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Soft Computing in Data Analytics Janmenjoy Nayak 2018-08-21 The volume contains original research findings, exchange of ideas and dissemination of innovative, practical development experiences in different fields of soft and advance computing. It provides insights into the International Conference on Soft Computing in Data Analytics (SCDA). It also concentrates on both theory and practices from around the world in all the areas of related disciplines of soft computing. The book provides rapid dissemination of important results in soft computing technologies, a fusion of research in fuzzy logic, evolutionary computations, neural science and neural network systems and chaos theory and chaotic systems, swarm based algorithms, etc. The book aims to cater the postgraduate students and researchers working in the discipline of computer science and engineering along with other engineering branches.

MIMO-OFDM Wireless Communications with MATLAB Yong Soo Cho 2010-08-20 MIMO-OFDM is a key technology for next-generation cellular communications (3GPP-LTE, Mobile WiMAX, IMT-Advanced) as well as wireless LAN (IEEE 802.11a, IEEE 802.11n), wireless PAN (MB-OFDM), and broadcasting (DAB, DVB, DMB). In MIMO-OFDM Wireless Communications with MATLAB®, the authors provide a comprehensive introduction to the theory and practice of wireless channel modeling, OFDM, and MIMO, using MATLAB® programs to simulate the various techniques on MIMO-OFDM systems. One of the only books in the area dedicated to explaining simulation aspects Covers implementation to help cement the key concepts Uses materials that have been classroom-tested in numerous universities Provides the analytic solutions and practical examples with downloadable MATLAB® codes Simulation examples based on actual industry and research projects Presentation slides with key equations and figures for instructor use MIMO-OFDM Wireless Communications with MATLAB® is a key text for graduate students in wireless communications. Professionals and technicians in wireless communication fields, graduate students in signal processing, as well as senior undergraduates majoring in wireless communications will find this book a practical introduction to the MIMO-OFDM techniques. Instructor materials and MATLAB® code

examples available for download at www.wiley.com/go/chomimo

Proceedings of the 11th International Conference on Computer Engineering and Networks Qi Liu 2021-11-11 This conference proceeding is a collection of the papers accepted by the CENet2021 – the 11th International Conference on Computer Engineering and Networks held on October 21-25, 2021 in Hechi, China. The topics focus but are not limited to Internet of Things and Smart Systems, Artificial Intelligence and Applications, Communication System Detection, Analysis and Application, and Medical Engineering and Information Systems. Each part can be used as an excellent reference by industry practitioners, university faculties, research fellows and undergraduates as well as graduate students who need to build a knowledge base of the most current advances and state-of-practice in the topics covered by this conference proceedings. This will enable them to produce, maintain, and manage systems with high levels of trustworthiness and complexity.

Modeling and Tools for Network Simulation Klaus Wehrle 2010-09-22 A crucial step during the design and engineering of communication systems is the estimation of their performance and behavior; especially for mathematically complex or highly dynamic systems network simulation is particularly useful. This book focuses on tools, modeling principles and state-of-the art models for discrete-event based network simulations, the standard method applied today in academia and industry for performance evaluation of new network designs and architectures. The focus of the tools part is on two distinct simulations engines: OmNet++ and ns-3, while it also deals with issues like parallelization, software integration and hardware simulations. The parts dealing with modeling and models for network simulations are split into a wireless section and a section dealing with higher layers. The wireless section covers all essential modeling principles for dealing with physical layer, link layer and wireless channel behavior. In addition, detailed models for prominent wireless systems like IEEE 802.11 and IEEE 802.16 are presented. In the part on higher layers, classical modeling approaches for the network layer, the transport layer and the application layer are presented in addition to modeling approaches for peer-to-peer networks and topologies of networks. The modeling parts are accompanied with catalogues of model implementations for a large set of different simulation engines. The book is aimed at master students and PhD students of computer science and electrical engineering as well as at researchers and practitioners from academia and industry that are dealing with network simulation at any layer of the protocol stack.

Smart Trends in Systems, Security and Sustainability Xin-She Yang 2017-12-30 The volume deals with sustainability transitions which are transformations of major socio-technical systems of provision and use in areas such as energy, water, mobility, and food, towards more sustainable ways of production and consumption. The book provides insights of World Conference on Smart Trends in Systems, Security and Sustainability (WS4 2017) which is divided into different sections such as Smart IT Infrastructure for Sustainable Society; Smart Management prospective for Sustainable Society; Smart Secure Systems for Next

Generation Technologies; Smart Trends for Computational Graphics and Image Modelling; and Smart Trends for Biomedical and Health Informatics. The book volume contains 31 high-quality papers presented at WS4 2017.

Introduction to Network Simulator NS2 Teerawat Issariyakul 2011-12-02 Introduction to Network Simulator NS2 is a primer providing materials for NS2 beginners, whether students, professors, or researchers for understanding the architecture of Network Simulator 2 (NS2) and for incorporating simulation modules into NS2. The authors discuss the simulation architecture and the key components of NS2 including simulation-related objects, network objects, packet-related objects, and helper objects. The NS2 modules included within are nodes, links, SimpleLink objects, packets, agents, and applications. Further, the book covers three helper modules: timers, random number generators, and error models. Also included are chapters on summary of debugging, variable and packet tracing, result compilation, and examples for extending NS2. Two appendices provide the details of scripting language Tcl, OTcl and AWK, as well object oriented programming used extensively in NS2.

Wireless Communication and Sensor Network Salah Bourennane 2016-06-29 This proceedings volume collects the most up-to-date, comprehensive and state-of-the-art knowledge on wireless communication, sensor network, network technologies, services and application. Written by world renowned researchers, each chapter is original in content, featuring high-impact presentations and late-breaking contributions. Researchers and practitioners will find this edition a useful resource material and an inspirational read. Contents:Wireless CommunicationsNetwork TechnologiesServices and Application Readership: Researchers, academics, professionals and graduate students in neural networks/networking, electrical & electronic engineering, and condensed matter physics.

Handbook of Wireless Sensor Networks: Issues and Challenges in Current Scenario's Pradeep Kumar Singh 2020-02-08 This book explores various challenging problems and applications areas of wireless sensor networks (WSNs), and identifies the current issues and future research challenges. Discussing the latest developments and advances, it covers all aspects of in WSNs, from architecture to protocols design, and from algorithm development to synchronization issues. As such the book is an essential reference resource for undergraduate and postgraduate students as well as scholars and academics working in the field.

Advanced Wireless Communications Savo G. Glisic 2007-06-13 Fully revised and updated version of the successful "AdvancedWireless Communications" Wireless communications continue to attract the attention ofboth research community and industry. Since the first edition waspublished significant research and industry activities have broughtthe fourth generation (4G) of wireless communications systemscloser to implementation and standardization. "Advanced Wireless Communications" continues to provide acomparative study of enabling technologies for 4G. This secondedition has been revised and updated and now

includes additionalinformation on the components of common air interface, includingthe area of space time coding , multicarrier modulation especiallyOFDM, MIMO, cognitive radio and cooperative transmission. Ideal for students and engineers in research and development inthe field of wireless communications, the second edition ofAdvanced Wireless Communications also gives an understanding tocurrent approaches for engineers in telecomm operators, governmentand regulatory institutions. New features include: Brand new chapter covering linear precoding in MIMO channelsbased on convex optimization theory. Material based on game theory modelling encompassing problemsof adjacent cell interference, flexible spectra sharing andcooperation between the nodes in ad hoc networks. Presents and discusses the latest schemes for interferencesuppression in ultra wide band (UWB) cognitive systems. Discusses the cooperative transmission and more details onpositioning.

Intelligent Data Communication Technologies and Internet of Things D. Jude Hemanth 2019-11-10 This book focuses on the emerging advances in distributed communication systems, big data, intelligent computing and Internet of Things, presenting state-of-the-art research in frameworks, algorithms, methodologies, techniques and applications associated with data engineering and wireless distributed communication technologies. In addition, it discusses potential topics like performance analysis, wireless communication networks, data security and privacy, human computer interaction, 5G Networks, and smart automated systems, which will provide insights for the evolving data communication technologies. In a nutshell, this proceedings book compiles novel and high-quality research that offers innovative solutions for communications in IoT networks.

Computational Optimization Techniques and Applications Muhammad Sarfraz 2021-08-25 Computational optimization is an active and important area of study, practice, and research today. It covers a wide range of applications in engineering, science, and industry. It provides solutions to a variety of real-life problems in the fields of health, business, government, military, politics, security, education, and many more. This book compiles original and innovative findings on all aspects of computational optimization. It presents various examples of optimization including cost, energy, profits, outputs, performance, and efficiency. It also discusses different types of optimization problems like nonlinearity, multimodality, discontinuity, and uncertainty. Over thirteen chapters, the book provides researchers, practitioners, academicians, military professionals, government officials, and other industry professionals with an in-depth discussion of the latest advances in the field.

Introduction to Wireless Sensor Networks Anna Forster 2016-07-12 Explores real-world wireless sensor network development, deployment, and applications Presents state-of-the-art protocols and algorithms Includes end-of-chapter summaries, exercises, and references For students, there are hardware overviews, reading links, programming examples, and tests available at [website] For Instructors, there are PowerPoint slides and solutions available at [website]

Cognitive Radio Sensor Networks: Applications, Architectures, and Challenges
Rehmani, Mubashir Husain 2014-06-30 "This book examines how wireless sensor
nodes with cognitive radio capabilities can address these network challenges
and improve the spectrum utilization, presenting a broader picture on the
applications, architecture, challenges, and open research directions in the
area of WSN research"--Provided by publisher.

Sensor Technology: Concepts, Methodologies, Tools, and Applications Management
Association, Information Resources 2020-02-07 Collecting and processing data is
a necessary aspect of living in a technologically advanced society. Whether
it's monitoring events, controlling different variables, or using decision-
making applications, it is important to have a system that is both inexpensive
and capable of coping with high amounts of data. As the application of these
networks becomes more common, it becomes imperative to evaluate their
effectiveness as well as other opportunities for possible implementation in the
future. Sensor Technology: Concepts, Methodologies, Tools, and Applications is
a vital reference source that brings together new ways to process and monitor
data and to put it to work in everything from intelligent transportation
systems to healthcare to multimedia applications. It also provides inclusive
coverage on the processing and applications of wireless communication, sensor
networks, and mobile computing. Highlighting a range of topics such as internet
of things, signal processing hardware, and wireless sensor technologies, this
multi-volume book is ideally designed for research and development engineers,
IT specialists, developers, graduate students, academics, and researchers.

Digital Democracy – IT for Change Prafulla Kumar Behera 2021-05-11 This book
constitutes the refereed proceedings of the 53rd Annual Convention of the
Computer Society of India, CSI 2020, held in Bhubaneswar, India, in January
2020. The 3 revised full and 7 revised short papers, along with 1 poster paper,
presented were carefully reviewed and selected from 144 submissions. The theme
of CSI 2021, Digital Democracy – IT for Change, was selected to present the use
of information and communication technology (ICT) in political and governance
processes. The papers focus on topics such as digital democracy, digital
communication, digital analytics and digital security.

Getting Started with IBM WebSphere Cast Iron Cloud Integration Carla Sadtler
2012-01-25 Cloud computing provides companies with many capabilities to meet
their business needs but can also mean that a hybrid architecture is created
that includes on-premise systems and the cloud. Integration is needed to bridge
the gap between the on-premise existing systems and the new cloud applications,
platform, and infrastructure. IBM® WebSphere® Cast Iron® meets the challenge of
integrating cloud applications with on-premise systems, cloud applications-to-
cloud applications, and on-premise to on-premise applications. It contains a
graphical development environment that provides built-in connectivity to many
cloud and on-premise applications and reusable solution templates that can be
downloaded from a solution repository. The integration solutions that are
created can then run on either an on-premise integration appliance or the
multi-tenant WebSphere Cast Iron Live cloud service. This IBM Redbooks®

publication is intended for application integrators, integration designers, and administrators evaluating or already using IBM WebSphere Cast Iron. Executives, leaders, and architects who are looking for a way to integrate cloud applications with their on-premise applications are also shown how WebSphere Cast Iron can help to resolve their integration challenges. The book helps you gain an understanding of Cast Iron and explains how to integrate cloud and on-premise applications quickly and simply. It gives a detailed introduction to the development tool and the administration interfaces and how they are used. It also discusses security, high availability, and re-usability. The book also includes three detailed scenarios covering real-world implementations of a Cast Iron Integration Solution.

Fundamentals of Wireless Sensor Networks Waltenegus Dargie 2010-11-05 In this book, the authors describe the fundamental concepts and practical aspects of wireless sensor networks. The book provides a comprehensive view to this rapidly evolving field, including its many novel applications, ranging from protecting civil infrastructure to pervasive health monitoring. Using detailed examples and illustrations, this book provides an inside track on the current state of the technology. The book is divided into three parts. In Part I, several node architectures, applications and operating systems are discussed. In Part II, the basic architectural frameworks, including the key building blocks required for constructing large-scale, energy-efficient sensor networks are presented. In Part III, the challenges and approaches pertaining to local and global management strategies are presented – this includes topics on power management, sensor node localization, time synchronization, and security. At the end of each chapter, the authors provide practical exercises to help students strengthen their grip on the subject. There are more than 200 exercises altogether. Key Features: Offers a comprehensive introduction to the theoretical and practical concepts pertaining to wireless sensor networks Explains the constraints and challenges of wireless sensor network design; and discusses the most promising solutions Provides an in-depth treatment of the most critical technologies for sensor network communications, power management, security, and programming Reviews the latest research results in sensor network design, and demonstrates how the individual components fit together to build complex sensing systems for a variety of application scenarios Includes an accompanying website containing solutions to exercises (http://www.wiley.com/go/dargie_fundamentals) This book serves as an introductory text to the field of wireless sensor networks at both graduate and advanced undergraduate level, but it will also appeal to researchers and practitioners wishing to learn about sensor network technologies and their application areas, including environmental monitoring, protection of civil infrastructure, health care, precision agriculture, traffic control, and homeland security.

Intelligent Information Technology Gautam Das 2005-01-28 The 7th International Conference on Information Technology (CIT 2004) was held in Hyderabad, India, during December 20–23, 2004. The CIT 2004 was a forum where researchers from various areas of information technology and its applications could stimulate

and exchange ideas on technological advancements. CIT, organizedby the Orissa InformationTechnologySociety (OITS), has emerged as one of the major international conferences in India and is fast becoming the premier forum for the presentation of the latest research and development in the critical area of information technology. The last six conferences attracted reputed researchers from around the world, and CIT 2004 took this trend forward. This conference focused on the latest research ?ndings on all topics in the area of information technology. Although the natural focus was on computer science issues, research results contributed from management, business and other disciplines formed an integral part. We received more than 200 papers from over 27 countries in the areas of com- tational intelligence, neural networks, mobile and adhoc networks, security, databases, softwareengineering,signal andimageprocessing,andInternetandWWW-basedc- puting. The programme committee, consisting of eminent researchers, academicians and practitioners, ?nally selected 43 full papers on the basis of reviewer grades. This proceedings contains the research papers selected for presentation at the c- ference and this is the ?rst time that the proceedingshave been published in the Lecture Notes in Computer Science (LNCS) series. The poster papers are being printed as a separate conference proceedings.

PNG Greg Roelofs 1999 Helps graphic designers get the most out of this nextgeneration graphics file format and programmers who want to add full PNGsupport to their own applications by emphasizing the implementation of PNG with the libng C library and discussing such improvements as gamma correction and standard color spaces. Original. (Intermediate)

Energy Management in Wireless Sensor Networks Youcef Touati 2017-03-29 Energy Management in Wireless Sensor Networks discusses this unavoidable issue in the application of Wireless Sensor Networks (WSN). To guarantee efficiency and durability in a network, the science must go beyond hardware solutions and seek alternative software solutions that allow for better data control from the source to delivery. Data transfer must obey different routing protocols, depending on the application type and network architecture. The correct protocol should allow for fluid information flow, as well as optimizing power consumption and resources – a challenge faced by dense networks. The topics covered in this book provide answers to these needs by introducing and exploring computer-based tools and protocol strategies for low power consumption and the implementation of routing mechanisms which include several levels of intervention, ranging from deployment to network operation. Explores ways to manage energy consumption during the design and implementation of WSN Helps users implement an increase in network longevity Presents intrinsic characteristics of wireless sensor networks

Sustainable Communication Networks and Application P. Karrupusamy 2019-11-07 This book presents state-of-the-art theories and technologies and discusses developments in the two major fields: engineering and sustainable computing. In this modern era of information and communication technologies [ICT], there is a growing need for new sustainable and energy-efficient communication and

networking technologies. The book highlights significant current and potential international research relating to theoretical and practical methods toward developing sustainable communication and networking technologies. In particular, it focuses on emerging technologies such as wireless communications, mobile networks, Internet of things [IoT], sustainability, and edge network models. The contributions cover a number of key research issues in software-defined networks, blockchain technologies, big data, edge/fog computing, computer vision, sentiment analysis, cryptography, energy-efficient systems, and cognitive platforms.

Next-Generation Networks Daya K. Lobiyal 2017-11-18 This book comprises select proceedings of the 2015 annual conference of the Computer Society of India. The books focuses on next generation networks (NGN). An NGN is a packet-based network which can provide services including telecommunication services. NGNs make use of multiple broadband, quality-of-service-enabled transport technologies in which service-related functions are independent from underlying transport-related technologies. This volume includes contributions from experts on various aspects of NGNs. The papers included cover theory, methodology and applications of ad-hoc networks, sensor networks, and the internet. The contents also delve into how the new enterprise IT landscape of cloud services, mobility, social media usage and big data analytics creates different types of network traffic to the traditional mix of in-house client-server enterprise workloads. The contents of this book will be useful to researchers and professionals alike.

Web Development with Node and Express Ethan Brown 2014-07 Learn how to build dynamic web applications with Express, a key component of the Node/JavaScript development stack. In this hands-on guide, author Ethan Brown teaches you the fundamentals through the development of a fictional application that exposes a public website and a RESTful API. You'll also learn web architecture best practices to help you build single-page, multi-page, and hybrid web apps with Express. Express strikes a balance between a robust framework and no framework at all, allowing you a free hand in your architecture choices. With this book, frontend and backend engineers familiar with JavaScript will discover new ways of looking at web development. Create webpage templating system for rendering dynamic data Dive into request and response objects, middleware, and URL routing Simulate a production environment for testing and development Focus on persistence with document databases, particularly MongoDB Make your resources available to other programs with RESTful APIs Build secure apps with authentication, authorization, and HTTPS Integrate with social media, geolocation, and other third-party services Implement a plan for launching and maintaining your app Learn critical debugging skills This book covers Express 4.0.

Problem Solving for Wireless Sensor Networks Ana-Belén García-Hernando 2008-12-19 Problem Solving for Wireless Sensor Networks delivers a comprehensive review of the state of the art in the most important technological issues related to Wireless Sensor Networks (WSN). It covers

topics such as hardware platforms, radio technologies, software technologies (including middleware), and network and deployment aspects. This book discusses the main open issues inside each of these categories and identifies innovations considered most interesting for future research. Features: - Hardware Platforms in WSN, - Software Technologies in SWN, - Network Aspects and Deployment in WSN, - Standards and Safety Regulation for WSN, - European Projects Related to WSN, - WSN Application Scenarios at both utility and technical levels. Complete, cutting-edge and resulting from the work of many recognized researchers, Problem Solving for Wireless Sensor Networks is an invaluable reference for graduates and researchers, as well as practitioners.

Data Science and Machine Learning Dirk P. Kroese 2019-11-20 "This textbook is a well-rounded, rigorous, and informative work presenting the mathematics behind modern machine learning techniques. It hits all the right notes: the choice of topics is up-to-date and perfect for a course on data science for mathematics students at the advanced undergraduate or early graduate level. This book fills a sorely-needed gap in the existing literature by not sacrificing depth for breadth, presenting proofs of major theorems and subsequent derivations, as well as providing a copious amount of Python code. I only wish a book like this had been around when I first began my journey!" -Nicholas Hoell, University of Toronto "This is a well-written book that provides a deeper dive into data-scientific methods than many introductory texts. The writing is clear, and the text logically builds up regularization, classification, and decision trees. Compared to its probable competitors, it carves out a unique niche. -Adam Loy, Carleton College The purpose of Data Science and Machine Learning: Mathematical and Statistical Methods is to provide an accessible, yet comprehensive textbook intended for students interested in gaining a better understanding of the mathematics and statistics that underpin the rich variety of ideas and machine learning algorithms in data science. Key Features: Focuses on mathematical understanding. Presentation is self-contained, accessible, and comprehensive. Extensive list of exercises and worked-out examples. Many concrete algorithms with Python code. Full color throughout. The Authors: Dirk P. Kroese, PhD, is a Professor of Mathematics and Statistics at The University of Queensland. He has published over 120 articles and five books in a wide range of areas in mathematics, statistics, data science, machine learning, and Monte Carlo methods. He is a pioneer of the well-known Cross-Entropy method—an adaptive Monte Carlo technique, which is being used around the world to help solve difficult estimation and optimization problems in science, engineering, and finance. Zdravko Botev, PhD, is an Australian Mathematical Science Institute Lecturer in Data Science and Machine Learning with an appointment at the University of New South Wales in Sydney, Australia. He is the recipient of the 2018 Christopher Heyde Medal of the Australian Academy of Science for distinguished research in the Mathematical Sciences. Thomas Taimre, PhD, is a Senior Lecturer of Mathematics and Statistics at The University of Queensland. His research interests range from applied probability and Monte Carlo methods to applied physics and the remarkably universal self-mixing effect in lasers. He has published over 100 articles, holds a patent, and is the coauthor of Handbook of Monte Carlo Methods (Wiley). Radislav Vaisman, PhD, is a Lecturer

of Mathematics and Statistics at The University of Queensland. His research interests lie at the intersection of applied probability, machine learning, and computer science. He has published over 20 articles and two books.

Advances in Pervasive Computing and Networking Boleslaw K. Szymanski 2006-06-09 Pervasive Computing and Networking aim at providing ubiquitous, ever-present, adaptable, smart, enveloping and immersive environments in which computing components and humans can interact regardless of the location. The combination of an abundance of computational power of the processors and the communication bandwidth provided by the wireless and mobile networking everywhere and all the time makes such environments within the reach of current technology. Yet, to realize the full potential of such environments, many technical and economical challenges needs to be overcome. These challenges and the perspective on the seminal directions of the research in this area were the subject of the Workshop for Pervasive Computing and Networking at Rensselaer Polytechnic Institute, Troy, NY, USA. This book presents chapters based on presentations made at the workshop by leaders in the field. The scope of Advances in Pervasive Computing and Networking ranges from fundamental theory of pervasive computing and networking to crucial challenges and emerging applications. Such seminal topics as a scalable, self-organizing technology for sensor networks, the fundamental relationship between the achievable capacity and delay in mobile wireless networks, the role of self-optimization in sensor networks or similarities and differences between computer networks and their biological counterparts are the subject of the first group of chapters. The next group of chapters covers communication issues, such as cooperative communication in mobile, wireless and sensor networks, methods for maximizing aggregate throughput in 802.11 mesh networks with a physical carrier, and self-configuring location discovery systems for smart environments. The book closes with chapters focusing on sensor network emerging applications such as smart and safe buildings, a design for a distributed transmitter for reachback based on radar signals sensing and two-radio multi-channel clustering.

Sensors and Image Processing Shabana Urooj 2017-10-03 This volume comprises the select proceedings of the annual convention of the Computer Society of India. Divided into 10 topical volumes, the proceedings present papers on state-of-the-art research, surveys, and succinct reviews. The volumes cover diverse topics ranging from communications networks to big data analytics, and from system architecture to cyber security. This volume focuses on Sensors and Image Processing. The contents of this book will be useful to researchers and students alike.

Distributed Graph Algorithms for Computer Networks Kayhan Erciyes 2013-05-16 This book presents a comprehensive review of key distributed graph algorithms for computer network applications, with a particular emphasis on practical implementation. Topics and features: introduces a range of fundamental graph algorithms, covering spanning trees, graph traversal algorithms, routing algorithms, and self-stabilization; reviews graph-theoretical distributed approximation algorithms with applications in ad hoc wireless networks;

describes in detail the implementation of each algorithm, with extensive use of supporting examples, and discusses their concrete network applications; examines key graph-theoretical algorithm concepts, such as dominating sets, and parameters for mobility and energy levels of nodes in wireless ad hoc networks, and provides a contemporary survey of each topic; presents a simple simulator, developed to run distributed algorithms; provides practical exercises at the end of each chapter.

Simulation Modeling and Analysis with ARENA Tayfur Altiok 2010-07-26 Simulation Modeling and Analysis with Arena is a highly readable textbook which treats the essentials of the Monte Carlo discrete-event simulation methodology, and does so in the context of a popular Arena simulation environment. It treats simulation modeling as an in-vitro laboratory that facilitates the understanding of complex systems and experimentation with what-if scenarios in order to estimate their performance metrics. The book contains chapters on the simulation modeling methodology and the underpinnings of discrete-event systems, as well as the relevant underlying probability, statistics, stochastic processes, input analysis, model validation and output analysis. All simulation-related concepts are illustrated in numerous Arena examples, encompassing production lines, manufacturing and inventory systems, transportation systems, and computer information systems in networked settings. · Introduces the concept of discrete event Monte Carlo simulation, the most commonly used methodology for modeling and analysis of complex systems · Covers essential workings of the popular animated simulation language, ARENA, including set-up, design parameters, input data, and output analysis, along with a wide variety of sample model applications from production lines to transportation systems · Reviews elements of statistics, probability, and stochastic processes relevant to simulation modeling * Ample end-of-chapter problems and full Solutions Manual * Includes CD with sample ARENA modeling programs

Innovations in Electronics and Communication Engineering H. S. Saini 2017-11-08 The book contains high quality papers presented in the Fifth International Conference on Innovations in Electronics and Communication Engineering (ICIECE 2016) held at Guru Nanak Institutions, Hyderabad, India during 8 and 9 July 2016. The objective is to provide the latest developments in the field of electronics and communication engineering specially the areas like Image Processing, Wireless Communications, Radar Signal Processing, Embedded Systems and VLSI Design. The book aims to provide an opportunity for researchers, scientists, technocrats, academicians and engineers to exchange their innovative ideas and research findings in the field of Electronics and Communication Engineering.

Evolutionary Computing and Mobile Sustainable Networks V. Suma 2020-07-31 This book features selected research papers presented at the International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2020), held at the Sir M. Visvesvaraya Institute of Technology on 20–21 February 2020. Discussing advances in evolutionary computing technologies,

including swarm intelligence algorithms and other evolutionary algorithm paradigms which are emerging as widely accepted descriptors for mobile sustainable networks virtualization, optimization and automation, this book is a valuable resource for researchers in the field of evolutionary computing and mobile sustainable networks.

A Fusion of Artificial Intelligence and Internet of Things for Emerging Cyber Systems Pardeep Kumar 2021-08-23 This book aims at offering a unique collection of ideas and experiences mainly focusing on the main streams and merger of Artificial Intelligence (AI) and the Internet of Things (IoT) for a wide slice of the communication and networking community. In the era when the world is grappling with many unforeseen challenges, scientists and researchers are envisioning smart cyber systems that guarantee sustainable development for a better human life. The main contributors that destined to play a huge role in developing such systems, among others, are AI and IoT. While AI provides intelligence to machines and data by identifying patterns, developing predictions, and detecting anomalies, IoT performs as a nerve system by connecting a huge number of machines and capturing an enormous amount of data. AI-enabled IoT, therefore, redefines the way industries, businesses, and economies function with increased automation and efficiency and reduced human interaction and costs. This book is an attempt to publish innovative ideas, emerging trends, implementation experience, and use-cases pertaining to the merger of AI and IoT. The primary market of this book is centered around students, researchers, academicians, industrialists, entrepreneurs, and professionals working in electrical/computer engineering, IT, telecom/electronic engineering, and related fields. The secondary market of this book is related to individuals working in the fields such as finance, management, mathematics, physics, environment, mechatronics, and the automation industry.

Wireless Mesh Networks Mutamed Khatib 2020-05-13

Index to Theses with Abstracts Accepted for Higher Degrees by the Universities of Great Britain and Ireland and the Council for National Academic Awards 2007

Linux Network Administrator's Guide Olaf Kirch 2000 This introduction to networking on Linux now covers firewalls, including the use of ipchains and Netfilter, masquerading, and accounting. Other new topics in this second edition include Novell (NCP/IPX) support and INN (news administration).

Industrial Wireless Sensor Networks V. Çağrı Güngör 2017-12-19 The collaborative nature of industrial wireless sensor networks (IWSNs) brings several advantages over traditional wired industrial monitoring and control systems, including self-organization, rapid deployment, flexibility, and inherent intelligent processing. In this regard, IWSNs play a vital role in creating more reliable, efficient, and productive industrial systems, thus improving companies' competitiveness in the marketplace. Industrial Wireless Sensor Networks: Applications, Protocols, and Standards examines the current

state of the art in industrial wireless sensor networks and outlines future directions for research. What Are the Main Challenges in Developing IWSN Systems? Featuring contributions by researchers around the world, this book explores the software and hardware platforms, protocols, and standards that are needed to address the unique challenges posed by IWSN systems. It offers an in-depth review of emerging and already deployed IWSN applications and technologies, and outlines technical issues and design objectives. In particular, the book covers radio technologies, energy harvesting techniques, and network and resource management. It also discusses issues critical to industrial applications, such as latency, fault tolerance, synchronization, real-time constraints, network security, and cross-layer design. A chapter on standards highlights the need for specific wireless communication standards for industrial applications. A Starting Point for Further Research Delving into wireless sensor networks from an industrial perspective, this comprehensive work provides readers with a better understanding of the potential advantages and research challenges of IWSN applications. A contemporary reference for anyone working at the cutting edge of industrial automation, communication systems, and networks, it will inspire further exploration in this promising research area.

2016 1st India International Conference on Information Processing (IICIP) IEEE Staff 2016-08-12 IICIP encourages submission of high quality, result oriented papers as well as survey and review papers in various domain of information processing With this conference we construct a foundation for the fulfillment of the most brilliant and promising research in this field IICIP provides a wide platform to facilitate researchers from academia, industry and government organization to share their novel ideas This conference aims to provide an international forum for contemplating the interdependent and inter disciplinary research ideas for enhanced quality work on information processing Thus, we welcome diverse innovative ideas towards the furtherance of this aim

Cooperative Robots and Sensor Networks 2015 Anis Koubâa 2015-05-18 This book compiles some of the latest research in cooperation between robots and sensor networks. Structured in twelve chapters, this book addresses fundamental, theoretical, implementation and experimentation issues. The chapters are organized into four parts namely multi-robots systems, data fusion and localization, security and dependability, and mobility.

Sustainable Wireless Sensor Networks Yen Kheng Tan 2010-12-14 Wireless Sensor Networks came into prominence around the start of this millennium motivated by the omnipresent scenario of small-sized sensors with limited power deployed in large numbers over an area to monitor different phenomenon. The sole motivation of a large portion of research efforts has been to maximize the lifetime of the network, where network lifetime is typically measured from the instant of deployment to the point when one of the nodes has expended its limited power source and becomes in-operational - commonly referred as first node failure. Over the years, research has increasingly adopted ideas from wireless communications as well as embedded systems development in order to move this

technology closer to realistic deployment scenarios. In such a rich research area as wireless sensor networks, it is difficult if not impossible to provide a comprehensive coverage of all relevant aspects. In this book, we hope to give the reader with a snapshot of some aspects of wireless sensor networks research that provides both a high level overview as well as detailed discussion on specific areas.

Build Your Own IoT Platform Anand Tamboli 2019-04-29 Discover how every solution that is in some way related to the IoT needs a platform and how to create that platform. This book is about being agile and reducing your time to market without breaking the bank. It is about designing something that you can scale incrementally without a lot of rework and potentially disrupting the current work. So, the key questions are: What does it take? How long does it take? And, how much does it take to build your own IoT platform? This book answers these questions and provides you with a step-by-step guidance on how to build your own IoT platform. In this book, the author bursts the bubble and highlights how the core of an IoT platform looks like. There are always some must-haves and some nice-to-haves. This book will distinguish the two and focus on how to build the must-haves. Building your IoT platform is not only the biggest cost saver but can also be a satisfying learning experience. In this edition, we will undertake a sample project to further clarify the concepts we learn; additional chapters would show you the hardware interface. What You Will Learn: · Learn how to architect an interconnected system. · Learn how to develop flexible architecture. · Learn to prioritize system requirements with a bottom-up approach. · Be able to create a redundant communications platform. · Be able to create an end-to-end application using the guidelines in this book. Who Is This Book For IoT developers with basic-to-intermediate programming skills would benefit from this book.