebook)	US\$269	£250

AN INTRODUCTION TO INFORMATION THEORY AND PROBABILISTIC INFERENCE

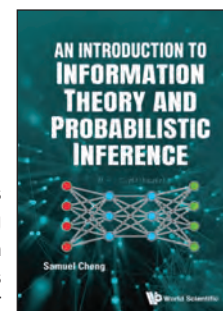
by **Samuel Cheng**

(University of Oklahoma, USA)

This comprehensive compendium addresses a critical need in the AI and machine learning era by bridging foundational information theory (IT) concepts with practical applications in statistical learning. Unlike traditional IT textbooks, this volume emphasizes how IT principles, such as entropy and source coding, underpin modern machine learning techniques like cross-entropy, decision trees, and evidence-lower bounds.

Readership: Researchers, professionals, academics and students in calculus and probability, information theory, communications and information sciences.

190pp	Oct 2025	
978-981-9811-74-8(pbk)	US\$48	£45
978-981-9810-75-8	US\$88	£80
978-981-9810-76-5(ebook)	US\$141	£130



World Scientific Series on Quantum Algorithms, Information, and Learning - Vol 1

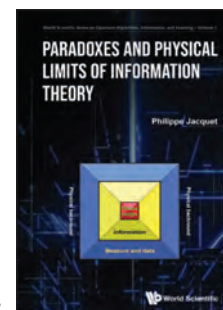
PARADOXES AND PHYSICAL LIMITS OF INFORMATION THEORY

by **Philippe Jacquet** (The National Institute for Research in Digital Science and Technology (INRIA), France)

The unique compendium starts with a simplified version of the information theory which allows any beginner in math to embrace the mysterious concept of entropy without hitting hard the wall of probability theory. The volume continues with the full description of the information theory, enlightening source coding in the heart of the theory with data compression and self-prediction to get into the information age. Then it concludes with artificial intelligence and quantum information.

Readership: Researchers, professionals, academics and graduate students in information theory, probability theory, electromagnetism, machine learning and quantum theory.

336pp	Apr 2025	
978-981-129-359-7	US\$108	£100
978-981-129-360-3(ebook)	US\$173	£160



World Scientific Series in Information Studies

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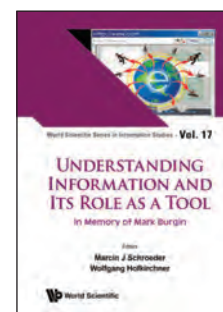
In Memory of Mark Burgin

edited by **Marcin J Schroeder** (Akita International University, Japan) & **Wolfgang Hofkirchner** (TU Wien, Austria & The Institute for a Global Sustainable Information Society (GSIS), Austria)

The book *Understanding Information and Its Role as a Tool: In Memory of Mark Burgin* has two parts which have self-explanatory titles classifying submissions into two categories. One of them is "Understanding Information: Theory and Foundations" and the other "Information Realm: Information as a Tool for Exploring Reality". The former is intended as an inquiry of the concept of information itself, the latter as an inquiry of the use of the concept of information as a methodological tool for diverse forms of inquiries.

Readership: Researchers and academics interested in Information, Philosophy of Information, Computation, and Artificial Intelligence.

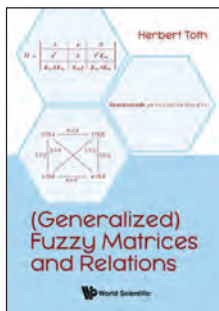
530pp	May 2025	
978-981-129-491-4	US\$168	£155
978-981-129-492-1(ebook)	US\$269	£250



(GENERALIZED) FUZZY MATRICES AND RELATIONS

by **Herbert Toth**

The book provides an overview of the main concepts and results related to fuzzy matrices and fuzzy relations, using 'fuzzy' in a general sense to mean many-valued. This overview, along with numerous references to original contributions dispersed across various journals, serves as a comprehensive guide for further exploration.



Readership: Academic researchers, Postgraduate students, graduate students. The book is self-contained to a large extent and is thus suitable for self-study for students who want to learn about various aspects of binary relations in both their two- and many-valued form.

512pp	Mar 2025	
978-981-129-835-6	US\$168	£155
978-981-129-836-3(ebook)	US\$269	£250

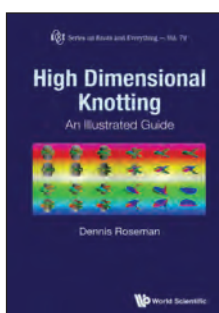
Series on Knots and Everything

HIGH DIMENSIONAL KNOTTING

An Illustrated Guide

by **Dennis Roseman** (University of Iowa, USA)

Focused on concrete examples and constructions and using extensive computer generated three-dimensional graphics, this book serves as a guide to methods and examples of higher dimensional knotting. The book has modest mathematical requirements, has been written with non-specialists in mind and contains considerable background information.



Knotting whether fanciful or practical has been of interest to many — from sculptors to sailors and in more modern times of interest to mathematicians, biologists and physicists as well. Spaces of dimensions greater than three are also of widespread interest in the arts, sciences and engineering as well as mathematics. Knotting and linking of circles can aid us to understand three dimensionality. So, it is natural to consider knotting in order to understand higher dimensions. Knotting in 4-dimensional space involves surfaces — spheres, tori, Klein bottles and others while in five dimensions one looks primarily at similar tangling and self-tangling of three dimensional objects. Visualization is an important part of this journey and techniques for higher dimensions, especially in 4-dimensional space, are discussed in detail..

Readership: Graduate students and researchers in geometric topology, manifolds and cellcomplexes, scientists and engineers who want a concrete introduction to high dimensional construction and visualization.

500pp	Aug 2026	
978-981-3237-39-1	US\$178	£165
978-981-3237-40-7(ebook)	US\$285	£260

ADVANCED VARIANCE REDUCTION TECHNIQUES FOR MCMC

by **Denis Belomestny** (Duisburg-Essen University, Germany) & **Sergey Samsonov** (National Univ., Higher School of Economics, Russia)

The book is devoted to contemporary variance reduction methods for Monte Carlo and Markov Chain (MCMC) with Machine Learning and Finance applications. We present new approaches based on martingale representations, and Stein control variates besides the standard techniques. In addition, the book focuses on developing new variance reduction algorithms in MCMC and their theoretical analysis. Readers will find numerical examples that illustrate all proposed algorithms.

Readership: Graduate students and researchers in the areas of Statistics, Artificial Intelligence, Machine Learning and Finance.

500pp	Jan 2026	
978-981-128-777-0	US\$158	£145
978-981-128-778-7(ebook)	US\$253	£230

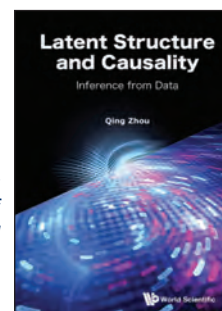
LATENT STRUCTURE AND CAUSALITY

Inference from Data

by **Qing Zhou** (University of California, Los Angeles, USA)

"This is a very timely book for a systematic summary of the recent developments of network data analysis, graphical modeling, and causal inference."

Faming Liang
Distinguished Professor of Statistics
Purdue University, USA



Readership: This book is suitable for graduate students in statistics, data science, computer science and other quantitative and computational sciences. The book can be used as a textbook for courses on statistical modeling, causal inference, graphical models, and machine learning. It is also suitable for researchers interested in causal inference, causal discovery, graphical models, Bayesian networks, structure learning, latent structure models, and related areas.

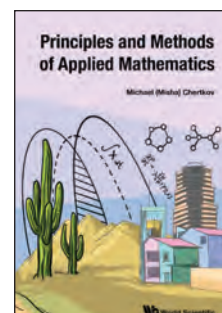
288pp	Apr 2025	
978-981-129-068-8	US\$88	£80
978-981-129-069-5(ebook)	US\$141	£130

PRINCIPLES AND METHODS OF APPLIED MATHEMATICS

by **Michael (Misha) Chertkov**
(University of Arizona, USA)

This textbook aims to equip readers with a deep understanding of mathematical techniques essential for modeling, analyzing, and solving real-world problems across diverse disciplines.

Readership: Advanced undergraduate and graduate students in mathematics, engineering, physics, and computational sciences, as well as professionals and researchers in academia and industry. Additionally, those in interdisciplinary programs emphasizing mathematical methods for artificial intelligence, data science, and engineering.

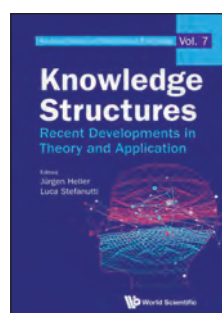


400pp	Jul 2025	
978-981-9809-28-8(pbk)	US\$78	£70
978-981-9808-24-3	US\$138	£125
978-981-9808-25-0(ebook)	US\$221	£205

Advanced Series on
Mathematical Psychology - Vol 7
KNOWLEDGE STRUCTURES
Recent Developments in Theory and Application
edited by **Jürgen Heller** (University of Tübingen, Germany) & **Luca Stefanutti** (University of Padua, Italy)

Starting from a concise but comprehensive introduction to its foundations, this volume provides a state-of-the-art review of KST. For the first time the volume brings together the most important theoretical developments and extensions of the last decade and presents new areas of application beyond education, with contributions by key researchers in the field.

Readership: (1) Researchers in education, psychometrics, psychological testing, and technology-enhanced learning; (2) researchers in cognitive assessment and/or cognitive modelling; (3) researchers interested in the applications of knowledge structure theory as a innovative alternative to traditional approaches in many domains including psychometrics, data analysis, medical diagnostics, and psychology; (4) background materials for advanced courses on psychometrics, data analysis, or cognitive psychology; (5) secondary market: libraries of universities, and educational research institutions.

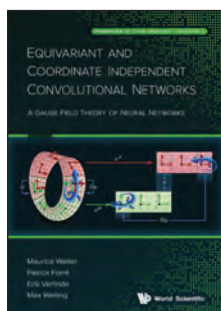


364pp	Sep 2024	
978-981-128-047-4	US\$128	£120
978-981-128-048-1(ebook)	US\$205	£190

Progress in Data Science - Vol 1

EQUIVARIANT AND COORDINATE INDEPENDENT CONVOLUTIONAL NETWORKS

A Gauge Field Theory of Neural Networks by **Maurice Weiler** (Massachusetts Institute of Technology, USA), **Patrick Forré** (University of Amsterdam, The Netherlands), **Erik Verlinde** (University of Amsterdam, The Netherlands) & **Max Welling** (University of Amsterdam, The Netherlands)



This book derives and characterizes the implied symmetry constraints on thus defined equivariant convolutional neural networks. Instead of focusing on one specific setting, it develops a general representation theoretic formulation for arbitrary symmetry groups and spaces. The theory is made concrete in several chapters discussing implementations of equivariant convolutional networks on various manifolds.

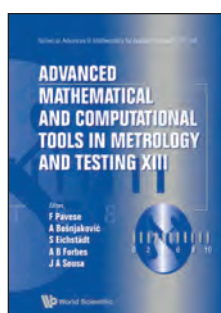
Readership: Research scientists, engineers and graduate students in computer vision and deep learning who are interested in the equivariant processing of spatial data. Typical applications are medical imaging, satellite image analysis, physical simulations, climate modeling, molecule and protein generation, geometry processing or robotics.

600pp	Dec 2025	
978-981-9806-62-1	US\$178	£165
978-981-9806-63-8(ebook)	US\$285	£260

Series on Advances in Mathematics for Applied Sciences - Vol 94

ADVANCED MATHEMATICAL AND COMPUTATIONAL TOOLS IN METROLOGY AND TESTING XIII

edited by **F Pavese** (IMEKO TC21, Italy), **A Bošnjaković** (Institute of Metrology of Bosnia and Herzegovina, Bosnia and Herzegovina), **S Eichstädt** (Physikalisch-Technische Bundesanstalt, Germany), **A B Forbes** (National Physical Laboratory, UK) & **J A Sousa** (Instituto Portugues da Qualidade, Portugal)



The volume covers the application of novel mathematical and statistical modelling techniques and data analysis and machine learning approaches to metrology and measurement science, uncertainty quantification, and knowledge representation and reasoning to enable the digitalization of metrological services.

Readership: Researchers, scientists and graduate students in university mathematics, physics and engineering departments, as well as national metrology institutes. Quality engineers working in metrology and its applications to manufacturing, environment, health and life sciences. Government officials associated with national and international quality infrastructures.

368pp	Jan 2025	
978-981-9800-66-7	US\$138	£125
978-981-9800-67-4(ebook)	US\$221	£205

QUANTUM FIELD THEORY, QUANTUM PHYSICS AND MICRO-MACRO DUALITY

by **Izumi Ojima** (Research Origin for Dressed Photon, Japan), **Kazuya Okamura** (Nagoya University, Japan) & **Hayato Saigo** (Nagahama Institute of Bio-Science and Technology, Japan)

According to the fundamental concept "adjunctions" in category theory, the Micro and Macro in nature can be connected in a coherent way, which constitutes quite an effective theoretical and mathematical machinery that has not been commonly recognized. On the basis of this concept, many important problems in physics and mathematics can be viewed from quite different and fresh angles, which facilitate deep understanding and the satisfactory solution of those problems.

Readership: Graduate students and researchers in quantum theory, mathematical physics, neural networks, pattern recognition.

300pp	Nov 2025	
978-981-3238-36-7	US\$98	£90

SYSTEMS MEDICINE FOR HUMAN SPACEFLIGHT

edited by **Mark Shelhamer** (Johns Hopkins University School of Medicine, USA) & **Erik Antonsen** (Massachusetts General Hospital, USA)



"Systems Medicine for Human Spaceflight is a valuable text for individuals training in, or providing, medical care and research capabilities to human spaceflight missions. The editors and authors take the reader through existing standards, design requirements, risk management tools, predictive databases, and design acyclic graphs to explain the complexity and inter-relationships of the various systems of spaceflight including the human."

Jeffrey Davis,
Former Chief Medical Officer,
NASA Johnson Space Center

The advantage of a systems approach to medical needs in human spaceflight is that it enables a systematic and repeatable methodology for identifying and developing the individual pieces of the spacecraft systems based on the human system needs that are unique to that problem and environment.

Readership: Spaceflight professionals (flight surgeons, mission planners, spacecraft designers). Medical professionals (aeromedical examiners, biomedical engineers, bioanalytics researchers, those interested in systems approaches to medical care). Students interested in space and medicine, at all levels.

368pp	Jun 2024	
978-981-128-768-8	US\$138	£125
978-981-128-769-5(ebook)	US\$221	£205

NEW MEDICAL TECHNOLOGY IN PATIENT CARE

A Physician's Guide by **Campion Quinn** (Rockville Medical, LLC, USA)



From the diagnostic power of artificial intelligence to the precision of robotic surgery, this book delves into the most exciting developments shaping the future of medicine and surgery. It offers a comprehensive look at how AI algorithms are assisting physicians in interpreting complex medical data, enabling faster and more accurate diagnoses, while also providing insights into the life-saving potential of AI-driven treatment recommendations. Beyond AI, this book also discusses the rise of robotic surgery and 3D bioprinting.

Readership: Doctors, nurses, hospital administrators, college and graduate students in healthcare administration and bioengineering.

260pp	Apr 2025	
978-981-128-914-9	US\$88	£80
978-981-128-915-6(ebook)	US\$141	£130

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INTERNATIONAL JOURNAL OF PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE (IJPRAI)

<https://www.worldscientific.com/ijprai>

IMPACT FACTOR: 1.1

Editors-in-Chief: Xiaoyi Jiang

(University of Münster, Germany,

Frank Shih (New Jersey Institute of

Technology, USA) & **Patrick S P Wang**

(Northeastern University, USA)



This journal publishes both applications and theory-oriented articles on new developments in the fields of pattern recognition and artificial intelligence, and is of interest to both researchers in industry and academia. From the beginning, there has always been a close relationship between the disciplines of pattern recognition and artificial intelligence. The recognition and understanding of sensory data like speech or images, which are major concerns in pattern recognition, have always been considered as important subfields of artificial intelligence. On the other hand, topics like knowledge representation, inference, search or learning that belong to the center of artificial intelligence, have constantly attracted the attention of researchers working in pattern recognition.

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INTERNATIONAL JOURNAL ON ARTIFICIAL INTELLIGENCE TOOLS (IJAIT)

<https://www.worldscientific.com/ijait>

IMPACT FACTOR: 1.0

Editors-in-Chief: Dr. I. Hatzilygeroudis

(University of Patras, Greece) &

Jeffrey J P Tsai (Asia University, Taiwan)



The journal provides an interdisciplinary forum in which AI scientists and professionals can share their research results and report new advances on AI tools or tools that use AI. Topics covered by IJAIT include but are not limited to: AI in Bioinformatics, AI for Service Engineering, AI for Software Engineering, AI for Ubiquitous Computing, AI for Web Intelligence Applications, AI Parallel Processing Tools (hardware/software), AI Programming Languages, AI Tools for CAD and VLSI Analysis/Design/Testing, AI Tools for Computer Vision and Speech Understanding, AI Tools for Multimedia, Cognitive Informatics, Data Mining and Machine Learning Tools, Heuristic and AI Planning Strategies and Tools, Image Understanding, Integrated/Hybrid AI Approaches, Intelligent System Architectures, Knowledge-Based/Expert Systems, Knowledge Management and Processing Tools, Knowledge Representation Languages, Natural Language Understanding, Neural Networks for AI, Object-Oriented Programming for AI, Reasoning and Evolution of Knowledge Bases, Self-Healing and Autonomous Systems, and Software Engineering for AI.

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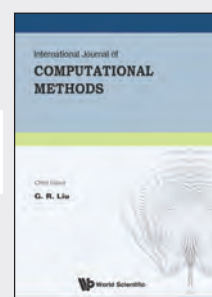
INTERNATIONAL JOURNAL OF COMPUTATIONAL METHODS (IJCM)

<https://www.worldscientific.com/ijcm>

IMPACT FACTOR: 1.6

Chief Editor

G R Liu (University of Cincinnati, USA)



The purpose of this journal is to provide a unique forum for the fast publication and rapid dissemination of original research results and innovative ideas on the state-of-the-art on computational methods. The methods should be innovative and of high scholarly, academic and practical value.

The journal is devoted to all aspects of modern computational methods and the articles can involve theory, algorithm, programming, coding, numerical simulation and/or novel application of computational techniques to problems in engineering, science, and other disciplines related to computations. The journal places a great emphasis on creativity, novelty and innovation of computational methods. It aims to become the major platform that archives the history of the technical development of new generations of computational methods.

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INTERNATIONAL JOURNAL OF IMAGE AND GRAPHICS (IJIG)

<https://www.worldscientific.com/ijig>

IMPACT FACTOR: 0.9

Editors-in-Chief: David Zhang

(Hong Kong Polytechnic University,

Hong Kong) & **Yong Xu** (Harbin Institute

of Technology Shenzhen, China)



This journal will emphasize on efficient and effective image and graphics technologies and systems. This journal covers the following research and application issues:

Image Processing (Image acquisition & storage • Image pre-processing • Image coding and transmission • Image indexing & retrieval),

Image Analysis and Understanding (Image segmentation & measurement • Texture & motion analysis • Image matching and scene interpretation • 3-D modeling),

Pattern Recognition Application (Statistical, structural & neural approaches • Character, speech, image & video applications • Biometrics technologies & system),

Computer Vision (Active, real-time & stereo computer vision • VLSI image model, algorithm & architecture • Multi-modal image systems)

Graphics Modeling, Rendering and Animation (Graphics algorithms • Modeling methods • Rendering algorithms • Animation),

Visualization (Virtual Reality & Virtual Environment • Augmented Reality • Media immersion),

Multimedia Systems and Techniques (Multimedia algorithms • Multimedia communication and CSCW • Multimedia database • Multimedia systems),

Graphics User Interface (User interface management system • Multi-agent/Artificial life/Intelligent agent • Multi-modal user interface),

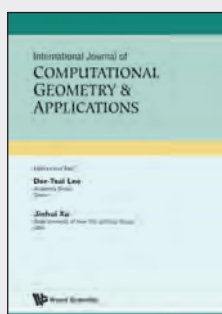
Image and Graphics Applications (Medical & bio-medical • Telecommunication & remote sensing • Document & industrial • Security (internet, digital watermarking, ?))

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A bimonthly journal devoted to the field of computational geometry within the framework of design and analysis of algorithms. Emphasis is placed on the computational aspects of geometric problems that arise in various fields of science and engineering including computer-aided geometry design (CAGD), computer graphics, constructive solid geometry (CSG), operations research, pattern recognition, robotics, solid modelling, VLSI routing/layout, and others. Research contributions ranging from theoretical results in algorithm design — sequential or parallel, probabilistic or randomized algorithms — to applications in the above-mentioned areas are welcome. Research findings or experiences in the implementations of geometric algorithms, such as numerical stability, and papers with a geometric flavour related to algorithms or the application areas of computational geometry are also welcome.

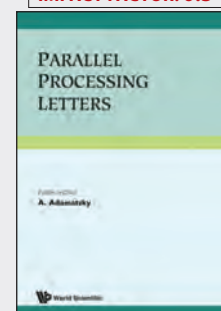
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**PARALLEL PROCESSING LETTERS (PPL)**<https://www.worldscientific.com/ppl>**Editor-in-Chief: A Adamatzky***(University of the West of England, UK)*

Parallel Processing Letters (PPL) aims to rapidly disseminate results on a worldwide basis in the field of parallel processing in the form of short papers. It fills the need for an information vehicle which can convey recent achievements and further the exchange of scientific information in the field. This journal has a wide scope and topics covered include:

- design and analysis of parallel and distributed algorithms
- theory of parallel computation
- parallel programming languages
- parallel programming environments
- parallel architectures and VLSI circuits
- unconventional computational problems (e.g., time-varying variables, interacting variables, time-varying complexity)
- unconventional computational paradigms (e.g., biomolecular computing, chemical computing, quantum computing)
- computing in nature (e.g., photosynthesis, plant respiration, bacterial communication)
- nature-inspired algorithms (e.g., genetic algorithms, neural networks, swarm intelligence)

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IMPACT FACTOR: 0.5**JOURNAL OF MEDICAL ROBOTICS RESEARCH (JMRR)**<https://www.worldscientific.com/jmrr>**Editor-in-Chief:****Jaydev P. Desai***(Georgia Tech, USA)*

Medical robotics has been progressively revolutionizing treatment for at least the past two decades. The Journal of Medical Robotics Research (JMRR) invites fundamental contributions to all areas of medical robotics including clinical evaluation studies. The journal is primarily aimed towards bringing the scientific and technological developments as well as clinical evaluation studies in the area of medical robotics to a wider robotics and clinical audience.

Areas of discussion include: • Robot-assisted Surgery • Image-guided Interventions • Rehabilitation Robotics • Assistive Robotics • Surgical simulation • Image-guided Diagnosis and Therapy • Nano-scale and micro-scale Interventions • Telesurgery • Haptics for Medical Robotics • Smart instrumented tools for surgery • Surgical Navigation • Surgical Workflow • Wearable Rehabilitation Systems

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**INTERNATIONAL JOURNAL OF FOUNDATIONS OF COMPUTER SCIENCE (IJFCS)**<https://www.worldscientific.com/ijfcs>**IMPACT FACTOR: 0.6****Editor-in-Chief: O H Ibarra***(University of California, Santa Barbara, USA)*

The theoretical and mathematical aspects covered include: Algebraic theory of computing and formal systems, Algorithm and system implementation, issues, Approximation, probabilistic, and randomized algorithms, Automata and formal languages, Automata and formal languages, Automated deduction, Combinatorics and graph theory, Complexity theory, Computational biology and bioinformatics, Cryptography, Database theory, Data structures, Design and analysis of algorithms, DNA computing, Foundations of computer security, Foundations of high-performance computing, Logic in computer science, Foundations of high-performance computing, Logic in computer science, Model checking and computer-aided verification, Models of computation, Quantum computing, Semantics, concurrency, and type theory, Theories and models of internet computing, Theory of learning and inductive inference, Theory of parallel and distributed computing, Wireless networks and mobile computing.

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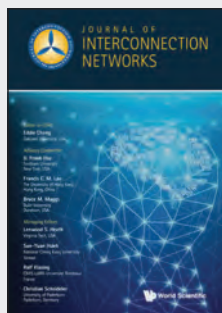
<https://www.worldscientific.com/join>

IMPACT FACTOR: 0.8

Editor-in-Chief: Eddie Cheng
(Oakland University, USA)

An international scientific journal dedicated to advancing the state-of-the-art of interconnection networks. The journal addresses all aspects of interconnection networks including their theory, analysis, design, implementation and application, and corresponding issues of communication, computing and function arising from (or applied to) a variety of multifaceted networks. Interconnection problems occur at different levels in the hardware and software design of communicating entities in integrated circuits, multiprocessors, multicomputers, and communication networks as diverse as telephone systems, cable network systems, computer networks, mobile communication networks, satellite network systems, the Internet and biological systems.

Abstracting/Indexing: Academic Search Complete/ Elite/ Premier | Baidu | CNKI Scholar | CnpLINKer | Compendex | CrossRef | DBLP Computer Science Bibliography | Ebsco Business Source Complete | Ebsco Computer and Applied Science Complete | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | Emerging Sources Citation Index (ESCI) | Engineering Source (Ebsco) | ExLibris Primo Central | Google Scholar | io-port.net | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Technology Collection | Scopus | The Summon® Service.



INTERNATIONAL JOURNAL OF NEURAL SYSTEMS (IJNS)

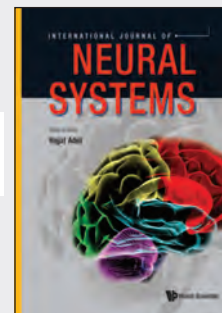
<https://www.worldscientific.com/ijns>

IMPACT FACTOR: 6.4

Editor-in-Chief: Hojjat Adeli
(The Ohio State University, USA)

The *International Journal of Neural Systems* is a bimonthly peer-reviewed journal which covers information processing in natural and artificial neural systems. The journal presents a fresh, undogmatic attitude towards this multi-disciplinary field, aiming to be a forum for novel ideas and improved understanding of collective and cooperative phenomena in systems with computational capabilities.

Abstracting/Indexing: Academic OneFile | Academic Search Complete/ Elite/ Premier | Applied Science & Technology Source Ultimate | Baidu | CNKI | CnpLINKer | Compendex | CompuMath Citation Index | Computer Abstracts | CrossRef | CSA Neurosciences Abstracts | Current Contents®/Engineering, Computing, and Technology | DBLP Computer Science Bibliography | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | ExLibris Primo Central | Google Scholar | INSPEC | io-port.net | ISI Alerting Services | J-Gate | Journal Citation Reports/Science Edition | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest SciTech Premium Collection | PubMed | Science & Technology Collection | Science Citation Index Expanded | Scopus | The Summon® Service | WanFang Data.



INTERNATIONAL JOURNAL OF INFORMATION TECHNOLOGY & DECISION MAKING (IJITDM)



<https://www.worldscientific.com/ijitdm>

IMPACT FACTOR: 1.8

Editor-in-Chief: Yong Shi
(University of Nebraska at Omaha, USA)

Managing Editor: Gang Kou

(Southwestern University of Finance and Economics, China)

This journal provides a global forum for exchanging research findings and case studies which bridge the latest information technology and various decision-making techniques. It promotes how information technology improves decision techniques as well as how the development of decision-making tools affects the information technology era. The journal is peer-reviewed and publishes both high-quality academic (theoretical or empirical) and practical papers in the broad ranges of information technology related topics.

Abstracting/Indexing: ABDC Journal Quality List by Australian Business Deans Council | Academic OneFile | Baidu | Cabell | CNKI Scholar | CnpLINKer | Compendex | CompuMath Citation Index® | CrossRef | DBLP Computer Science Bibliography | Ebsco Business Source Complete | Ebsco Computer & Applied Science Complete | Ebsco Discovery Service | Ebsco Electronic Journal Service (EJS) | Ebsco Science & Technology Collection | ExLibris Primo Central | Google Scholar | INSPEC | ISI Alerting Services | J-Gate | Journal Citation Reports/Science Edition | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Computer & Information Systems Abstracts | ProQuest Technology Collection (Advanced Technologies Database with Aerospace) | RePERC | Science Citation Index Expanded | Scopus | The Summon® Service.



INTERNATIONAL JOURNAL OF COMPUTATIONAL INTELLIGENCE AND APPLICATIONS (IJCIA)



<https://www.worldscientific.com/ijcia>

IMPACT FACTOR: 1.3

Editors-in-Chief: Khan M. Iftekharruddin
(Old Dominion University USA) &
Lipo Wang (Nanyang Technological University, Singapore)

A refereed journal dedicated to the theory and applications of computational intelligence (artificial neural networks, fuzzy systems, evolutionary computation and hybrid systems). The main goal of this journal is to provide the scientific community and industry with a vehicle whereby ideas using two or more conventional and computational intelligence based techniques could be discussed.

The IJCIA welcomes original works in areas such as neural networks, fuzzy logic, evolutionary computation, pattern recognition, hybrid intelligent systems, symbolic machine learning, statistical models, image/audio/video compression and retrieval. The IJCIA greatly encourages new ideas, combining two or more areas, such as neuro-fuzzy, neuro-symbolic, neuro-evolutionary, neuro-symbolic, neuro-pattern recognition, fuzzy-evolutionary, evolutionary-symbolic, fuzzy-evolutionary, evolutionary-symbolic, fuzzy-symbolic, etc. to be submitted.

Abstracting/Indexing: Academic OneFile | Academic Search Complete/ Elite/ Premier | Applied Science & Technology Source Ultimate | Baidu | CNKI | CnpLINKer | Compendex | CompuMath Citation Index | Computer Abstracts | CrossRef | CSA Neurosciences Abstracts | Current Contents®/Engineering, Computing, and Technology | DBLP Computer Science Bibliography | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | ExLibris Primo Central | Google Scholar | INSPEC | io-port.net | ISI Alerting Services | J-Gate | Journal Citation Reports/Science Edition | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest SciTech Premium Collection | PubMed | Science & Technology Collection | Science Citation Index Expanded | Scopus | The Summon® Service | WanFang Data.



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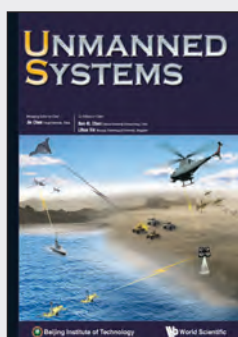
**Submit your paper to these journals. Recommend them to your librarian!**For a **free** institutional trial or subscribe to these journals, please contact us at sales@wspc.com**INTERNATIONAL JOURNAL OF COOPERATIVE INFORMATION SYSTEMS (IJCIS)**<https://www.worldscientific.com/ijcis>**IMPACT FACTOR: 0.8****Editors-in-Chief****Heiko Ludwig** (IBM Almaden Research Center, USA) & **J Yang** (Macquarie University, Australia)**Advisory Editor****M P Papazoglou** (Tilburg University, The Netherlands)

This journal addresses the intricacies of cooperative work in the framework of distributed interoperable information systems. It provides a forum for the presentation and dissemination of research covering all aspects of CIS design, requirements, functionality, implementation, deployment, and evolution. IJCIS will publish papers describing original ideas and new results, on topics that include, but are not limited to: *CIS Principles, Information Agents, Large-Scale Knowledge Bases for CIS, Theoretical Frameworks and Formal Methods for CIS, CIS Implementation Techniques, Integration Challenges, Information Modelling and Reasoning techniques for CISs, Advanced CIS Programming, CIS Evolution, Re-Engineering, Business Process Management Systems.*

Abstracting/Indexing: Academic OneFile | Baidu | CNKI Scholar | CnpLINKer | CompuMath Citation Index® | Computer & Information Systems Abstracts | CrossRef | Current Contents® Engineering, Computing and Technology | DBLP Computer Science Bibliography | Ebsco Business Source Complete | Ebsco Computer and Applied Science Complete | Ebsco Discovery Service | Ebsco Electronic Journal Service (EJS) | ExLibris Primo Central | Google Scholar | INSPEC | io-port.net | ISI Alerting Services | J-Gate | Journal Citation Reports/Science Edition | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Technology Collection | Science Citation Index Expanded | Scopus | The Summon® Service.

UNMANNED SYSTEMS (US)<https://www.worldscientific.com/us>**Managing Editor-in-Chief****Jie Chen** (Tongji University, China)**IMPACT FACTOR: 2.4****Co-Editors-in-Chief****Ben M. Chen** (Chinese University of Hong Kong, China)**Lihua Xie** (Nanyang Technological University, Singapore)

Unmanned Systems (US) aims to cover all subjects related to the development of automatic machine systems, which include advanced technologies in unmanned hardware platforms (aerial, ground, underwater and unconventional platforms), unmanned software systems, energy systems, modeling and control, communications systems, computer vision systems, sensing and information processing, navigation and path planning, computing, information fusion, multi-agent systems, mission management, machine intelligence, artificial intelligence, and innovative application case studies.



Abstracting/Indexing: Academic OneFile | Academic Search Complete (Ebsco) | Baidu | CNKI | CnpLINKer | CrossRef | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | Emerging Sources Citation Index (ESCI) | ExLibris Primo Central | Google Scholar | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Computer & Information Systems Abstracts | ProQuest Technology Collection (Advanced Technologies Database with Aerospace) | ProQuest Technology Collection (Materials Science & Engineering Database) | Science Citation Index Expanded (SCIE) | Scopus | The Summon® Service.

JOURNAL OF THEORETICAL AND COMPUTATIONAL ACOUSTICS (JTCA)<https://www.worldscinet.com/jtca>**Co-Editors-In-Chief****Steffen Marburg** (Technical University of Munich, Germany) & **Sean F. Wu** (Wayne State University, USA)

The aim of this journal is to provide an international forum for the dissemination of the state-of-the-art information in the field of Computational Acoustics.

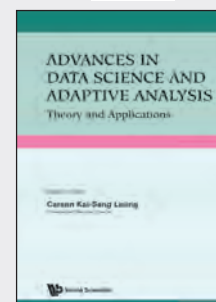
Topics covered by this journal include research and tutorial contributions in OCEAN ACOUSTICS (a subject of active research in relation with sonar detection and the design of noiseless ships), SEISMO-ACOUSTICS (of concern to earthquake science and engineering, and also to those doing underground prospection like searching for petroleum), AEROACOUSTICS (which includes the analysis of noise created by aircraft), COMPUTATIONAL METHODS, and SUPERCOMPUTING. In addition to the traditional issues and problems in computational methods, the journal also considers theoretical research acoustics papers which lead to large-scale scientific computations.



Abstracting/Indexing: Academic OneFile | Academic Search Complete/ Elite/ Premier | Baidu | CNKI Scholar | CnpLINKer | CompuMath Citation Index® | CrossRef | CSA Aquatic Sciences and Fisheries Abstracts (ASFA) | CSA Meteorological & Geostrophysical Abstracts | CSA Oceanic Abstracts | CSA Selected Water Resources Abstracts | Current Contents® Engineering, Computing and Technology | Ebsco Computer & Applied Science Complete | Ebsco Discovery Service | Ebsco Electronic Journal Service (EJS) | Ebsco Engineering Source | Ebsco Science & Technology Collection | ExLibris Primo Central | Google Scholar | ISI Alerting Services | J-Gate | Journal Citation Reports/Science Edition | Mathematical Reviews® (MR) | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | Proquest Computer & Information Systems Abstracts | Proquest SciTech Premium Collection | Science Citation Index® | Science Citation Index Expanded | Scopus | The Summon® Service | Zentralblatt MATH.

ADVANCES IN DATA SCIENCE AND ADAPTIVE ANALYSIS (ADSAA)<https://www.worldscientific.com/adsaa>**IMPACT FACTOR: 0.9****Editor-in-Chief:****Carson Kai-Sang Leung** (University of Manitoba, Canada)

This is an interdisciplinary journal dedicated to report original research results on data analysis methodology developments and their applications, with a special emphasis on the adaptive approaches. The mission of the journal is to elevate data analysis from the routine data processing by traditional tools to a new scientific level, which encourages innovative methods development for data science and its scientific research and engineering applications.



Abstracting/Indexing: Abstracting/Indexing: Academic OneFile | Baidu | CNKI | CnpLINKer | Compendex | Computer & Information Systems Abstracts | CrossRef | DBLP Computer Science Bibliography | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | Emerging Sources Citation Index (ESCI) | ExLibris Primo Central | Google Scholar | J-Gate | Mathematical Reviews® (MR) / MathSciNet® | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Technology Collection (Advanced Technologies Database with Aerospace) | The Summon® Service | Zentralblatt MATH.

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INTERNATIONAL JOURNAL OF HUMANOID ROBOTICS (IJHR)

<https://www.worldscientific.com/ijhr>



IMPACT FACTOR: 1.6

Editors-in-Chief

Ming Xie (*Nanyang Technological University, Singapore*)

Juyang (John) Weng (*Brain-Mind Institute, USA*)

Aleš Ude (*Jozef Stefan Institute, Slovenia*)

This journal covers all subjects on the mind and body of humanoid robots. It is dedicated to advancing new theories, new techniques, and new implementations contributing to the successful achievement of future robots which not only imitate human beings, but also serve human beings. While IJHR encourages the contribution of original papers which are solidly grounded on proven theories or experimental procedures, the journal also encourages the contribution of innovative papers which venture into the new, frontier areas in robotics.



GUIDANCE, NAVIGATION AND CONTROL (GNC)

<https://www.worldscientific.com/gnc>



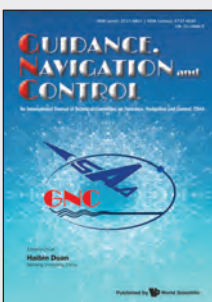
Editors-in-Chief

Haibin Duan & Yingxun Wang

(*Beihang University, China*)

Guidance, Navigation and Control (GNC) will report on advances in the understanding and utilization of guidance, navigation and control theories, technologies and systems. The journal serves as a platform for academic exchange by experts, scholars and researchers in these fields. The following subjects are of particular interest to the journal:

- Modeling, analysis and design of dynamics, control and guidance systems
- Stability, optimization, electronics, avionics, and information processing related to various vehicle systems (marine, ground, aeronautical, and astronautical systems)
- Theoretical and empirical research in guidance, navigation and control technologies
- Application of guidance, navigation and control technologies to real-world problems



INTERNATIONAL JOURNAL OF ASIAN LANGUAGE PROCESSING (IJALP)

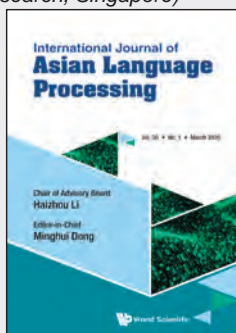
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Editor-in-Chief

Minghui Dong (*Institute for Infocomm Research, Singapore*)

The aim of the journal is to provide a channel for researchers working on Asian Language Processing to share their high-quality work and to promote research in this field. The scope of the journal will include the automatic processing or study of Asian languages on the following aspects: natural language processing, spoken language processing, linguistic study towards language processing, and processing for language education, among other areas.



INTERNATIONAL JOURNAL OF MODELING, SIMULATION, AND SCIENTIFIC COMPUTING (IJMSSC)

<https://www.worldscientific.com/ijmssc>



IMPACT FACTOR: 1.0

Editors-in-Chief:

Lin Zhang (*Beihang University (BUAA), China*)

Agostino Bruzzone (*Genoa University, Italy*)

This is a quarterly journal which deals with the fields of system modeling, simulation and scientific computing. The scope of the journal covers, but is not limited to:

- Modeling theory and methodology for complex systems, system simulation theory and methodology
- Complex applications of high level simulation languages, Multi-parameter Optimization in simulation
- Verification, validation and accreditation of theory and technology
- Finite element methods, finite difference methods, Approximation theory
- Distributed/High-Performance/Pervasive/Grid/Cloud Computing, Bioinformatics/Data-Mining, High Performance simulation technology
- Computational electromagnetics, electrodynamics, fluid dynamics, computational heat, mass, and momentum transfer
- M&S technology of continuous systems/discrete systems/hybrid systems/Intelligent systems, complex systems/open systems/ huge systems
- SBA/virtual prototyping engineering technology
- Simulation language methodology, supporting platforms, application techniques



INTERNATIONAL JOURNAL OF SOFTWARE ENGINEERING AND KNOWLEDGE ENGINEERING (IJSEKE)

<https://www.worldscientific.com/ijseke>



IMPACT FACTOR: 0.6

Editor-in-Chief

Professor S.K. Chang

(*Knowledge Systems Institute, USA*)

This journal intended to serve as a forum for researchers, practitioners, and developers to exchange ideas and results for the advancement of software engineering and knowledge engineering. Three types of papers will be published:

This journal intended to serve as a forum for researchers, practitioners, and developers to exchange ideas and results for the advancement of software engineering and knowledge engineering. The journal publishes papers in the areas of software engineering methods and practices, object-oriented systems, rapid prototyping, software reuse, cleanroom software engineering, stepwise refinement/enhancement, formal methods of specification, ambiguity in software development, impact of CASE on software development life cycle, knowledge engineering methods and practices, logic programming, expert systems, knowledge-based systems, distributed knowledge-based systems, deductive database systems, knowledge representations, knowledge-based systems in language translation & processing, software and knowledge-ware maintenance, reverse engineering in software design, and applications in various domains of interest.



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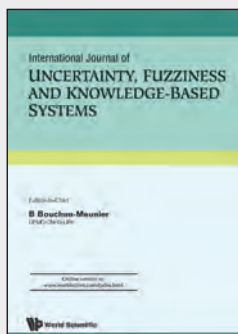
INTERNATIONAL JOURNAL OF UNCERTAINTY, FUZZINESS AND KNOWLEDGE-BASED SYSTEMS (IJUFKS)

<https://www.worldscientific.com/ijufks>

IMPACT FACTOR: 1.0

Editor-in-Chief: Bernadette Bouchon-Meunier
(Sorbonne Université, CNRS, France)

This International Journal is a forum for research on various methodologies for the management of imprecise, vague, uncertain or incomplete information. The aim of the journal is to promote theoretical, methodological or practical works dealing with all kinds of methods to represent and manipulate imperfectly described pieces of knowledge. It is published bimonthly, with worldwide distribution to researchers, engineers, decision-makers, and educators.

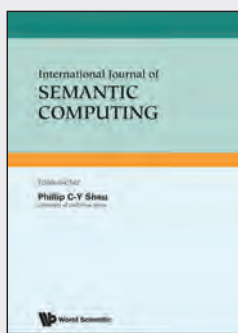


INTERNATIONAL JOURNAL OF SEMANTIC COMPUTING (IJSC)

<https://www.worldscientific.com/ijsc>

Editor-in-Chief: Phillip C-Y Sheu
(University of California, Irvine, USA)

International Journal of Semantic Computing (IJSC) addresses the computing technologies (e.g., artificial intelligence, natural language, software engineering, data and knowledge engineering, computer systems, signal processing, etc.), and their interactions, that may be used to extract or process computational content and descriptions. While some areas of Semantic Computing have appeared as isolated pieces in journals dedicated to individual disciplines, IJSC is a journal that glues these pieces together into an integrated theme with synergetic interactions.



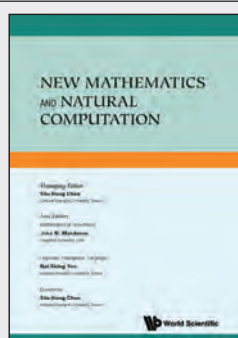
NEW MATHEMATICS AND NATURAL COMPUTATION (NMNC)

<https://www.worldscientific.com/nmnc>

Managing Editor: Shu-Heng Chen
(National Chengchi University, Taiwan)

Recognizing the world is full of vagueness and uncertainty, this journal has chosen three very focused areas of research: i. Mathematics of Uncertainty ii. Economics & Finances iii. Cognitive Science

The close cooperation of the above three areas is of paramount importance. This journal strongly encourages the suggestions of any topic within these three general areas of research. The journal has demonstrated there is room for artificial intelligence & modern control theory in contributing solutions to some selected economic problems. We shall continue to explore other possibilities. A new initiative on cognitive science and economics is a good example. Over the years, this journal has published some papers on pattern recognition, image processing, and natural languages vis-a-vis artificial intelligence. We welcome any proposal on worthy new initiatives.



JOURNAL OF ARTIFICIAL INTELLIGENCE AND CONSCIOUSNESS (JAIC)

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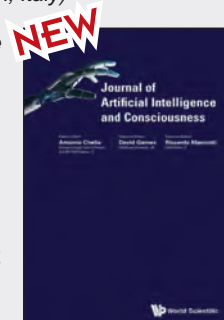
Chief and Executive Editors

Antonio Chella (Università degli Studi di Palermo & ICAR-CNR Palermo, Italy), **David Gamez** (Middlesex University, UK) & **Riccardo Manzotti** (IULM University, Milan, Italy)



The **Journal of Artificial Intelligence and Consciousness (JAIC)** will offer a multidisciplinary platform to discuss AI and consciousness in the light of robotics and artificial systems, computational science, psychology, philosophy of mind, ethics, and neuroscience. The aims and scope of the journal are: (i) articles that take inspiration from biological consciousness and/or that explore theoretical issues of consciousness to build robots and AI systems that show forms of functional consciousness; (ii) articles that employ robots and AI systems as tools to model and better understand biological mechanisms of consciousness; (iii) articles that discuss ethical problems emerging or uncovered through the overlap of AI and consciousness, and that investigate the ethical and societal impact of consciousness and the limits of it, and (iv) to pursue the hybridization between the field of AI and the field of consciousness studies.

Abstracting/Indexing: Baidu | CNKI Scholar | CnpLINKer | Computer & Information Systems Abstracts (ProQuest) | CrossRef | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | ExLibris Primo Central | Google Scholar | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | ProQuest Central Technology Research Database (ProQuest) | The Summon® Service | WanFang Data.



INTERNATIONAL JOURNAL OF BIG DATA MINING FOR GLOBAL WARMING (IJBDMGW)

<https://www.worldscinet.com/ijbdmgw>

Editors-In-Chief

Donald Huisinigh (University of Tennessee, Knoxville, USA)
Zhihua Zhang (Beijing Normal University, China)

Present and future global warming research must be increasingly based on big datasets at terabyte and exabyte scales from diverse sources (e.g. climate, ocean, economy, energy, ecosystem dynamics, industry, agriculture, environment, public's attitude/knowledge surveys). The "**International Journal of Big Data Mining for Global Warming**" is an inter-disciplinary journal dedicated to the publication of high-quality research articles, review articles, letters, case studies and book reviews in all aspects of global warming through traditional mining methods (statistical, spectral, numerical, simulating, LCA, 3E, etc.) and non-traditional mining methods (neural networks, deep learning, cloud computing, etc.) of these big datasets.



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Tongquan Wei (East China Normal University)

Computing Open is a new fully peer-reviewed, rapid publication, open access, broad scope journal that publishes original research and review articles on all aspects of computer science. The journal is editorially aligned with World Scientific's collection of high-quality and leading computer science journals which are considered essential content by top institutions globally.



Computing Open focuses on ensuring that all papers published are of high technical quality but allows the scientific community to determine the impact of published work. The editorial process focuses on the technical validity of the research, from methodological, analytical, statistical, and publication ethics.

DISCRETE MATHEMATICS, ALGORITHMS AND APPLICATIONS (DMAA)

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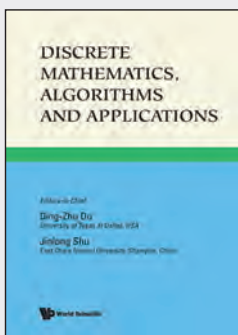


Co-Editors-in-Chief

Ding-Zhu Du (University of Texas at Dallas, USA)
Jinlong Shu (East China Normal University, Shanghai, China)

IMPACT FACTOR: 0.4

The aim of this journal is to advance and promote the theory and applications of discrete mathematics, which is a research area in mathematics with applications in advanced science and technology, such as machine learning, blockchain, data science, cloud-computing, social networks, edge computing, wireless communications, etc.



The journal encourages contributions from the three important parts of discrete mathematics, graph theory, combinatorics, and discrete optimization. The first part includes structural graph theory, extremal graph theory, algebraic graph theory, random graphs, and social networks. The second part consists of combinatorial design, combinatorial enumeration, coding theory, combinatorial probabilistic method, etc. The third part includes scheduling, network optimization, integer programming, game theory, algorithm design and analysis, etc.

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INTERNATIONAL JOURNAL OF DATA SCIENCE IN THE MATHEMATICAL SCIENCES (IJDSMS)

<https://www.worldscientific.com/ijdsms>



Editor-in-Chief

Yang-Hui He (University of Oxford, UK)

The aim of this new, highly inter-disciplinary journal is to establish a much-needed platform for experimental mathematicians, both pure and applied, physicists and other experts in theoretical STEM fields, as well as data scientists and computer scientists specializing in machine-learning and artificial intelligence.

This platform will publish and promote discussion in the following areas: Data in pure mathematics, especially those already freely available online: LMFdB, GrDB, GAP, KnotsDB, etc. and in particular in line with MathSage; Data in applied mathematics, ranging from mathematical biology to theoretical physics; Data Science & Theoretical Physics: especially in relation to the string landscape & others.



INNOVATION AND EMERGING TECHNOLOGIES (IET)

An International Journal on Innovative Applied Sciences, Engineering and Biomedical Research

<https://www.worldscientific.com/iet>



Editors-in-Chief

Biomedical: **Utkan Demirci** (Stanford Univ., USA)
 Physics and Engineering: **Supriyo Datta**
 (Purdue University, USA)

Fashioned as a high-impact, high-visibility, top-echelon publication, this new ground-breaking journal - Innovation and Emerging Technologies - will feature the development of cutting-edge new technologies in a broad array of emerging fields of science and engineering. The content will have an applied science and technological slant with a focus on both innovation and application to daily lives. It will cover diverse disciplines such as health and life science, energy and environment, advanced materials, technology-based manufacturing, information science and technology, and marine and transportation technologies.



INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE AND ROBOTICS RESEARCH (IJARR)

An Interdisciplinary Scientific Journal on Integration of AI, Robotics and Fundamental Science

<https://www.worldscientific.com/ijarr>



Editors-in-Chief

Yu Sun (University of South Florida, USA)
Dong Xu (University of Missouri-Columbia, USA)
Xiaorui Zhu (Galaxy Artificial Intelligence and Robotics Research Institute, Singapore)

Artificial Intelligence and Robotics (Abbreviated as AIR) are playing more and more critical roles in many fields. AIR will not only accelerate fundamental scientific research but also empower many paradigm-shift applications. The advancement of AIR will consistently benefit from close cooperation among various disciplines, including mathematics, physics, biology, psychology, and engineering.



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INTERNATIONAL JOURNAL OF MATHEMATICS FOR INDUSTRY (IJMI)

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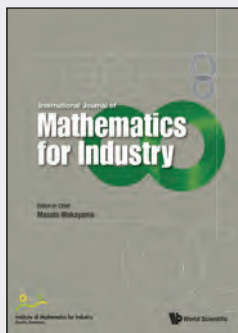
IMPACT FACTOR: 0.4

Editor-in-Chief

Masato Wakayama (Kyushu University, Japan)

Philip Broadbridge (La Trobe, Australia)

The *International Journal of Mathematics for Industry* is an international, open-access journal, dedicated to enhancing the interaction between mathematics and industrial applications as a two-way process. It publishes original research articles from authors worldwide that illustrate how, through the utilization of mathematical results, questions about industrial problems including various scientific questions potentially connected to industrial problems are answered to yield new insight for both industry and mathematics. The journal also publishes survey articles that address specific mathematics-for-industry topics from an original perspective.



INTERNATIONAL JOURNAL ON SMART AND SUSTAINABLE CITIES (IJSSC)

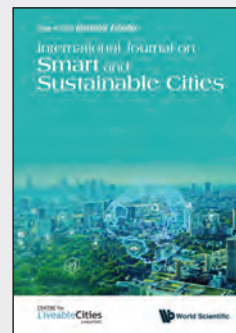
<https://www.worldscientific.com/ijssc>

Editor-in-Chief

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(Nanyang Technological University, Singapore)

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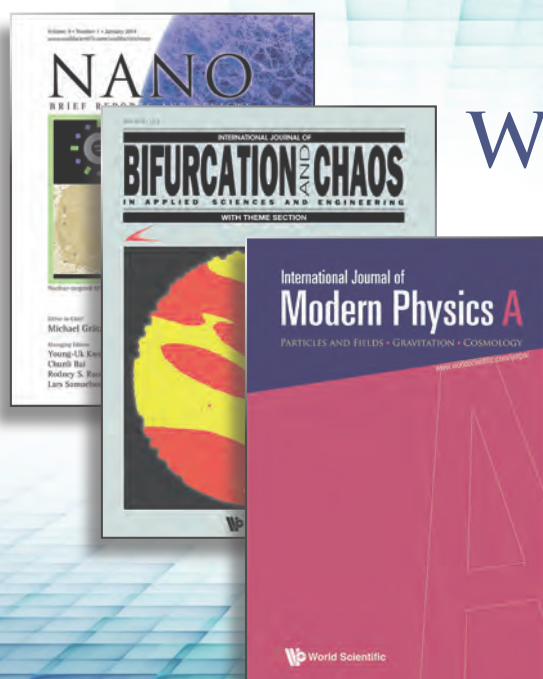
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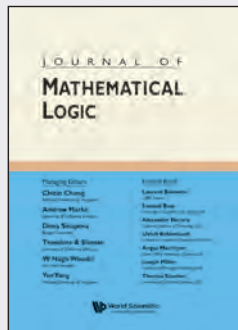
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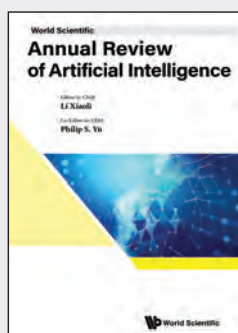
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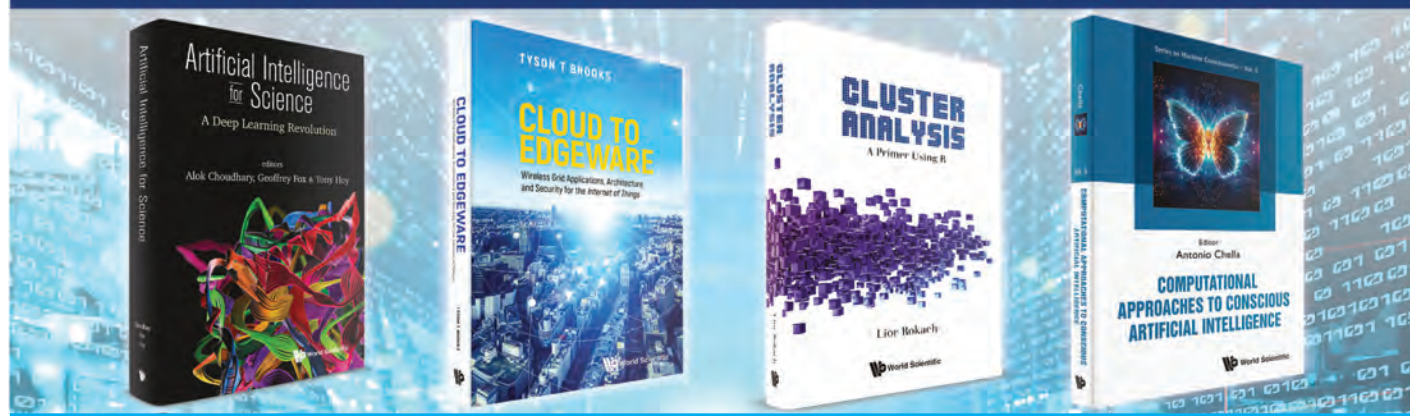


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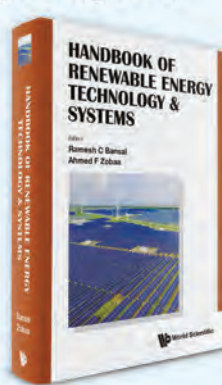
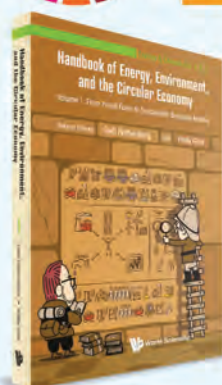
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