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R. S. Feris, IBM T.J. Watson Research Center, Yorktown Heights, NY, USA; C. Lampert, IST Austria Computer Vision and Machine Learning, Klosterneuburg; D. Parikh, Virginia Tech Electrical and Computer Engineering, Blacksburg, VA, USA (Eds)

This unique text/reference provides a detailed overview of the latest advances in machine learning and computer vision related to visual attributes, highlighting how this emerging field intersects with other disciplines, such as computational linguistics and human-machine interaction. [...]

Contents
Modern Language Models and Computation
Theory with Applications
A. Meduna, Brno University of Technology, Brno, Czech Republic; O. Soukup, Brno University of Technology, Brno, Czech Republic

This textbook gives a systematized and compact summary, providing the most essential types of modern models for languages and computation together with their properties and applications. Most of these models properly reflect and formalize current computational methods, based on parallelism, distribution and cooperation covered in this book. [...] Contents
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H. Paik, University of New South Wales, Sydney, Australia; A. L. Lemos, University of New South Wales, Sydney, Australia; M. C. Barukh, University of New South Wales, Sydney, Australia; B. Benatallah, University of New South Wales, Sydney, Australia; A. Natarajan, University of New South Wales, Sydney, Australia

This book embarks on a mission to dissect, unravel and demystify the concepts of Web services, including their implementation and composition techniques. [...] Contents
1 Introduction to Service Oriented Architecture.- 2 Web Services - SOAP and WSDL.- 3 Web Services - REST or Restful Services.- 4 Web Services - Data Services.- 5 Web Service Composition: Overview.- 6 Web Service Composition: Control Flows.- 7 Web Service Composition: Data Flows.- 8 Service Component Architecture (SCA).- 9 Conclusion.- References.- Index. [...] June 2017
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An Introduction
M. Staron, University of Gothenburg, Gothenburg, Sweden

This book introduces the concept of software architecture as one of the cornerstones of software in modern cars. Following a historical overview of the evolution of software in modern cars and a discussion of the main challenges driving that evolution, Chapter 2 describes the main architectural styles of automotive software and their use in cars' software. [...] Contents
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O. Topçu, Middle East Technical University, Northern Cyprus Campus (METU NCC), Kalkanlı, Güzelyurt, Mersin 10, Turkey; H. Oğuztüzün, Middle East Technical University, Ankara, Turkey

This invaluable textbook/reference provides a hands-on guide to the application of good software development practices to the construction of distributed simulation systems, with a particular focus on High Level Architecture (HLA). [...] 

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Business Impacts and Developments
G. Vossen, University of Münster; F. Schönhäler, PROMATIS software GmbH, Ettlingen; S. Dillon, University of Waikato, Hamilton, New Zealand

This book provides a comprehensive treatment of the rapidly changing world of Web-based business technologies and their often-disruptive innovations. The history of the Web is a short one. Indeed many college graduates today were not even born when the Web first emerged. It is therefore an opportune time to view the Web as having reached the point of graduation. [...] 

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Surveillance Data Capture, Transmission, and Analytics
W. Q. Yan, Auckland University of Technology, Auckland, New Zealand

This accessible textbook/reference reviews the fundamental concepts and practical issues involved in designing digital surveillance systems that fully exploit the power of intelligent computing techniques. The book presents comprehensive coverage of all aspects of such systems, from camera calibration and data capture, to the secure transmission of surveillance data. [...] 

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Guide to Modeling and Simulation of Systems of Systems
B. P. Zeigler, University of Arizona Dept. Electrical & Computer Enginee, Rockville, MD; H. S. Sarjoughian, Arizona State University, Tempe, AZ, USA

This easy-to-follow textbook provides an exercise-driven guide to the use of the Discrete Event Systems Specification (DEVS) simulation modeling formalism and the System Entity Structure (SES) simulation model ontology supported with the latest advances in software architecture and design principles, methods, and tools for building and testing virtual Systems of Systems (SoS).

Contents
Exploring Robotics with ROBOTIS Systems
C. N. Thai, University of Georgia, Athens, GA, USA

This 2nd edition textbook has been expanded to include of 175 additional pages of additional content, created in response to readers feedback, as well as to new hardware and software releases. [...] 

Contents

Guide to Cisco Routers Configuration
Becoming a Router Geek
M. M. Alani, Al Khawarizmi International College, Abu Dhabi, United Arab Emirates

This easy-to-follow text/reference presents a practical guide to the configuration of Cisco routers, from tasks for beginners to advanced operations. The work starts with the simple step-by-step task of connecting the router and performing basic configuration, before building up to complex and sensitive operations such as router IOS upgrade and Site-to-Site VPNs. [...] 

Contents

Engineering Scalable, Elastic, and Cost-Efficient Cloud Computing Applications
The CloudScale Method
S. Becker, University of Stuttgart; G. Brataas, SINTEF Digital, Trondheim, Norway; S. Lehrig, IBM Research, Dublin, Ireland (Eds)

This book provides an overview of the problems involved in engineering scalable, elastic, and cost-efficient cloud computing services and describes the CloudScale method — a description of rescuing tools and the required steps to exploit these tools. It allows readers to analyze the scalability problem in detail and identify scalability anti-patterns and bottlenecks within an application. [...] 

Contents
This book is dedicated to advances in the field of user authentication. The book covers detailed description of the authentication process as well as types of authentication modalities along with their several features (authentication factors).

Contents

Series Title
Infosys Science Foundation Series

Guide to Convolutional Neural Networks
A Practical Application to Traffic-Sign Detection and Classification
H. Habibi Aghdam, University Rovira i Virgili, Tarragona, Spain; E. Jahani Heravi, University Rovira i Virgili, Tarragona, Spain

This must-read text/reference introduces the fundamental concepts of convolutional neural networks (ConvNets), offering practical guidance on using libraries to implement ConvNets in applications of traffic sign detection and classification.

Contents

Series Title
NASA Monographs in Systems and Software Engineering

ACS Without an Attitude
H. L. Hallock, Bowie, MD; G. Welter, NASA, Greenbelt, MD, USA; D. G. Simpson, NASA, Greenbelt, MD, USA; C. Rouff, Johns Hopkins University, Laurel, MD, USA

This book de-emphasizes the formal mathematical description of spacecraft on-board attitude and orbit applications in favor of a more qualitative, concept-oriented presentation of these topics. The information presented in this book was originally given as a set of lectures in 1999 and 2000 instigated by a NASA Flight Software Branch Chief at Goddard Space Flight Center.

Contents

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This book shows how to do systems thinking and translate that thinking into praxis (theory informed practical action). It will be welcomed by those managing or governing in situations of complexity and uncertainty across all domains of professional and personal life. The development of capabilities to think and act systemically is an urgent priority. [...] 

Contents

Software Product Management
The ISPMA-Compliant Study Guide and Handbook
H. Kittlaus, InnoTivum, Rheinbreitbach; S. A. Fricker, University of Applied Sciences, Northwestern Switzerland, Windisch

This book gives a comprehensive overview on Software Product Management (SPM) for beginners as well as best practices, methodology and in-depth discussions for experienced product managers. This includes product strategy, product planning, participation in strategic management activities and orchestration of the functional units of the company. [...] 

Contents
This is the first book to seriously address the disconnection between nimble Agile teams and other groups in the enterprise, including enterprise architecture, the program management office (PMO), human resources, and even business executives. [...]

Contents

Guide to Simulation-Based Disciplines
Advancing Our Computational Future

S. Mittal, MITRE Corporation, McLean, VA, USA; U. Durak, German Aerospace Center (DLR), Braunschweig; T. Ören, University of Ottawa, Ottawa, ON, Canada (Eds)

This invaluable text/reference reviews the state of the art in simulation-based approaches across a wide range of different disciplines, and provides evidence of using simulation-based approaches to advance these disciplines. [...] 

Contents

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Cyber-Physical System Design from an Architecture Analysis Viewpoint
Communications of NII Shonan Meetings

S. Nakajima, National Institute of Informatics, Tokyo, Japan; J. Talpin, Inria, Rennes, France; M. Toyoshima, DENSO Corporation, Kariya, Japan; H. Yu, Boeing Research & Technology, Huntsville, AL, USA (Eds)

Providing a wide variety of technologies for ensuring the safety and dependability of cyber-physical systems (CPS), this book offers a comprehensive introduction to the architecture-centric modeling, analysis, and verification of CPS. In particular, it focuses on model driven engineering methods including architecture description languages, virtual prototyping, and formal analysis methods. [...] 

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Essence of Systems Analysis and Design
A Workbook Approach

P. S. Sajja, PG Department of Computer Science, Sardar Patel University, Vallabhbhi Vidyanagar

The main objective is to provide quick and essential knowledge for the subject with the help of summary and solved questions/case studies without going into detailed discussion. This book will be much helpful for the students as a supplementary text/workbook; and to the non-computer professionals, who deal with the systems analysis and design as part of their business. [...] 

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Secure Data Mining
J. Zhan, Carnegie Mellon University Dept. Computer Science, Pittsburgh, PA, USA; S. Matwin, University of Ottawa School of Information Technology &, Ottawa, ON, Canada

Data mining is a process to extract useful knowledge from large amounts of data. To conduct data mining, we often need to collect data. However, privacy concerns may prevent people from sharing the data and some types of information about the data. How we conduct data mining without breaching data privacy presents a challenge. […]

Contents
Preface.- Introduction.- Literature Review.- Fundamental Security and Privacy.- Privacy-Preserving Association Rule Mining.- Privacy-Preserving Sequential Pattern Mining.- Privacy-Preserving Naive Bayesian Classification.- Privacy-Preserving Decision Tree Classification.- Privacy-Preserving k-Nearest Neighbor Classification.- Privacy-Preserving Support Vector Machine Classification.- Privacy-Preserving k-Mean Clustering.- Privacy-Preserving k-Medoids Clustering.- Other Selected Topics.- Conclusion and Future Work.- Index.

Dynamic Secularization
Information Technology and the Tension Between Religion and Science
W. S. Bainbridge, Arlington, VA, USA

This book discusses secularization, arguing that it may be more complex and significant than is generally recognized. Using a number of online exploration methods, the author provides insights into how religion may be changing, and how information technology might be energized in this process. […]

Contents

Neural Connectomics Challenge
D. Battaglia, University Aix-Marseille, Marseille, France; I. Guyon, ChaLearn, Berkeley, CA, USA; V. Lemaire, Orange Labs, Lannion, France; J. Orlandi, University of Barcelona, Barcelona, Spain; B. Ray, NYU School of Medicine, New York, NY, USA; J. Soriano, University of Barcelona, Barcelona, Spain (Eds)

This book illustrates the thrust of the scientific community to use machine learning concepts for tackling a complex problem: given time series of neuronal spontaneous activity, which is the underlying connectivity between the neurons in the network? […]

Contents
First Connectomics Challenge: From Imaging to Connectivity.- Simple Connectome Inference from Partial Correlation Statistics in Calcium Imaging.- Supervised Neural Network Structure Recovery.- Signal Correlation Prediction Using Convolutional Neural Networks.- Reconstruction of Excitatory Neuronal Connectivity via Metric Score Pooling and Regularization.- Neural Connectivity Reconstruction from Calcium Imaging Signal using Random Forest with Topological Features.- […]

Series Title
The Springer Series on Challenges in Machine Learning
Visual Content Indexing and Retrieval with Psycho-Visual Models
J. Benois-Pineau, Univ. Bordeaux, Talence; P. Le Callet, Université de Nantes, Nantes Cedex 3, France (Eds)

This book provides a deep analysis and wide coverage of the very strong trend in computer vision and visual indexing and retrieval, covering such topics as incorporation of models of Human Visual attention into analysis and retrieval tasks. It makes the bridge between psycho-visual modelling of Human Visual System and the classical and most recent models in visual content indexing and retrieval. [...] 

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B. Bhanu, University of California, Riverside, CA; A. Kumar, Hong Kong Polytechnic University, Hong Kong (Eds)

This timely text/reference presents a broad overview of advanced deep learning architectures for learning effective feature representation for perceptual and biometrics-related tasks. [...] 

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Summarizing Biological Networks
S. S. Bhowmick, Nanyang Technological University, Singapore; B. Seah, Nanyang Technological University School of Computer Engineering, Singapore

This book focuses on the data mining, systems biology, and bioinformatics computational methods that can be used to summarize biological networks. [...] 

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Future technical systems will be companion systems, competent assistants that provide their functionality in a completely individualized way, adapting to a user’s capabilities, preferences, requirements, and current needs, and taking into account both the emotional state and the situation of the individual user. This book presents the enabling technology for such systems.

Contents

Series Title
Cognitive Technologies

TRIZ – The Theory of Inventive Problem Solving
Current Research and Trends in French Academic Institutions
D. Cavallucci, INSA Strasbourg, Strasbourg Cedex (Ed)

The work presented here is generally intended for engineers, educators at all levels, industrialists, managers, researchers and political representatives. Offering a snapshot of various types of research conducted within the field of TRIZ in France, it represents a unique resource. It has been two decades since the TRIZ theory originating in Russia spread across the world. […]

Contents
Finding Innovative Technical Solutions in Patents through Improved Evolution Trends.- Automated extraction of knowledge useful to populate Inventive Design Ontology from Patents.- Modelling Industrial Design Contribution to Innovative Product or Service Design Process in a highly Constrained Environment.- Teaching Competence for Organising Problem-Centred Teaching-Learning Process.- Problem Graph for warehousing design.- Key indicators of inventive performance for characterizing design activities in R&Ds; Application in technological design. […]

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Studies in Big Data

Transparent Data Mining for Big and Small Data
T. Cerquitelli, Politecnico di Torino, Torino; D. Quercia, Bell Laboratories, Cambridge, UK; F. Pasquale, University of Maryland, Baltimore, MD (Eds)

This book focuses on new and emerging data mining solutions that offer a greater level of transparency than existing solutions. Transparent data mining solutions with desirable properties (e.g. effective, fully automatic, scalable) are covered in the book. […]

Contents

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Model checking is a computer-assisted method for the analysis of dynamical systems that can be modeled by state-transition systems. Drawing from research traditions in mathematical logic, programming languages, hardware design, and theoretical computer science, model checking is now widely used for the verification of hardware and software in industry. [...] 

Contents
Conversations Around Semiotic Engineering
S. Diniz Junqueira Barbosa, PUC-Rio, Rio de Janeiro, Brazil; K. Breitman, Dell EMC | Services, Rio de Janeiro, Brazil (Eds)

Demonstrating the influence of Semiotic Engineering in Human-Computer Interaction, this book focuses on the work of one of the pioneers of the field - Clarisse de Souza - and her influence on this broad and wide-ranging area of research. [..]

Contents

Representation and Reality in Humans, Other Living Organisms and Intelligent Machines
G. Dodig-Crnkovic, Västerås, Sweden; R. Giovagnoli, Pontifical Lateran University, Rome (Eds)

This book enriches our views on representation and deepens our understanding of its different aspects. It arises out of several years of dialog between the editors and the authors, an interdisciplinary team of highly experienced researchers, and it reflects the best contemporary view of representation and reality in humans, other living beings, and intelligent machines. [..]

Contents

Series Title
Studies in Applied Philosophy, Epistemology and Rational Ethics

Algorithms for Next-Generation Sequencing Data
Techniques, Approaches, and Applications
M. Elloumi, ENSIT, Tunis, Tunisia (Ed)

The 14 contributed chapters in this book survey the most recent developments in high-performance algorithms for NGS data, offering fundamental insights and technical information specifically on indexing, compression and storage; error correction; alignment; and assembly. [..]

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Indexing, Compression and Storage of NGS Data.- Error Correction in NGS Data.- Alignment of NGS Data.- Assembly of NGS Data.

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S. Fernandes, Universidade Federal de Pernambuco, Recife, Brazil

This book provides a comprehensive view of the methods and approaches for performance evaluation of computer networks. It offers a clear and logical introduction to the topic, covering both fundamental concepts and practical aspects. [...] 

Contents

Research Challenges in Modeling and Simulation for Engineering Complex Systems
R. Fujimoto, Georgia Institute of Technology, Atlanta, GA, USA; C. Bock, NIST, Gaithersburg, MD, USA; W. Chen, Northwestern University, Evanston, IL, USA; E. Page, The MITRE Corporation, McLean, VA, USA; J. H. Panchal, Purdue University, West Lafayette, IN, USA (Eds)

This illuminating text/reference presents a review of the key aspects of the modeling and simulation (M&S) life cycle, and examines the challenges of M&S in different application areas. The authoritative work offers valuable perspectives on the future of research in M&S, and its role in engineering complex systems. [...] 

Contents
Introduction.- Applications.- Conceptual Modeling.- Computational Challenges in Modeling and Simulation.- Uncertainty in M&S.- Model Reuse, Composition and Adaptation.

Series Title
Simulation Foundations, Methods and Applications

High-Speed Decoders for Polar Codes
P. Giard, École Polytechnique Fédérale de Lausanne, Lausanne VD; C. Thibeault, École de Technologie Supérieure, Montréal, QC, Canada; W. J. Gross, McGill University, Montréal, QC, Canada

A new class of provably capacity achieving error-correction codes, polar codes are suitable for many problems, such as lossless and lossy source coding, problems with side information, multiple access channel, etc. [...] 

Contents
1 Polar Codes.- 2 Fast Low-Complexity Hardware Decoders for Low-Rate Polar Codes.- 3 Low-Latency Software Polar Decoders.- 4 Unrolled Hardware Architectures for Polar Decoders.- 5 Multi-mode Unrolled Polar Decoding.- 6 Conclusion and Future Work.- References.- Index.
HCI for Children with Disabilities

J. Guerrero-Garcia, Benemérita Universidad Autónoma de Puebla, Puebla, Mexico; J. M. González-Calleros, Benemérita Universidad Autónoma de Puebla, Puebla, Mexico; J. Muñoz-Arteaga, Universidad Autónoma de Aguascalientes, Aguascalientes, Mexico; C. A. Collazos, Universidad del Cauca, Popayán, Colombia (Eds)

In this book the authors present an HCI principle-based approach to develop applications to assist children with disabilities. Design knowledge related to developing complex solution for this audience is explained from an interaction design point of view. [..]

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S. Hai-Jew, Kansas State University, Manhattan, KS, USA (Ed)

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M. Halbrügge, TU Berlin

This book proposes a combination of cognitive modeling with model-based user interface development to tackle the problem of maintaining the usability of applications that target several device types at once (e.g., desktop PC, smart phone, smart TV). [..]

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As computers increasingly control the systems and services we depend upon within our daily lives like transport, communications, and the media, ensuring these systems function correctly is of utmost importance. [...]

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Understanding-Oriented Multimedia Content Analysis
Z. Li, Nanjing University of Science and Technology, Nanjing, China

This book offers a systematic introduction to an understanding-oriented approach to multimedia content analysis. It integrates the visual understanding and learning models into a unified framework, within which the visual understanding guides the model learning while the learned models improve the visual understanding. [...]

Contents

Series Title
Springer Theses
Robust Representation for Data Analytics
Models and Applications
S. Li, Northeastern University, Boston, MA, USA; Y. Fu, Northeastern University, BOSTON, MA, USA

This book introduces the concepts and models of robust representation learning, and provides a set of solutions to deal with real-world data analytics tasks, such as clustering, classification, time series modeling, outlier detection, collaborative filtering, community detection, etc. [...] 

Contents

Series Title
Advanced Information and Knowledge Processing

Theory and Models for Cyber Situation Awareness
P. Liu, Pennsylvania State University, University Park, PA, USA; S. Jajodia, George Mason University, Fairfax, VA, USA; C. Wang, Army Research Office, Research Triangle Park, NC, USA (Eds)

Today, when a security incident happens, the top three questions a cyber operation center would ask are: What has happened? Why did it happen? What should I do? Answers to the first two questions form the core of Cyber Situation Awareness (SA). Whether the last question can be satisfactorily addressed is largely dependent upon the cyber situation awareness capability of an enterprise. [...] 

Contents
Computer-aided human centric cyber situation awareness.- Computer and information science aspects of the recent advances in cyber situation awareness.- Learning and decision making aspects of the recent advances in cyber situation awareness.- Cognitive science aspects of the recent advances in cyber situation awareness.

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Lecture Notes in Computer Science

Deep Learning and Convolutional Neural Networks for Medical Image Computing
Precision Medicine, High Performance and Large-Scale Datasets
L. Lu, NIH Clinical Center, Bethesda, MD, USA; Y. Zheng, Siemens Healthcare Technology Center, Princeton, NJ; G. Carneiro, University of Adelaide, Adelaide, SA; L. Yang, University of Florida, Gainesville, FL (Eds)

This book presents a detailed review of the state of the art in deep learning approaches for semantic object detection and segmentation in medical image computing, and large-scale radiology database mining. A particular focus is placed on the application of convolutional neural networks, with the theory supported by practical examples. [...] 

Contents

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Advances in Computer Vision and Pattern Recognition
Big data technologies are used to achieve any type of analytics in a fast and predictable way, thus enabling better human and machine level decision making. Principles of distributed computing are the keys to big data technologies and analytics. […]

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The book illustrates the inter-relationship between several data management, analytics and decision support techniques and methods commonly adopted in Cybersecurity-oriented frameworks. The recent advent of Big Data paradigms and the use of data science methods, has resulted in a higher demand for effective data-driven models that support decision-making at a strategic level. [..]

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New Perspectives in End-User Development
F. Paternò, ISTI - C. N. R., Pisa; V. Wulf, Universität Siegen FB 5, Wirtschaftsinf.k u. N. Medien, Siegen (Eds)

This book provides an in-depth insight into the emerging paradigm of End-User Development (EUD), discussing the diversity and potential for creating effective environments for end users. [...] 

Contents

Understanding and Using Rough Set Based Feature Selection: Concepts, Techniques and Applications
M. S. Raza, National University of Sciences and Technology (NUST), Rawalpindi, Pakistan; U. Qamar, National University of Sciences and Technology (NUST), Rawalpindi, Pakistan

The book will provide: 1) In depth explanation of rough set theory along with examples of the concepts. 2) Detailed discussion on idea of feature selection. 3) Details of various representative and state of the art feature selection techniques along with algorithmic explanations. [...] 

Contents

Social Information Seeking
Leveraging the Wisdom of the Crowd
C. Shah, Rutgers University, New Brunswick, NJ, USA

This volume summarizes the author’s work on social information seeking (SIS), and at the same time serves as an introduction to the topic. Sometimes also referred to as social search or social information retrieval, this is a relatively new area of study concerned with the seeking and acquiring of information from social spaces on the Internet. [...] 

Contents
Introduction.- Information Seeking.- Social Media and Social Networking.- Online Question-Answering (Q&A).- Social Search.- Collaborative Information Seeking.- Social and Collaborative Information Seeking.- SIS in Research and Practice.- Conclusion.

Series Title
The Information Retrieval Series
This book offers researchers an understanding of the fundamental issues and a good starting point to work on this rapidly expanding field. It provides a comprehensive survey of current developments of heterogeneous information network. It also presents the newest research in applications of heterogeneous information networks to similarity search, ranking, clustering, recommendation. [...] 

Contents

Series Title
Data Analytics
This book takes a unique HCI approach to the concept of Software Product Line (SPL) and discusses the peculiarities of human-computer interaction not usually addressed in more traditional approaches. SPL is based on industrial practices for defining a range of software products.

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Series Title
Human–Computer Interaction Series

Mathematical Modelling for Next-Generation Cryptography

T. Takagi, Kyushu University, Fukuoka, Japan; M. Wakayama, Kyushu University, Fukuoka, Japan; K. Tanaka, Tokyo Institute of Technology, Tokyo, Japan; N. Kunihiro, The University of Tokyo, Kashiwa, Japan; K. Kimoto, University of the Ryukyus, Nakagami-gun, Japan; D. H. Duong, Kyushu University, Fukuoka, Japan (Eds)

This book presents the mathematical background underlying security modeling in the context of next-generation cryptography.

Contents

Series Title
Mathematics for Industry

Computing in Smart Toys

J. K.T. Tang, Caritas Institute of Higher Education, Tseung Kwan O; P. C. K. Hung, University of Ontario Institute of Technology, Oshawa, ON (Eds)

The goal of this book is to crystallize the emerging mobile computing technologies and trends into positive efforts to focus on the most promising solutions in services computing. Many toys built today are increasingly using these technologies together and it is important to understand the various research and practical issues.

Contents
Mobile Payment Systems
Secure Network Architectures and Protocols
J. Téllez, University of Carabobo, Valencia, Venezuela; S. Zeadally, University of Kentucky, Lexington, KY, USA

This important text/reference presents the latest research and developments in the field of mobile payment systems (MPS), covering issues of mobile device security, architectures and models for MPS, and transaction security in MPS. Topics and features: introduces the fundamental concepts in MPS, discussing the benefits and disadvantages of such systems, and the entities that underpin them; reviews [...]Contents

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Cloud Mobile Networks
From RAN to EPC
M. Vaezi, Princeton University, Princeton, NJ, USA; Y. Zhang, Hewlett Packard Labs, Fremont, CA, USA

This book explores the challenges and opportunities in exploiting cloud technologies for 5G, ranging from radio access network (RAN) to the evolved packet core (EPC). [...]Contents

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Health Informatics Data Analysis
Methods and Examples
D. Xu, University of Missouri-Columbia Dept. Computer Science, Columbia, MO, USA; M. D. Wang, Georgia Institute of Technology and Emory University, Atlanta, GA, USA; F. Zhou, Shenzhen Institutes of Advanced Technology, Shenzhen, China; Y. Cal. Chinese Academy of Sciences, Shenzhen, China (Eds)

This book provides a comprehensive overview of different biomedical data types, including both clinical and genomic data. Through explanations enable readers to explore key topics ranging from electrocardiograms to Big Data health mining and EEG analysis techniques. Each chapter offers a summary of the field and a sample analysis. [...]Contents
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1 Electrocardiogram.- 2 EEG visualization and analysis techniques.- 3 Big health data mining.- 4 Computational infrastructure for tele-health.- 5 Identification and Functional Annotation of IncRNAs in human disease.- 6 Metabolomics characterization of human diseases.- 7 Metagenomics for Monitoring Environmental Biodiversity: Challenges, Progress, and Opportunities.- 8 Global nonlinearfitness function for protein structures.- [...]Series Title
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X. Yin, Victoria University, Melbourne, VIC, Australia; S. Hadjiloucas, University of Reading, Reading; Y. Zhang, Victoria University, Melbourne, VIC, Australia

This book presents advances in biomedical imaging analysis and processing techniques using time dependent medical image datasets for computer aided diagnosis. The analysis of time-series images is one of the most widely appearing problems in science, engineering, and business. [...] 

Contents
1 Introduction and Motivation for Conducting Medical Image Analysis.- 2 Overview of clinical applications using THz pulse imaging, MRI, OCT and fundus imaging.- 3 Recent Advances in Medical Data Preprocessing and Feature Extraction Techniques.- 4 Pattern Classification.- 5 Introduction to MRI Time Series Image Analysis Techniques.- 6 Outlook for Clifford Algebra Based Feature and Deep Learning AI Architectures.- 7 Concluding remarks.

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C. Youn, KAIST, Daejeon, Korea (Republic of); M. Chen, Huazhong University of Science and Techn, Wuhan; P. Dazzi, ISTI-CNR Area della Ricerca di Pisa, Pisa

This book blends the principles of cloud computing theory and discussion of emerging technologies in cloud broker systems, enabling users to realise the potential of an integrated broker system for scientific applications and the Internet of Things (IoT). [...] 

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D. Zhang, The Hong Kong Polytechnic University, Hong Kong, China; D. Guo, Wake Forest University, Winston-Salem, NC, USA; K. Yan, National Institute of Health, Bethesda, USA

This book describes breath signal processing technologies and their applications in medical sample classification and diagnosis. First, it provides a comprehensive introduction to breath signal acquisition methods, based on different kinds of chemical sensors, together with the optimized selection and fusion acquisition scheme. [...] 

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T. Zhu, Deakin University, Burwood, VIC, Australia; G. Li, Deakin University, Burwood, VIC, Australia; W. Zhou, Deakin University, Burwood, VIC, Australia; P. S. Yu, University of Illinois at Chicago, Chicago, IL, USA

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E. G. Omodeo, University of Trieste, Trieste; A. Policriti, University of Udine, Udine; A. I. Tomescu, University of Helsinki, Helsinki, Finland

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J. Seiffertt, Truman University, Kirksville, MO, USA

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S. R. Sinha, Johnson Controls International, Milwaukee, WI, USA; Y. Park, Johnson Controls International, Milwaukee, WI, USA

This descriptive, practical guide explains how to build a commercially impactful, operationally effective and technically robust IoT ecosystem that takes advantage of the IoT revolution and drives business growth in the consumer IoT as well as industrial internet spaces. [...] 

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1 Preface.- 2 Building an IoT framework.- 3 Making devices smart.- 4 Creating smart gateways.- 5 Building network services.- 6 Managing devices.- 7 Performing data routing and real time analysis.- 8 Constructing data service platform.- 9 Performing analytics.- 10 Creating delivery enablement.- 11 Establishing a business support ecosystem.- 12 Dealing with security, privacy, access control, and compliance.- 13 Strengthening your technology and partner ecosystem.- 14 Developing and improving user experiences.- 15 Marketing your IoT initiatives.- 16 Monetizing your IoT efforts. [...] 

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S. S. Skiena, Stony Brook University, Stony Brook, NY, USA

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