

V. Rieser, O. Lemon, Heriot-Watt University, Edinburgh, UK

Reinforcement Learning for Adaptive Dialogue Systems

A Data-driven Methodology for Dialogue Management and Natural Language Generation

The past decade has seen a revolution in the field of spoken dialogue systems. As in other areas of Computer Science and Artificial Intelligence, data-driven methods are now being used to drive new methodologies for system development and evaluation.

Features

► A new methodology for developing spoken dialogue systems is described in detail ► A research guide for students and researchers ► This work provides insights, lessons, and inspiration for future research

Contents

1.Introduction.- 2.Background.- 3.Reinforcement Learning for Information Seeking dialogue strategies.- 4.The bootstrapping approach to developing Reinforcement Learning-based strategies.- 5.Data Collection in a Wizard-of-Oz experiment.- 6.Building a simulated learning environment from Wizard-of-Oz data.- 7.Comparing Reinforcement and Supervised Learning of dialogue policies with real users.- 8.Meta-evaluation.- 9.Adaptive Natural Language Generation.- 10.Conclusion.- References.- Example Dialogues.- A.1.Wizard-of-Oz Example Dialogues.- A.2.Example Dialogues from Simulated Interaction.- A.3.Example Dialogues from User Testing.- Learned State-Action Mappings.- Index.

Fields of interests

Computer Science, general; Artificial Intelligence (incl. Robotics); Language Translation and Linguistics

Target groups

Research

Product category

Monograph

Due November 2011

2011. VIII, 252 p. 47 illus., 24 in color. (Theory and Applications of Natural Language Processing) Hardcover

► € 79,95 | £72.00

► *€ (D) 85,55 | € (A) 87,95 | sFr 106,50

ISBN 978-3-642-24941-9

F. Schöthaler, PROMATIS software GmbH, Germany; G. Vossen, University of Münster, Germany; A. Oberweis, Karlsruhe Institute of Technology (KIT), Germany; T. Karle, PROMATIS software GmbH, Germany

Business Processes for Business Communities

Modeling Languages, Methods, Tools

After a brief introduction to the topic of business process modeling, the book offers a quick-start into model-based business process engineering. After that, the foundations of the modeling languages used are conveyed. Meaningful examples are in the foreground - each of the underlying formalisms is treated only as far as needed. Next the Horus Method is described in detail. The book defines a sequence of activities which finally leads to the creation of a complete business process model. The Horus Method, incidentally, is not bound to the use of the Horus software tools. It can be used with other tools or, if necessary, be used even without tool support.

Features

► Unique and practically proven method for business process engineering ► Support through a tool that can be freely downloaded ► Formally precise foundations based on latest research results ► Simulation offers a preview of business process performance

Contents

Introduction.- Practical Introduction to Business Process Engineering.- Concepts and Modeling Languages.- The Horus Method.- Areas of Application.- The Future of Business Engineering.- Bibliography.

Fields of interests

Simulation and Modeling; Models and Principles; e-Commerce/e-business

Target groups

Professional/practitioner

Product category

Professional book

Due February 2012

Die deutsche Ausgabe erschien im Oldenbourg Wissenschaftsverlag unter dem Titel „Geschäftsprozesse für Business Communities“.

2012. X, 200 p. 99 illus., 18 in color. Hardcover

► approx. € 39,95 | £35.99

► approx. *€ (D) 42,75 | € (A) 43,95 | sFr 53,50

ISBN 978-3-642-24790-3

P. Staccini, A. Harmel, CHU Mongi Slim, Sidi-Daoud, Tunisia; S. Darmoni, CHU Rouen, France; R. Gouider, CHU Radzi, Tunis, Tunisia (Eds.)

Systèmes d'information pour l'amélioration de la qualité en santé

Comptes rendus des quatorzièmes Journées francophones

Le 18e numéro de la collection „Informatique et Santé“ est consacré aux liens entre les systèmes d'information de santé et l'amélioration de la qualité en santé. Ce thème a été consacré lors 14e Journées francophones d'Informatique Médicale qui se sont déroulées à Tunis, les 31 mars, 1er et 3 avril 2011. Les articles sélectionnés détaillent les dernières avancées en matière d'application des méthodes de traitement de l'information aux données de santé.

Features

► Un livre qui regroupe les contributions des meilleurs chercheurs ► Une présentation claire des travaux les plus récents en Informatique médicale ► Une source très riche pour les professionnels du secteur hospitalier et les administrations de santé

Contents

1.Représentation des connaissances et web sémantique.- 2.Terminologies et vocabulaires contrôlés.- 3.Fouille de données et extraction d'information.- 4.Guides de bonnes pratiques et décision clinique.- 5.Interopérabilité et échange de données.- 6.Utilisabilité et usages.- 7.Index des auteurs.

Fields of interests

Health Informatics; Information Systems and Communication Service; Management of Computing and Information Systems

Target groups

Professional/practitioner

Product category

Contributed volume

Disponible

2011. 368 p. (Informatique et Santé) Broché

► approx. € 42,65 | £38.99

► approx. *€ (D) 45,64 | € (A) 46,92 | sFr 57,00

ISBN 978-2-8178-0284-8



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Z. Tari, RMIT-University, Melbourne, VIC, Australia;
A. K. Phan, Macquarie University, North Ryde,
NSW, Australia; M. Jayasinghe, V. G. Abhaya, RMIT
University, Melbourne, VIC, Australia

On the Performance of Web Services

Performance of Web Services provides innovative techniques to improve the performance of Web Services, as well as QoS (Quality of Service) requirements. This includes QoS performance, reliability and security. The author presents two levels of Web Services: the "kernel" (the SOAP engine which delivers messages from one point to another through various networks), and the "server side" (which processes heavy load / requests). The primary objective of this book is execution of applications delivered in a timely fashion. Case studies and examples are provided throughout this book.

Features

► One of the first books on Web Services that primarily focus on techniques to optimize the SOAP engine ► Covers QoS requirements ► Includes case studies and examples throughout the book

Contents

Introduction.- Background.- Benchmarking SOAP Bindings.- The Use of Similarity & Multicast Protocols to Improve Performance.- Network Traffic Optimisation.- Scheduling for Heavy Traffic.- Scheduling with Time Sharing.- Conclusion.- WSDL Specification for the Stock Quote Service.- SMP Message Schema.- A Sample SMP Message.

Fields of interests

Performance and Reliability; Information Systems Applications (incl. Internet); System Performance and Evaluation

Target groups

Professional/practitioner

Product category

Professional book

G. Agha, University of Illinois at Urbana-Champaign, IL, USA; O. Danvy, Aarhus University, Denmark;
J. Meseguer, University of Illinois at Urbana-Champaign, IL, USA (Eds)

Formal Modeling: Actors; Open Systems, Biological Systems

Essays Dedicated to Carolyn Talcott on the Occasion of Her 70th Birthday

Contents

Two PhD Students for the Price of One.- Honoring Carolyn Talcott's Contributions to Science.- Ten Years of Analyzing Actors: Rebeca Experience.- Mathematical Models of Object-Based Distributed Systems.- From Explicit to Symbolic Types for Communication Protocols in CCS.- Abstract LR-Parsing.- Fractionated Software for Networked Cyber-Physical Systems: Research Directions and Long-Term Vision.- Model Feasible Interactions in Distributed Real-Time Systems.- Puff, The Magic Protocol.- A Formal Methodology for Compositional Cross-Layer Optimization.- From Service Identification to Service Selection: An Interleaved Perspective.- Towards a System Model for Ensembles.- Algorithmic Aspects of Risk Management.- Parameterized Metareasoning in Membership Equational Logic.- Fast Sort Computations for Order-Sorted Matching and Unification.- Solving the First Verified Software Competition Problems Using PVS.- Towards a Maude Formal Environment.- Multisimulations: Towards Next Generation Integrated Simulation Environments.- Semantics, Simulation, and Formal Analysis of Modeling Languages for Embedded Systems in Real-Time Maude.- Computational Biology: A Programming Perspective.- Applications of Pathway Logic Modeling to Target Identification.

Fields of interests

Software Engineering; Logics and Meanings of Programs; Programming Languages, Compilers, Interpreters

Target groups

Research

Product category

Contributed volume

B. Aman, G. Ciobanu, Romanian Academy, Iași, Romania

Mobility in Process Calculi and Natural Computing

The design of formal calculi in which fundamental concepts underlying interactive systems can be described and studied has been a central theme of theoretical computer science in recent decades, while membrane computing, a rule-based formalism inspired by biological cells, is a more recent field that belongs to the general area of natural computing. This is the first book to establish a link between these two research directions while treating mobility as the central topic. In the first chapter the authors offer a formal description of mobility in process calculi, noting the entities that move: links (π -calculus), ambients (ambient calculi) and branes (brane calculi). In the second chapter they study mobility in the framework of natural computing. The authors define several systems of mobile membranes in which the movement inside a spatial structure is provided by rules inspired by endocytosis and exocytosis. They study their computational power in comparison with the classical notion of Turing computability and their efficiency in algorithmically solving hard problems in polynomial time.

Features

► The first monograph that treats biological mobility as its central topic ► Provides an introduction to more than just one modelling framework ► Established links between research on membrane computing and process calculi

Contents

Chap. 1, Mobility in Process Calculi.- Chap. 2, Mobility in Membrane Computing.- Chap. 3, Encodings.- References.- Index.

Fields of interests

Theory of Computation; Computing Methodologies; Computational Biology/Bioinformatics

Target groups

Research

Product category

Monograph

Due November 2011

2011. XII, 244 p. Hardcover

► € 79,95 | £72.00

► *€ (D) 85,55 | € (A) 87,95 | sFr 106,50

ISBN 978-1-4614-1929-7

Available

2011. XX, 447 p. 100 illus. (Lecture Notes in Computer Science / Programming and Software Engineering, Volume 7000) Softcover

► € 62,00 | £55.99

► *€ (D) 66,34 | € (A) 68,20 | sFr 83,00

ISBN 978-3-642-24932-7

Due November 2011

2011. XIV, 210 p. 21 illus. (Natural Computing Series) Hardcover

► € 79,95 | £72.00

► *€ (D) 85,55 | € (A) 87,95 | sFr 106,50

ISBN 978-3-642-24866-5



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D. Basin, P. Schaller, M. Schläpfer, ETH Zürich, Switzerland

Applied Information Security

A Hands-on Approach

This book explores fundamental principles for securing IT systems and illustrates them with hands-on experiments that may be carried out by the reader using accompanying software. The experiments highlight key information security problems that arise in modern operating systems, networks, and web applications. The authors explain how to identify and exploit such problems and they show different countermeasures and their implementation. The reader thus gains a detailed understanding of how vulnerabilities arise and practical experience tackling them.

Features

► Appropriate for undergraduate and graduate students of computer science and also for self-study by IT professionals ► The authors' supporting software environment is freely downloadable, and most chapters end with exercises ► The authors have successfully taught IT security to students and professionals using the content of this book and the laboratory setting it describes

Contents

Chap. 1, Security Principles.- Chap. 2, The Virtual Environment.- Chap. 3, Network Services.- Chap. 4, Authentication and Access Control.- Chap. 5, Logging and Log Analysis.- Chap. 6, Web Application Security.- Chap. 7, Certificates and Public-Key Cryptography.- Chap. 8, Risk Management.- App. A, Using This Book in a Lab Course.- App. B, Report Template.- App. C, Linux Basics and Tools.- App. D, Answers to Questions.- References.- Index.

Fields of interests

Systems and Data Security; Data Structures, Cryptology and Information Theory; Management of Computing and Information Systems

Target groups

Upper undergraduate

Product category

Undergraduate textbook

Due November 2011

2011. XIV, 202 p. 15 illus. Hardcover

► € 29,95 | £26.99

► *€ (D) 32,05 | € (A) 32,95 | sFr 40,00

ISBN 978-3-642-24473-5

C. Böhm, Ludwig-Maximilians-Universität, München, Germany; J. Eder, Alpen-Adria Universität Klagenfurt, Austria; C. Plant, Florida State University, Tallahassee, FL, USA (Eds)

Transactions on Large-Scale Data- and Knowledge-Centered Systems IV

Special Issue on Database Systems for Biomedical Applications

Editor-in-chief: A. Hameurlain, Paul Sabatier University, Toulouse, France; J. Küng, R. Wagner, University of Linz, Austria

Features

► Focuses on the integration of database technology and biomedical research ► Discusses the challenges arising in the face of the huge quantities of heterogeneous data available today ► Of interest to both biomedical researchers and the database community

Contents

A Database System for Electrophysiological.- Management of Genotyping-Related Documents by Integrated Use of Semantic Tagging.-MED-Collector: Multisource Epidemic Data Collector.- Supporting BioMedical Information Retrieval: The BioTracer Approach.-Electronic Health Record Data-as-a-Services Composition Based on Query Rewriting.-A Modular Database Architecture Enabled to Comparative Sequence Analysis.-[KD3] A Workflow-Based Application for Exploration of Biomedical Data Sets.-A Secured Collaborative Model for Data Integration in Life Sciences.-Flexible-ICA Algorithm for a Reliable Iris Recognition.

Fields of interests

Database Management; Data Mining and Knowledge Discovery; Information Storage and Retrieval

Target groups

Research

Product category

Contributed volume

Available

2011. XI, 209 p. 77 illus. (Lecture Notes in Computer Science / Transactions on Large-Scale Data- and Knowledge-Centered Systems, Volume 6990)

Softcover

► € 63,00 | £56.99

► *€ (D) 67,41 | € (A) 69,30 | sFr 84,00

ISBN 978-3-642-23739-3

A. R. Bradley, University of Colorado, Boulder, CO, USA

Programming for Engineers

A Foundational Approach to Learning C and Matlab

To learn to program is to be initiated into an entirely new way of thinking about engineering, mathematics, and the world in general. Computation is integral to all modern engineering disciplines, so the better you are at programming, the better you will be in your chosen field. The author departs radically from the typical presentation by teaching concepts and techniques in a rigorous manner rather than listing how to use libraries and functions.

Features

► The book is appropriate for undergraduate students of engineering and computer science, and graduate students of other disciplines ► The author introduces pointer-based memory manipulation in the first chapter, so that students learn and practice this essential skill at an early stage ► The presentation flows from C into Matlab/Octave programming, important for engineers in all fields

Contents

Chap. 1, Memory: The Stack.- Chap. 2, Control.- Chap. 3, Arrays and Strings.- Chap. 4, Debugging.- Chap. 5, I/O.- Chap. 6, Memory: The Heap.- Chap. 7, Abstract Data Types.- Chap. 8, Linked Lists.- Chap. 9, Introduction to Matlab.- Chap. 10, Exploring ODEs with Matlab.- Chap. 11, Exploring Time and Frequency Domains with Matlab.- Chap. 12, Index.

Fields of interests

Software Engineering/Programming and Operating Systems; Electrical Engineering; Data Structures, Cryptology and Information Theory

Target groups

Upper undergraduate

Product category

Undergraduate textbook

Due October 2011

2011. XIII, 235 p. 27 illus. Hardcover

► € 54,95 | £49.99

► *€ (D) 58,80 | € (A) 60,45 | sFr 73,50

ISBN 978-3-642-23302-9



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M. Hinchey, University of Limerick, Ireland; L. Coyle, University of Limerick, Ireland (Eds)

Conquering Complexity

Software has long been perceived as complex, at least within Software Engineering circles.

Features

► Significant insights into sources and causes of complexity ► Significant contributions towards controlling complexity authored by world-class authorities ► Accessible to both researchers and practitioners alike

Contents

The Many Faces of Complexity in Software Design.-Simplicity and Complexity in Programs and Systems.-Conquering Complexity.-Separating Safety and Control Systems to Reduce Complexity.-Conquering System Complexity.-Accommodating Adaptive Systems Complexity with Change Tolerance.-You Can't Get There From Here! Large Problems and Potential Solutions in Developing New Classes of Complex Computer Systems.-99% Biological Inspiration.-Dealing With Complexity in Agent-Oriented Software Engineering: The Importance of Interactions.-Service-Oriented: Conquering Complexity with XMDD.-Ten Commandments of Forman Methods...Ten Years On.-Conquering Complexity via Seamless Integration of Design-Time and Run-Time Verification.-Modelling Temporal Behaviour in Complex Systems with Timebands.-Software and System Modeling: Structured Multi-view Modeling, Specification, Design and Implementation.-Conquering Complexity through Distributed, Intelligent Agent Frameworks.-Customer-Oriented Business Process Management: Vision and Obstacles.-On the Problem of Matching Database Schemas.

Fields of interest

Computer Science, general

Target groups

Research

Product category

Monograph

C. B. Jones, J. L. Lloyd, Newcastle University, UK (Eds)

Dependable and Historic Computing

Essays Dedicated to Brian Randell on the Occasion of his 75th Birthday

Contents

Part A: Biographical -- What I Learned from Brian (Hermann Kopetz).- Brian Randell: A Biographical Note (John L. Lloyd and Tom Anderson).- Part B: Conference Papers -- On Building a Referee's Avatar (Algirdas Avizienis).- From Theory to Practice: The Invention of Programming, 1947-51 (Martin Campbell-Kelly).- Transactions: From Local Atomicity to Atomicity in the Cloud (David Lomet).- From DSS to MILS (John Rushby).- Pre-electronic Computing (Doron Swade).- Whetstone Wanderings (Brian Wichmann).- Part C: Contributed Papers -- Using Real-Time Road Traffic Data to Evaluate Congestion (Jean Bacon, Andrei Iu. Bejan, Alastair R. Beresford, David Evans, Richard J. Gibbens, and Ken Moody).- Fault Tolerant Autonomic Computing Systems in a Chemical Setting (Jean-Pierre Banatre, Christine Morin, and Thierry Priol).- Out of a Closet: The Early Years of the Computer Museum (Gordon Bell).- Timing Faults and Mixed Criticality Systems (Alan Burns and Sanjoy Baruah).- Professor Brian Randell and the History of Computing (Paul E. Ceruzzi).- Computer Storage Fragmentation: Pioneering Work of Brian Randell (Ed Coffman).- IBM-ACS: Reminiscences and Lessons Learned from a 1960's Supercomputer Project (Lynn Conway).- The Belgian Electronic Mathematical Machine (1951-1962): An Account (Pierre-Jacques Courtois).- On the Resilience of the Dependability Framework to the Intrusion of New Security Threats (Marc Dacier).- Virtual Fault Tolerance (Peter J. [...])

Fields of interests

History of Computing; Operating Systems; Systems and Data Security

Target groups

Research

Product category

Contributed volume

B. Juba, Harvard University Cambridge, MA, USA

Universal Semantic Communication

Is meaningful communication possible between two intelligent parties who share no common language or background? In this work, a theoretical framework is proposed in which it is possible to address when and to what extent such semantic communication is possible: such problems can be rigorously addressed by explicitly focusing on the goals of the communication.

Features

► The book includes a Foreword by Oded Goldreich ► The theory introduces formal notions of feedback that capture the essence of whether or not reliable universal protocols can be constructed in many natural settings of interest ► The book is accessible to anyone with an undergraduate-level knowledge of the theory of computation

Contents

Chap. 1, Introduction.- Chap. 2, Theory of Finite Goal-Oriented Communication.- Chap. 3, Verifiable Goals for Communication.- Chap. 4, Conditions for Efficiency in Finite Executions.- Chap. 5, Computational Complexity of Goals.- Chap. 6, Theory of Goal-Oriented Communication in Infinite Executions.- Chap. 7, The Power of Relaxed Models.- Chap. 8, The Error Complexity of Strategies in Infinite Executions.- Chap. 9, Towards Applications: Communication with a Changing Network.- Protocol.- Chap. 10, Conclusions and Directions for Future Work.- App. A, Background in Probability.- App. B, Background in Interactive Proof Systems.- App. C, Additional Background.- Bibliography.

Fields of interests

Theory of Computation; Computer Systems Organization and Communication Networks; User Interfaces and Human Computer Interaction

Target groups

Research

Product category

Monograph

Due January 2012

2012. XXX, 490 p. 137 illus. Hardcover

► € 119,95 | £108.00

► *€ (D) 128,35 | € (A) 131,95 | sFr 160,00

ISBN 978-1-4471-2296-8



9 781447 122968

Available

2011. XII, 523 p. 137 illus., 60 in color. (Lecture Notes in Computer Science / Theoretical Computer Science and General Issues, Volume 6875) Softcover

► € 70,00 | £63.99

► *€ (D) 74,90 | € (A) 77,00 | sFr 93,50

ISBN 978-3-642-24540-4



9 783642 245404

Due November 2011

2011. XIX, 397 p. 8 illus. Hardcover

► € 99,95 | £90.00

► *€ (D) 106,95 | € (A) 109,95 | sFr 133,50

ISBN 978-3-642-23296-1



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W. Kuich, Technische Universität Wien, Austria;
G. Rahonis, Aristotle University of Thessaloniki,
Greece (Eds)

Algebraic Foundations in Computer Science

Essays Dedicated to Symeon Bozapalidis on
the Occasion of His Retirement

Contents

Selected Decision Problems for Square-Re-
finement Collage Grammars.- Weighted Tree
Automata over Valuation Monoids and Their
Characterization by Weighted Logics.- Partial
Conway and Iteration Semiring-Semimodule
Pairs.- Kleene Theorem in Partial Conway
Theories with Applications.- Rational Transfor-
mations and a Kleene Theorem for Power Series over
Rational Monoids.- Equational Weighted Tree
Transformations with Discounting.- Quantum
Automata Theory – A Review.- Graph Automata:
The Algebraic Properties of Abelian Relational
Graphoids.- A Survey on Picture-Walking Autom-
ata.- Identity Problems, Solvability of Equations
and Unification in Varieties of Semigroups Related
to Varieties of Groups.- Algebraic Systems and
Pushdown Automata.- Where Automatic Struc-
tures Benefit from Weighted Automata.- Survey:
Weighted Extended Top-Down Tree Transducers
Part III — Composition.- Valuations of Weighted
Automata: Doing It in a Rational Way.- Selected
Combinatorial Properties of Random Intersection
Graphs. Weighted Tree Automata over Valuation
Monoids and Their Characterization by Weighted
Logics.- Partial Conway and Iteration Semiring-
Semimodule Pairs.- Kleene Theorem in Partial
Conway Theories with Applications.- Rational
Transformations and a Kleene Theorem for Power
Series over Rational Monoids. [...]

Fields of interests

Logics and Meanings of Programs; Mathematical
Logic and Formal Languages; Artificial Intelli-
gence (incl. Robotics)

Target groups

Research

Product category

Contributed volume

G. Mazzola, University of Minnesota, Minneapolis,
MN, USA; J. Park, McNally Smith College of Music,
Saint Paul, MN, USA; F. Thalmann, University of
Minnesota, Minneapolis, MN, USA

Musical Creativity

Strategies and Tools in Composition and
Improvisation

Contents

Part I Introduction.- Chap. 1 What the Book Is
About.- Chap. 2 Ontology.- Part II Practice.-
Chap. 3 The Tutorial.- Chap. 4 Leitfaden.- Chap.
5 The General Method of Creativity.- Chap. 6
Getting off the Ground.- Chap. 7 Motivational
Aspects.- Chap. 8 Rhythmical Aspects.- Chap.
9 The Pitch Aspect.- Chap. 10 The Harmonic
Aspect.- Chap. 11 Melodic Aspects.- Chap. 12
The Contrapuntal Aspect.- Chap. 13 Instrumental
Aspects.- Chap. 14 Large Form Aspects.- Chap.
15 Community Aspects.- Chap. 16 Commercial
Aspects.- Chap. 17 Dodecaphonic Aspects.- Part
III Theory.- Chap. 18 Principles of Creative
Pedagogy.- Chap. 19 Material.- Chap. 20 Historical
Principles.- Chap. 21 Present Principles.- Chap.
22 Our Principles.- Chap. 23 First Examples.-
Chap. 24 Psychological Perspectives.- Chap. 25
Software.- Chap. 26 Composition and Improvisa-
tion.- Part IV Case Studies.- Chap. 27 Ludwig
van Beethoven's Op109: Six Variations.- Chap.
28 Beethoven's Op109: Improvisational Aspects.-
Chap. 29 Our CD.- Chap. 30 Boulez: Structures
Recomposed.- Chap. 31 The Escher Theorem.-
Part V Future Perspectives.- Chap. 32 Is There a
General Scheme for Creativity?.- Chap. 33 The
Balanced Dancing Performer.- References.- Bib-
liography.

Fields of interests

Computer Appl. in Arts and Humanities; Music;
Media Design

Target groups

Upper undergraduate

Product category

Graduate/Advanced undergraduate textbook

R. Mikkilineni, Kawa Objects Inc., Los Altos, CA, USA

Designing a New Class of Distributed Systems

Designing a New Class of Distributed Systems
closely examines the Distributed Intelligent
Managed Element (DIME) Computing Model, a
new model for distributed systems, and provides
a guide to implementing Distributed Managed
Workflows with High Reliability, Availability,
Performance and Security. The book also explores
the viability of self-optimizing, self-monitoring
autonomous DIME-based computing systems.
Designing a New Class of Distributed Systems is
designed for practitioners as a reference guide for
innovative distributed systems design. Researchers
working in a related field will also find this book
valuable.

Contents

An introduction to the design of a new class of
distributed systems.- Understanding distributed
systems and their management.- Distributed
Intelligent Managed Element (DIME) network
architecture implementing a non-von Neumann
computing model.- Designing distributed services
creation, service delivery and service assur-
ance with the architectural resilience of cellular
organisms.- DIME network architecture - Future
research directions and Conclusion.

Fields of interests

Information Systems and Communication Service;
Circuits and Systems

Target groups

Professional/practitioner

Product category

Brief

Available

2011. X, 363 p. 34 illus. (Lecture Notes in Computer
Science / Theoretical Computer Science and General
Issues, Volume 7020) Softcover

► € 54,00 | £48.99

► *€ (D) 57,78 | € (A) 59,40 | sFr 72,00

ISBN 978-3-642-24896-2



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Due November 2011

2011. XIV, 338 p. 146 illus., 113 in color.
(Computational Music Science) Hardcover

► € 69,95 | £62.99

► *€ (D) 74,85 | € (A) 76,95 | sFr 93,50

ISBN 978-3-642-24516-9



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Due November 2011

2012 2011. XII, 65 p. 30 illus. (SpringerBriefs in
Electrical and Computer Engineering) Softcover

► € 39,95 | £26.99

► *€ (D) 42,75 | € (A) 43,95 | sFr 39,50

ISBN 978-1-4614-1923-5



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H. C. Tilborg, Technische Universiteit Eindhoven, Netherlands; S. Jajodia, George Mason University, Fairfax, VA, USA (Eds)

Encyclopedia of Cryptography and Security

Features

► Definitive information on cryptography and information security from highly regarded researchers ► Effective tool for professionals in many fields and researchers of all levels ► 5643 references, more than twice the number of references that appear in the First Edition

Contents

Over 750 entries, in A-Z format.

Fields of interests

Data Structures, Cryptology and Information Theory; Data Encryption; Coding and Information Theory

Target groups

Research

Product category

Encyclop(a)edia

SPRINGER
REFERENCE

Available

Print

2nd ed. 2011. XL, 1435 p. (In 2 volumes, not available separately)

► approx. € 499,00 | £449.50

► approx. *€ (D) 533,93 | € (A) 548,90 | sFr 664,50

ISBN 978-1-4419-5905-8



9 781441 959058



eReference

2nd ed. 2011.

► approx. € 499,00 | £449.50

► approx. **€ (D) 593,81 | € (A) 598,80 | sFr 698,00

ISBN 978-1-4419-5906-5



9 781441 959065



Print + eReference

2nd ed. 2011. XL, 1435 p. (In 2 volumes, not available separately)

► approx. € 624,00 | £562.00

► approx. *€ (D) 667,68 | € (A) 686,40 | sFr 831,00

ISBN 978-1-4419-5907-2



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