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*Advances in Smart Communication and Imaging Systems* - Rajeev Agrawal  
2021-04-13

This book presents select and peer-reviewed proceedings of the International Conference on Smart Communication and Imaging Systems (MedCom 2020). The contents explore the recent technological advances in the field of next generation communication systems and latest techniques for image processing, analysis and their related applications. The topics include design and development of smart, secure and reliable future communication networks; satellite, radar and microwave techniques for intelligent communication. The book also covers methods and applications of GIS and remote sensing; medical image analysis and its applications in smart health. This book can be useful for students, researchers and professionals working in the field of communication systems and image processing.

*Cognitive Management in a Cyber World* - IEEE/IFIP Network Operations and Management Symposium 2018

**Advances on Intelligent Informatics and Computing** - Faisal Saeed 2022-03-29

This book presents emerging trends in intelligent computing and informatics. This book presents the papers included in the proceedings of the 6th International Conference of Reliable Information and Communication Technology 2021 (IRICT 2021) that was held virtually, on Dec. 22-23, 2021. The main theme of the book is “Advances on Intelligent Informatics and Computing”. A total of 87 papers were submitted to the conference, but only 66 papers were accepted and published in this book. The book presents several hot research topics which include health informatics, artificial intelligence, soft computing, data science, big data analytics, Internet of Things (IoT), intelligent communication systems, cybersecurity, and information systems.

Principles and Applications of Narrowband Internet of Things (NB IoT) - Routray, Sudhir K. 2021-01-08

The internet of things (IoT) has emerged as a trending technology that is continually being implemented into various practices within the field of engineering and science due to its versatility and various benefits. Despite the levels of innovation that IoT provides, researchers continue to search for networks that maintain levels of sustainability and require fewer resources. A network that measures up to these expectations is Narrowband IoT (NB IoT), which is a low power wide area version of IoT networks and is suitable for larger projects. Engineers and other industry professionals are in need of in-depth knowledge on this growing technology and its various applications. Principles and Applications of Narrowband Internet of Things (NB IoT) is an essential reference source that provides an in-depth understanding on the recent advancements of NB IoT as well as the crucial roles of emerging low power IoT networks in various regions of the world. Featuring research on topics such as security monitoring, sustainability, and cloud infrastructure, this book is ideally designed for developers, engineers, practitioners, researchers, students, managers, and policymakers seeking coverage on the large-scale deployment and modern applications of NB IoT.

**Design and Construction of Smart Cities** - Ibrahim El Dimeery 2021-01-23

This book focuses on how to maintain environmental sustainability as one of its main principles, and it addresses how smart cities serve to diminish wastes and maintain natural resources by having clean green energy that is operated by new smart technology designs. Living in a smart city is not something of the future anymore, it is here, and it is being implemented all over the

world. A smart city uses different types of electronic Internet of things (IoT) sensors to collect data and then use these data to manage assets and resources efficiently. The smart city concept integrates information and communication technology (ICT), and various physical devices connected to the IoT network to optimize the efficiency of city operations and services and achieve sustainable solutions to allow us to grow with proper management of our resources. Smart sustainable structures and infrastructures face the need of urban areas due to the growth of populations while in the same time save our environment. To achieve this, we need to revisit the conventional methods in design and construction and the conventional materials which are used now to optimize the design and provide smart solutions. In the past few years, the consumption of resources has been massive, and the waste produced from that consumption has been inconceivable. This is causing environmental degradation, which produces many environmental challenges, such as global climate change, excessive fossil fuel dependency and the growing demand for energy. As well as, discussing the challenges facing the civil engineering design and construction of smart cities components and presenting concepts and insight from experts and researchers from different civil engineering disciplines., this book explains how to construct buildings and special structures and how to manage and monitor energy.

2019 42nd International Conference on Telecommunications and Signal Processing (TSP) - IEEE Staff 2019-07

The TSP 2019 Conference is organized by seventeen universities from Czech Rep, Hungary, Turkey, Taiwan, Japan, Slovak Rep, Spain, Bulgaria, France, Slovenia, Croatia, Greece, and Poland, for academics, researchers, and developers and it serves as a premier annual international forum to promote the exchange of the latest advances in telecommunication technology and signal processing The aim of the conference is to bring together both novice and experienced scientists, developers, and specialists, to meet new colleagues, collect new ideas, and establish new cooperation between research groups from universities, research centers, and private sectors from the whole Europe, America, Asia, Australia, and Africa The international expansion motivates the organizers in their effort to providing a platform for exchanging information and experience to help to improve the level and extent of scientific cooperation between university students, academics, and employees of research centers

**Stochastic Geometry Analysis of Cellular Networks** - Bartłomiej Błaszczyszyn 2018-04-19

Achieve faster and more efficient network design and optimization with this comprehensive guide. Some of the most prominent researchers in the field explain the very latest analytic techniques and results from stochastic geometry for modelling the signal-to-interference-plus-noise ratio (SINR) distribution in heterogeneous cellular networks. This book will help readers to understand the effects of combining different system deployment parameters on key performance indicators such as coverage and capacity, enabling the efficient allocation of simulation resources. In addition to covering results for network models based on the Poisson point process, this book presents recent results for when non-Poisson base station configurations appear Poisson, due to random propagation effects such as fading and shadowing, as well as non-Poisson models for base station configurations, with a focus on determinantal point processes and tractable approximation methods. Theoretical results are illustrated with practical Long-Term Evolution (LTE)

applications and compared with real-world deployment results.

**Beginning LoRa Radio Networks with Arduino** - Pradeeka Seneviratne  
2019-02-18

Create your own LoRa wireless projects for non-industrial use and gain a strong basic understanding of the LoRa technology, LoRa WAN, and LPWAN. You'll start by building your first LoRa wireless channel and then move on to various interesting projects such as setting up networks with a LoRa gateway, communicating with IoT servers using RESTful API and MQTT protocol, and real-time GPS tracking. With LoRa wireless and LoRaWAN, you can build a wide array of applications in the area of smart agriculture, smart cities, smart environment, smart healthcare, smart homes and buildings, smart industrial control, smart metering, smart supply chain and logistics. *Beginning LoRa Radio Networks with Arduino* provides a practical introduction and uses affordable and easy to obtain hardware to build projects with the Arduino development environment. What You'll Learn Understand the hardware need to build LoRaWAN Use the Arduino development environment to write code Connect to Arduino hardware and upload programs and communicate with them Setup networks with LoRa gateway Show real time track with tail, and path history Who This Book Is For Inventors, hackers, crafters, students, hobbyists, and scientists

**Climate Change 2014: Mitigation of Climate Change** - Intergovernmental Panel on Climate Change 2015-01-26

This latest Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) will again form the standard reference for all those concerned with climate change and its consequences, including students, researchers and policy makers in environmental science, meteorology, climatology, biology, ecology, atmospheric chemistry and environmental policy.

**Wireless Communications** - Theodore S. Rappaport 1996

Building on his classic edition, Rappaport covers the fundamental issues impacting all wireless networks and reviews virtually every important new wireless standard and technological development. He illustrates each key concept with practical examples, thoroughly explained and solved step by step.

*Distributed Computer and Communication Networks: Control, Computation, Communications* - Vladimir M. Vishnevskiy 2021-01-04

This book constitutes the refereed proceedings of the 23rd International Conference on Distributed and Computer and Communication Networks, DCCN 2020, held in Moscow, Russia, in September 2020. Due to the COVID-19 pandemic the conference was held online. The 43 papers were carefully reviewed and selected from 167 submissions. The papers are organized in the following topical sections: computer and communication networks and technologies; analytical modeling of distributed systems, and distributed systems applications.

**2020 IEEE Symposium on Computers and Communications (ISCC)** - IEEE Staff 2020-07-07

To present recent research results in the interplay between Computers and Communications

**Smart Cities** - Enrique Alba 2017-05-26

This book constitutes the proceedings of the second International Conference on Smart Cities, Smart-CT 2017, held in Málaga, Spain, in June 2017. The 16 papers presented in this volume were carefully reviewed and selected from 21 submissions. The topics covered include studies and tools to improve road traffic, energy consumption, logistics, frameworks to provide new services and take decisions in a holistic way, driving assistance, electric vehicles, public transport, and surveys on smart city concepts.

**Soft Computing in Data Science** - Azlinah Mohamed 2017-11-23

This book constitutes the refereed proceedings of the International Conference on Soft Computing in Data Science, SCDS 2017, held in Yogyakarta, Indonesia, November 27-28, 2017. The 26 revised full papers presented were carefully reviewed and selected from 68 submissions. The papers are organized in topical sections on deep learning and real-time classification; image feature classification and extraction; classification, clustering, visualization; applications of machine learning; data visualization; fuzzy logic; prediction models and e-

learning; text and sentiment analytics.

**Bio-inspired Systems and Applications: from Robotics to Ambient Intelligence** - José Manuel Ferrández Vicente 2022-05-24

The two volume set LNCS 13258 and 13259 constitutes the proceedings of the International Work-Conference on the Interplay Between Natural and Artificial Computation, IWINAC 2022, held in Puerto de la Cruz, Tenerife, Spain in May – June 2022. The total of 121 contributions was carefully reviewed and selected from 203 submissions. The papers are organized in two volumes, with the following topical sub-headings: Part I: Machine Learning in Neuroscience; Neuromotor and Cognitive Disorders; Affective Analysis; Health Applications Part II: Affective Computing in Ambient Intelligence; Bioinspired Computing Approaches; Machine Learning in Computer Vision and Robot; Deep Learning; Artificial Intelligence Applications.

**Developments and Trends in Intelligent Technologies and Smart Systems** - Sugumaran, Vijayan 2017-09-13

Due to the exponential rise of emerging technology, there have been significant developments in intelligent systems. This has facilitated increasing opportunities for new applications and improvements. *Developments and Trends in Intelligent Technologies and Smart Systems* is a critical source of scholarly material on the design, implementation, and integration of intelligent applications across numerous industries. Highlighting a range of innovative topics such as enterprise modeling, remote patient monitoring, and service-oriented architecture, this book is ideally designed for researchers, engineers, computer scientists, academics, students, and professionals interested in the latest applications of intelligent technologies.

*Distributed Computer and Communication Networks* - Vladimir M. Vishnevskiy 2017-02-13

This book constitutes the refereed proceedings of the 19th International Conference on Distributed and Computer and Communication Networks, DCCN 2016, held in Moscow, Russia, in November 2016. The 50 revised full papers and the 6 revised short papers presented were carefully reviewed and selected from 141 submissions. The papers cover the following topics: computer and communication networks architecture optimization; control in computer and communication networks; performance and QoS/QoE evaluation in wireless networks; analytical modeling and simulation of next-generation communications systems; queuing theory and reliability theory applications in computer networks; wireless 4G/5G networks, cm- and mm-wave radio technologies; RFID technology and its application in intellectual transportation networks; internet of things, wearables, and applications of distributed information systems; probabilistic and statistical models in information systems; mathematical modeling of high-tech systems; mathematical modeling and control problems; distributed and cloud computing systems, big data analytics.

**Ad-Hoc, Mobile, and Wireless Networks** - Maria Rita Palattella 2019-09-25

This book constitutes the refereed proceedings of the 18th International Conference on Ad-Hoc, Mobile, and Wireless Networks, ADHOC-NOW 2019, held in Luxembourg, in October 2019. The 37 full and 10 short papers presented were carefully reviewed and selected from 64 submissions. The papers provide an in-depth and stimulating view on the new frontiers in the field of mobile, ad hoc and wireless computing. They are organized in the following topical sections: IoT for emergency and disaster management; scheduling and synchronization in WSN; routing strategies for WSN; LPWANs and their integration with satellite; performance improvement of wireless and sensor networks; optimization schemes for increasing sensors lifetime; vehicular and UAV networks; body area networks, IoT security and standardization.

**Ad-hoc, Mobile, and Wireless Networks** - Nicolas Montavont 2018-08-29

This book constitutes the refereed proceedings of the 16th International Conference on Ad-hoc, Mobile, and Wireless Networks, ADHOC-NOW 2018, held in St. Malo, France, in September 2018. The 21 full and 6 short papers plus 2 invited talks presented in this volume were carefully reviewed and selected from 52 submissions. The contributions were organized in topical sections named: on ad-hoc, mobile and wireless sensor, networks and computing.

Smart Sensors for Real-Time Water Quality Monitoring - Subhas C Mukhopadhyay 2013-03-17

Sensors are being utilized to increasing degrees in all forms of industry. Researchers and industrial practitioners in all fields seek to obtain a better understanding of appropriate processes so as to improve quality of service and efficiency. The quality of water is no exception, and the water industry is faced with a wide array of water quality issues being present world-wide. Thus, the need for sensors to tackle this diverse subject is paramount. The aim of this book is to combine, for the first time, international expertise in the area of water quality monitoring using smart sensors and systems in order that a better understanding of the challenges faced and solutions posed may be available to all in a single text.

**Ubiquitous Computing and Ambient Intelligence** - Sergio F. Ochoa 2017-10-05

This book constitutes the refereed conference proceedings of the 11th International Conference on Ubiquitous Computing and Ambient Intelligence, UCAmI 2017, held in Philadelphia, PA, USA in November 2017. The 60 revised full papers and 22 short papers presented were carefully reviewed and selected from 100 submissions. The papers are presented in six tracks and two special sessions. These are Ambient Assisted Living, Human-Computer Interaction, Ambient Intelligence for Health, Internet of Things and Smart Cities, Ad-hoc and Sensor Networks, Sustainability, Socio-Cognitive and Affective Computing, AmI-Systems and Machine Learning.

**IEEE Standard for Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications** - IEEE Computer Society. LAN/MAN Standards Committee.. 1997

*Ambient Assisted Living* - Nuno M. Garcia 2015-06-09

Addresses an Emerging Shift in Developing Countries The authors and contributors of Ambient Assisted Living have recognized that the demographic profile is changing in many developing countries and have factored in an inversion of the demographic pyramid. The technology of ambient assisted living (AAL), supports the elderly and disabled in their daily routines to allow for safe and independent living for as long as possible. Dedicated to ambient intelligence—electronic environments that are sensitive and responsive to the presence of people—Ambient Assisted Living highlights the technologies that center on the needs of these special interest groups, such as the elderly or people with disabilities. Beneficial to students, practitioners, and users of ambient assisted living (AAL), this text compiles scattered information on the subject, outlines the most important and significant work in related literature, and covers the latest hardware and software for ergonomic design pertaining to AAL. From inception to implementation, the text assesses what has been produced and researched so far and looks for trends and clues for the future. It reviews literature on AAL published since 2007 and describes the main features and areas of products or systems that interlink and improve new or existing technologies and systems. This text: Provides extensive coverage of the applications, software, and information management for AAL Contains an overview of the concepts related to AAL Includes a comprehensive review of the state of the art on pervasive and mobile health (m-health) applications Describes a set of projects and work with scientific relevance in AAL Introduces a framework focused on the monitoring and assistance of elderly persons living alone Discusses a prospective study on technological systems for people with cognitive disabilities Ambient Assisted Living highlights technologies that adapt to the user rather than the user adapting to the technology. This text proposes technologies that can enable assisted persons to live independently for longer and reduce the need for long-term care.

**Progress in Artificial Intelligence** - Paulo Moura Oliveira 2019-08-31

This book constitutes the refereed proceedings of the 19th EPIA Conference on Artificial Intelligence, EPIA 2019, held in Funchal, Madeira, Portugal, in September 2019. The 119 revised full papers and 6 short papers presented were carefully reviewed and selected from a total of 252 submissions. The papers are organized in 18 tracks devoted to the following topics: AIEd - Artificial Intelligence in Education, AI4G - Artificial Intelligence for Games, AIoTA - Artificial Intelligence and IoT in Agriculture, AIL - Artificial

Intelligence and Law, AIM - Artificial Intelligence in Medicine, AICPDES - Artificial Intelligence in Cyber-Physical and Distributed Embedded Systems, AIPES - Artificial Intelligence in Power and Energy Systems, AITS - Artificial Intelligence in Transportation Systems, ALEA - Artificial Life and Evolutionary Algorithms, AmIA - Ambient Intelligence and Affective Environments, BAAI - Business Applications of Artificial Intelligence, GAI - General AI, IROBOT - Intelligent Robotics, KDBI - Knowledge Discovery and Business Intelligence, KRR - Knowledge Representation and Reasoning, MASTA - Multi-Agent Systems: Theory and Applications, SSM - Social Simulation and Modelling, TeMA - Text Mining and Applications.

Radio Interfaces in the Internet of Things Systems - Kamil Staniec 2020-05-12

The book gives a broad overview of the Internet of Things (IoT) concept from various angles. The book provides rationale for: the concept development; its regulatory and technical background associated aspects such as the ambient and edge intelligence; fog computing; capillary networks and machine-type communications; etc. Each of these items is then extended in further respective chapters that deal with technicalities behind them. Chapters: 2-5, 8, 10-11 are addressed to those who seek expository IoT-related information on aspects such as the pathloss calculation, narrowband radio interfaces, radiation masks, spectrum matters, medium access control, and a transmission frame construction. That section ends with an exhaustive description of the six most popular IoT systems: LoRa, Weightless, SigFox, NB-IoT, LTE-M(TC) and EC-GSM IoT. Specialists and network designers may find chapters 6 and 7 interesting where a novel methodology is proposed for testing narrowband IoT systems performance for immunity to electromagnetic interference (EMI) and multipath propagation, both emulated in artificial conditions of the anechoic and the reverberation chamber.

*ISGW 2017: Compendium of Technical Papers* - Reji Kumar Pillai 2018-04-10

This book presents selected articles from INDIA SMART GRID WEEK (ISGW 2017), which is the third edition of the Conference cum Exhibition on Smart Grids and Smart Cities, organized by India Smart Grid Forum from 07-10 March 2017 at Manekshaw Centre, Dhaua Kuan, New Delhi, India. ISGF is a public private partnership initiative of the Ministry of Power, Govt. of India with the mandate of accelerating smart grid deployments across the country. This book gives current scenario updates of Indian power sector business. It also highlights various disruptive technologies for power sector business.

**Distributed Computer and Communication Networks** - Vladimir M.

Vishnevskiy 2021-01-01

This book constitutes the refereed post-conference proceedings of the 23rd International Conference on Distributed and Computer and Communication Networks, DCCN 2020, held in Moscow, Russia, in September 2020. The 54 revised full papers and 1 revised short paper were carefully reviewed and selected from 167 submissions. The papers cover the following topics: computer and communication networks; analytical modeling of distributed systems; and distributed systems applications.

*Energy Harvesting for Autonomous Systems* - Stephen Beeby 2014-05-14

This unique resource provides a detailed understanding of the options for harvesting energy from localized, renewable sources to supply power to autonomous wireless systems. You are introduced to a variety of types of autonomous system and wireless networks and discover the capabilities of existing battery-based solutions, RF solutions, and fuel cells. The book focuses on the most promising harvesting techniques, including solar, kinetic, and thermal energy. You also learn the implications of the energy harvesting techniques on the design of the power management electronics in a system. This in-depth reference discusses each energy harvesting approach in detail, comparing and contrasting its potential in the field.

**Proceedings of Fifth International Congress on Information and Communication Technology** - Xin-She Yang 2020-10-21

This book gathers selected high-quality research papers presented at the Fifth International Congress on Information and Communication Technology, held at Brunel University, London, on February 20–21, 2020. It discusses emerging topics pertaining to information and communication technology (ICT) for managerial applications, e-governance, e-agriculture, e-education and

computing technologies, the Internet of Things (IoT) and e-mining. Written by respected experts and researchers working on ICT, the book offers a valuable asset for young researchers involved in advanced studies.

Proceedings of International Conference on Communication and Networks - Nilesh Modi 2017-04-08

The volume contains 75 papers presented at International Conference on Communication and Networks (COMNET 2015) held during February 19–20, 2016 at Ahmedabad Management Association (AMA), Ahmedabad, India and organized by Computer Society of India (CSI), Ahmedabad Chapter, Division IV and Association of Computing Machinery (ACM), Ahmedabad Chapter. The book aims to provide a forum to researchers to propose theory and technology on the networks and services, share their experience in IT and telecommunications industries and to discuss future management solutions for communication systems, networks and services. It comprises of original contributions from researchers describing their original, unpublished, research contribution. The papers are mainly from 4 areas – Security, Management and Control, Protocol and Deployment, and Applications. The topics covered in the book are newly emerging algorithms, communication systems, network standards, services, and applications.

**Ubiquitous Networking** - Oussama Habachi 2020-08-15

This book constitutes the refereed proceedings of the 5th International Symposium on Ubiquitous Networking, UNet 2019, held in Limoges, France, in November 2019. The 17 revised full papers presented together with 1 short paper were carefully reviewed and selected from 41 submissions. The papers are organized in topical sections: ubiquitous communication technologies and networking; ubiquitous Internet of things; pervasive services and applications.

Distributed Systems and Mobile Computing - Giovanni Viglietta 2022-01-25

The book is about Distributed Systems and Mobile Computing. This is a branch of Computer Science devoted to the study of systems whose components are in different physical locations and have limited communication capabilities. Such components may be static, often organized in a network, or may be able to move in a discrete or continuous environment. The theoretical study of such systems has applications ranging from swarms of mobile robots (e.g., drones) to sensor networks, autonomous intelligent vehicles, the Internet of Things, and crawlers on the Web. The book includes five articles. Two of them are about networks: the first one studies the formation of networks by agents that interact randomly and have the ability to form connections; the second one is a study of clustering models and algorithms. The three remaining articles are concerned with autonomous mobile robots operating in continuous space. One article studies the classical gathering problem, where all robots have to reach a common location, and proposes a fast algorithm for robots that are endowed with a compass but have limited visibility. The last two articles deal with the evacuations problem, where two robots have to locate an exit point and evacuate a region in the shortest possible time.

**2019 Eleventh International Conference on Ubiquitous and Future Networks (ICUFN)** - IEEE Staff 2019-07-02

With the proliferation of future wireless technologies and electronic devices, there is a fast growing interest in ubiquitous and future networks. In the days to come, we expect that the ubiquitous communication and networking technologies will become ubiquitous along with the emergence of many future networking technologies. The ubiquitous and future network will offer multiservice, multimedia services convergence, mobility, service ubiquity and context awareness, fixed mobile convergence, quality of service, variable connectivity, spontaneous networking, autonomic networking and other capabilities as the norm. Building on the success of the last ten years, the Eleventh International Conference on Ubiquitous and Future Networks (ICUFN 2019) aims at addressing advances in research on ubiquitous and future networks, covering topics ranging from technology issues to emerging applications and test bed developments.

**Ambient Intelligence** - Ioannis Chatzigiannakis 2019-11-06

This book constitutes the refereed proceedings of the 15th European Conference on Ambient Intelligence, AmI 2019, held in Rome, Italy, in November 2019. The 20 full papers presented together with 10 short papers

were carefully reviewed and selected from 50 submissions. The papers cover topics such as embedded devices that can merge unobtrusively and in natural ways using information and intelligence hidden in the network connecting these devices (e.g., the Internet of Things). The main topic of AmI 2019 was “Data-driven Ambient Intelligence,” which follows the vision of Calm Technology, where technology is useful but does not demand our full attention or interfere with our usual behavior and activities.

**Internet of Things, Smart Spaces, and Next Generation Networks and Systems** - Olga Galinina 2017-10-03

This book constitutes the joint refereed proceedings of the 17th International Conference on Next Generation Wired/Wireless Advanced Networks and Systems, NEW2AN 2017, the 10th Conference on Internet of Things and Smart Spaces, ruSMART 2017. The 71 revised full papers presented were carefully reviewed and selected from 202 submissions. The papers of NEW2AN focus on advanced wireless networking and applications; lower-layer communication enablers; novel and innovative approaches to performance and efficiency analysis of ad-hoc and machine-type systems; employed game-theoretical formulations, Markov chain models, and advanced queuing theory; graphene and other emerging material, photonics and optics; generation and processing of signals; and business aspects. The ruSMART papers deal with fully-customized applications and services. The NsCC Workshop papers capture the current state-of-the-art in the field of molecular and nanoscale communications such as information, communication and network theoretical analysis of molecular and nanonetwork, mobility in molecular and nanonetworks; novel and practical communication protocols; routing schemes and architectures; design/engineering/evaluation of molecular and nanoscale communication systems; potential applications and interconnections to the Internet (e.g. the Internet of Nano Things).

Communications and Networking - Honghao Gao 2021-02-01

This proceedings constitutes the refereed proceedings of the 15th EAI International Conference on Communications and Networking, ChinaCom 2020, held in November 2020 in Shanghai, China. Due to COVID-19 pandemic the conference was held virtually. The 54 papers presented were carefully selected from 143 submissions. The papers are organized in topical sections on Transmission Optimization in Edge Computing; Performance and Scheduling Optimization in Edge Computing; Mobile Edge Network System; Communication Routing and Control; Transmission and Load Balancing; Edge Computing and Distributed Machine Learning; Deep Learning.

**Analytics for the Internet of Things (IoT)** - Andrew Minter 2017-07-24

Break through the hype and learn how to extract actionable intelligence from the flood of IoT data. About This Book Make better business decisions and acquire greater control of your IoT infrastructure. Learn techniques to solve unique problems associated with IoT and examine and analyze data from your IoT devices. Uncover the business potential generated by data from IoT devices and bring down business costs. Who This Book Is For This book targets developers, IoT professionals, and those in the field of data science who are trying to solve business problems through IoT devices and would like to analyze IoT data. IoT enthusiasts, managers, and entrepreneurs who would like to make the most of IoT will find this equally useful. A prior knowledge of IoT would be helpful but is not necessary. Some prior programming experience would be useful. What You Will Learn Overcome the challenges IoT data brings to analytics. Understand the variety of transmission protocols for IoT along with their strengths and weaknesses. Learn how data flows from the IoT device to the final data set. Develop techniques to wring value from IoT data. Apply geospatial analytics to IoT data. Use machine learning as a predictive method on IoT data. Implement best strategies to get the most from IoT analytics. Master the economics of IoT analytics in order to optimize business value. In Detail We start with the perplexing task of extracting value from huge amounts of barely intelligible data. The data takes a convoluted route just to be on the servers for analysis, but insights can emerge through visualization and statistical modeling techniques. You will learn to extract value from IoT big data using multiple analytic techniques. Next we review how IoT devices generate data and how the information travels over networks. You'll get to know strategies to collect and store the data to

optimize the potential for analytics, and strategies to handle data quality concerns. Cloud resources are a great match for IoT analytics, so Amazon Web Services, Microsoft Azure, and PTC ThingWorx are reviewed in detail next. Geospatial analytics is then introduced as a way to leverage location information. Combining IoT data with environmental data is also discussed as a way to enhance predictive capability. We'll also review the economics of IoT analytics and you'll discover ways to optimize business value. By the end of the book, you'll know how to handle scale for both data storage and analytics, how Apache Spark can be leveraged to handle scalability, and how R and Python can be used for analytic modeling. Style and approach This book follows a step-by-step, practical approach to combine the power of analytics and IoT and help you get results quickly

**Big Data and Security** - Yuan Tian 2020-08-14

This book constitutes the refereed proceedings of the First International Conference on Big Data and Security, ICBDS 2019, held in Nanjing, China, in December 2019. The 37 revised full papers and 12 short papers were carefully reviewed and selected out of 251 submissions. The papers included in this book cover topics in cybersecurity & privacy, big data, blockchain & internet of things, security in cloud and fog computing, and artificial intelligence/machine learning security.

**Delay Tolerant Satellite Networks** - Juan A. Fraire, 2017-12-31

This cutting-edge resource provides a comprehensive treatment of applying delay-tolerant networking (DTN) principles to satellite-based network communications. Detailed models and analytical tools are used to evaluate performance and provide guidance in the field. This book presents the state-of-the-art in existing on-board and ground technologies that support satellite applications, such as communications protocols, algorithms, and security procedures. Readers gain key insight into the fundamental concepts of DTN applied to satellite networks (DTSNs) and case studies are provided. This book presents an authoritative introduction to the methods for computing metrics for satellite network modeling. Satellite communications are examined, including satellite links, communication protocols, and distributed multiple access schemes, such as time division, code division, and frequency division. This book focuses on ways in which DTN might make terrestrial communication and observation via earth orbiting satellites less expensive and

more robust. The fundamental concepts and analysis of the Ring Road Architecture are explored. Unique analyses on the motivating factors of using Inter-Satellite Links (ISL) to form networks in disruptive environments in space are discussed. This book explores the limits of larger and complex DTSNs as the number of satellites increase and different orbital formations become possible. As satellite networks become larger in upcoming years this book provides a guide for readers to stay informed about standard protocols such as DTN that will allow seamless interoperability, cost reduction, and risk mitigation.

**LPWAN Technologies for IoT and M2M Applications** - Bharat S. Chaudhari 2020-04-02

Low power wide area network (LPWAN) is a promising solution for long range and low power Internet of Things (IoT) and machine to machine (M2M) communication applications. The LPWANs are resource-constrained networks and have critical requirements for long battery life, extended coverage, high scalability, and low device and deployment costs. There are several design and deployment challenges such as media access control, spectrum management, link optimization and adaptability, energy harvesting, duty cycle restrictions, coexistence and interference, interoperability and heterogeneity, security and privacy, and others. LPWAN Technologies for IoT and M2M Applications is intended to provide a one-stop solution for study of LPWAN technologies as it covers a broad range of topics and multidisciplinary aspects of LPWAN and IoT. Primarily, the book focuses on design requirements and constraints, channel access, spectrum management, coexistence and interference issues, energy efficiency, technology candidates, use cases of different applications in smart city, healthcare, and transportation systems, security issues, hardware/software platforms, challenges, and future directions. One stop guide to the technical details of various low power long range technologies such as LoRaWAN, Sigfox, NB-IoT, LTE-M and others Describes the design aspects, network architectures, security issues and challenges Discusses the performance, interference, coexistence issues and energy optimization techniques Includes LPWAN based intelligent applications in diverse areas such as smart city, traffic management, health and others Presents the different hardware and software platforms for LPWANs Provides guidance on selecting the right technology for an application