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Metamaterial Inspired Electromagnetic Applications - Balamati Choudhury 2017-05-04
This book focuses on the role of soft-computing-based electromagnetic computational engines in design and optimization of a wide range of electromagnetic applications. In addition to the theoretical background of metamaterials and soft-computing techniques, the book discusses novel electromagnetic applications such as tensor analysis for invisibility cloaking, metamaterial structures for cloaking applications, broadband radar absorbers, and antennas. The book will prove to be a valuable resource for academics and professionals, as well as military researchers working in the area of metamaterials.

Future Trends in 5G and 6G - Mangesh Ghonge 2021-12-31
Future Trends in 5G and 6G: Challenges, Architecture, and Applications offers a comprehensive overview of basic communication and networking technologies. It focuses on emerging technologies, such as Software-Defined Network (SDN)-based ad hoc networks, 5G, Machine Learning, and Deep Learning solutions for communication and networking, Cloud Computing, etc. It also includes discussions on practical and innovative applications, including Network Security, Smart Cities, e-health, and Intelligent Systems. The book addresses several key issues in SDN energy-efficient systems, the Internet of Things, Big Data, Cloud Computing and Virtualization, Machine Learning, Deep Learning, Cryptography, and 6G wireless technology and its future. It provides students, researchers, and practicing engineers with an expert guide to the fundamental concepts, challenges, architecture, applications, and state-of-the-art developments in communication and networking.

Advances in Ubiquitous Networking 2 - Rachid El-Azouzi 2016-11-03
This volume offers the proceedings of the 2nd UNet conference, held in Casablanca May 30 - June 1, 2016. It presents new trends and findings in hot topics related to ubiquitous computing/networking, covered in three tracks and three special sessions: Main Track 1: Context-Awareness and Autonomy Paradigms Track Main Track 2: Mobile Edge Networking and Virtualization Track Main Track 3: Enablers, Challenges and Applications Special Session 1: Smart Cities and Urban Informatics for Sustainable Development Special Session 2: Unmanned Aerial Vehicles From Theory to Applications Special Session 3: From Data to Knowledge: Big Data applications and solutions

Computational Intelligence in Data Mining - Volume 1 - Lakhmi C. Jain 2014-12-10
The contributed volume aims to explicate and address the difficulties and challenges for the seamless integration of two core disciplines of computer science, i.e., computational intelligence and data mining. Data Mining aims at the automatic discovery of underlying non-trivial knowledge from datasets by applying intelligent analysis techniques. The interest in this research area has experienced a considerable growth in the last years due to two key factors: (a) knowledge hidden in organizations' databases can be exploited to improve strategic and managerial decision-making; (b) the large volume of data managed by organizations makes it impossible to carry out a manual analysis. The book addresses different methods and techniques of integration for enhancing the overall goal of data mining. The book helps to disseminate the knowledge about some innovative, active research directions in the field of data mining, machine and computational intelligence, along with some current issues and applications of related topics.

Optical and Wireless Technologies - Vijay Janyani 2018-02-12
This book presents selected papers from 1st International Conference on Optical and Wireless Technologies, providing insights into the analytical, experimental, and developmental aspects of systems, techniques, and devices in these spheres. It explores the combined use of various optical and wireless technologies in next-generation networking applications, and discusses the latest developments in applications such as photonics, high-speed communication systems and networks, visible light communication, nanophotonics, and wireless and multiple-input-multiple-

output (MIMO) systems. The book will serve as a valuable reference resource for academics and researchers across the globe.

ICCWS 2019 - Jamal Zbitou
Today, computer science engineering and telecommunications are two important areas linked and even inseparable. This is obvious for the user who connects the modem of his computer on his mobile phone or telephone line to access, via the global data network, the information available on the servers. The both domains are evolving rapidly and the development of new architectures of systems dedicated to telecommunications and computing becomes essential. Especially, wireless transmission systems with high data rate. Two parts of these systems should be developed software and hardware. Another area that is renewable energies becomes more attractive for researchers in order to develop new conversion systems with good performances, and a good optimization of energy. For example, in wireless sensor systems, we try to develop new protocols permitting to have a good autonomy in terms of energy.

Proceedings of Sixth International Congress on Information and Communication Technology - Xin-She Yang 2021-09-23
This book gathers selected high-quality research papers presented at the Sixth International Congress on Information and Communication Technology, held at Brunel University, London, on February 25–26, 2021. 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. The book is presented in four volumes.

Wireless Communication with Artificial Intelligence - Anuj Singal 2022-09-16
This reference text discusses advances in wireless communication, design challenges, and future research directions to design reliable wireless communication. The text discusses emerging technologies including wireless sensor networks, Internet of Things (IoT), cloud computing, mm-Wave, Massive MIMO, cognitive radios (CR), visible light communication (VLC), wireless optical communication, signal processing, and channel modeling. The text covers artificial intelligence-based applications in wireless communication, machine learning techniques and challenges in wireless sensor networks, and deep learning for channel and bandwidth estimation during optical wireless communication. The text will be useful for senior undergraduate, graduate students, and professionals in the fields of electrical engineering, and electronics and communication engineering.

Advances in Communication, Devices and Networking - Rabindranath Bera 2018-05-23
The book provides insights of International Conference in Communication, Devices and Networking (ICCDN 2017) organized by the Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India during 3 – 4 June, 2017. The book discusses latest research papers presented by researchers, engineers, academicians and industry professionals. It also assists both novice and experienced scientists and developers, to explore newer scopes, collect new ideas and establish new cooperation between research groups and exchange ideas, information, techniques and applications in the field of electronics, communication, devices and networking.

WITS 2020 - Saad Bennani 2021-07-21
This book presents peer-reviewed articles from the 6th International Conference on Wireless Technologies, Embedded and Intelligent Systems (WITS 2020), held at Fez, Morocco. It presents original research results, new ideas and practical lessons learnt that touch on all aspects of wireless technologies, embedded and intelligent systems. WITS is an

international conference that serves researchers, scholars, professionals, students and academicians looking to foster both working relationships and gain access to the latest research results. Topics covered include Telecoms & Wireless Networking Electronics & Multimedia Embedded & Intelligent Systems Renewable Energies.

Intelligent Techniques and Applications in Science and Technology - Subhojit Dawn 2020-03-02
This book provides innovative ideas on achieving sustainable development and using green technologies to conserve our ecosystem. Innovation is the successful exploitation of a new idea. Through innovation, we can achieve MORE while using LESS. Innovations in science & technology will not only help mankind as a whole, but also contribute to the economic growth of individual countries. It is essential that the global problem of environmental degradation be addressed immediately, and thus, we need to rethink the concept of sustainable development. Indeed, new environmentally friendly technologies are fundamental to attaining sustainable development. The book shares a wealth of innovative green technological ideas on how to preserve and improve the quality of the environment, and how to establish a more resource-efficient and sustainable society. The book provides an interdisciplinary approach to addressing various technical issues and capitalizing on advances in computing & optimization for scientific & technological development, smart information, communication, bio-monitoring, smart cities, food quality assessment, waste management, environmental aspects, alternative energies, sustainable infrastructure development, etc. In short, it offers valuable information and insights for budding engineers, researchers, upcoming young minds and industry professionals, promoting awareness for recent advances in the various fields mentioned above.

Ambient Communications and Computer Systems - Yu-Chen Hu 2019-03-30
This book includes high-quality, peer-reviewed papers from the International Conference on Recent Advancement in Computer, Communication and Computational Sciences (RACCCS-2018), held at Aryabhatta College of Engineering & Research Center, Ajmer, India on August 10–11, 2018, presenting the latest developments and technical solutions in computational sciences. Networking and communication are the backbone of data science, data- and knowledge engineering, which have a wide scope for implementation in engineering sciences. This book offers insights that reflect the advances in these fields from upcoming researchers and leading academicians across the globe. Covering a variety of topics, such as intelligent hardware and software design, advanced communications, intelligent computing technologies, advanced software engineering, the web and informatics, and intelligent image processing, it helps those in the computer industry and academia use the advances in next-generation communication and computational technology to shape real-world applications.

IMDC-SDSP 2020 - Raed Abd-Alhameed 2020-09-09
IMDC-SDSP conference offers an exceptional platform and opportunity for practitioners, industry experts, technocrats, academics, information scientists, innovators, postgraduate students, and research scholars to share their experiences for the advancement of knowledge and obtain critical feedback on their work. The timing of this conference coincides with the rise of Big Data, Artificial Intelligence powered applications, Cognitive Communications, Green Energy, Adaptive Control and Mobile Robotics towards maintaining the Sustainable Development and Smart Planning and management of the future technologies. It is aimed at the knowledge generated from the integration of the different data sources related to a number of active real-time applications in supporting the smart planning and enhance and sustain a healthy environment. The conference also covers the rise of the digital health, well-being, home care, and patient-centred era for the benefit of patients and healthcare providers; in addition to how supporting the development of a platform of smart Dynamic Health Systems and self-management.

Antenna Design Challenges and Future Directions for Modern Transportation Market - Moh Chuan Tan 2020-12-02
This book is focused on wireless infrastructure deployment in modern transportation markets, where the wireless infrastructure co-exists with the existing structure. It details the challenges this deployment may face and explores the mitigation measures to overcome the challenges. The book proposes a smart antenna structure to overcome airspace congestion, which improves the overall wireless performance and deployment cost. With the combination of practical know-how and theoretical estimation, this book provides insight on how the modern smart antenna techniques that support most cutting-edge wireless

technology can be adopted into the existing infrastructure whilst minimising the distraction to the existing system. This book is suitable for industrial and academic researchers, practising engineers within the field of smart antennae, and wireless infrastructure designers and developers.

Proceedings of the 3rd International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA) 2014 - Suresh Chandra Satapathy 2014-10-31
This volume contains 87 papers presented at FICTA 2014: Third International Conference on Frontiers in Intelligent Computing: Theory and Applications. The conference was held during 14-15, November, 2014 at Bhubaneswar, Odisha, India. This volume contains papers mainly focused on Network and Information Security, Grid Computing and Clod Computing, Cyber Security and Digital Forensics, Computer Vision, Signal, Image & Video Processing, Software Engineering in Multidisciplinary Domains and Ad-hoc and Wireless Sensor Networks.

Emerging Trends in Intelligent Computing and Informatics - Faisal Saeed 2019-11-01
This book presents the proceedings of the 4th International Conference of Reliable Information and Communication Technology 2019 (IRICT 2019), which was held in Pulai Springs Resort, Johor, Malaysia, on September 22–23, 2019. Featuring 109 papers, the book covers hot topics such as artificial intelligence and soft computing, data science and big data analytics, internet of things (IoT), intelligent communication systems, advances in information security, advances in information systems and software engineering.

Next Generation Information Processing System - Prachi Deshpande 2020-06-13
This book gathers high-quality research papers presented at the International Conference on Computing in Engineering and Technology (ICCET 2020) [formerly ICCASP], a flagship event in the area of engineering and emerging next-generation technologies jointly organized by the Dr. Babasaheb Ambedkar Technological University and MGM's College of Engineering in Nanded, India, on 9-11 January 2020. Focusing on next-generation information processing systems, this second volume of the proceedings includes papers on cloud computing and information systems, artificial intelligence and the Internet of Things, hardware design and communication, and front-end design.

Recent Technical Developments in Energy-Efficient 5G Mobile Cells - Raed A. Abd-Alhameed 2020-06-17
This book addresses the true innovation in engineering design that may be promoted by blending together models and methodologies from different disciplines, and, in this book, the target was exactly to follow this approach to deliver a new disruptive architecture to deliver these next-generation mobile small cell technologies. According to this design philosophy, the work within this book resides in the intersection of engineering paradigms that includes "cooperation", "network coding", and "smart energy-aware frontends". These technologies will not only be considered as individual building blocks, but re-engineered according to an inter-design approach resulting in the enabler for energy efficient femtocell-like services on the move. The book aims to narrow the gap between the current networking technologies and the foreseen requirements that are targeted at the future development of the 5G mobile and wireless communications networks in terms of the higher networking capacity, the ability to support more users, the lower cost per bit, the enhanced energy efficiency, and adaptability to new services and devices (for example, smart cities, and the Internet of things (IoT)).

Modelling, Simulation and Intelligent Computing - Nilesh Goel 2020-07-28
This book presents articles from the International Conference on Modelling, Simulation and Intelligent Computing (MoSICom 2020), held at Birla Institute of Technology and Science Pilani, Dubai Campus, Dubai, UAE, in January 2020. Modelling and simulation are becoming increasingly important in a wide variety of fields, from Signal, Image and Speech Processing, and Microelectronic Devices and Circuits to Intelligent Techniques, Control and Energy Systems, and Power Electronics. Further, Intelligent Computational techniques are gaining significance in interdisciplinary engineering applications, such as Robotics and Automation, Healthcare Technologies, IoT and its Applications. Featuring the latest advances in the field of engineering applications, this book serves as a definitive reference resource for researchers, professors and practitioners interested in exploring advanced techniques in the field of modelling, simulation and computing.

Microelectronics, Electromagnetics and Telecommunications - Jaume Anguera 2018-01-25

The volume contains 94 best selected research papers presented at the Third International Conference on Micro Electronics, Electromagnetics and Telecommunications (ICMEET 2017) The conference was held during 09-10, September, 2017 at Department of Electronics and Communication Engineering, BVRIT Hyderabad College of Engineering for Women, Hyderabad, Telangana, India. The volume includes original and application based research papers on microelectronics, electromagnetics, telecommunications, wireless communications, signal/speech/video processing and embedded systems.

Broadband Microstrip Antennas - Girish Kumar 2003
A guide to broadband microstrip antennas, offering information to help you choose and design the optimum broadband microstrip antenna configurations for your applications, without sacrificing other antenna parameters. The text shows you how to take advantage of the light-weight, low volume benefits of these antennas, by providing explanations of the various configurations and simple design equations that help you analyze and design microstrip antennas with speed and confidence. This practical resource presents an understanding of the radiation mechanism and characteristics of microstrip antennas, and provides guidance on designing new types of planar monopole antennas with multi-octave bandwidth. The authors explore how to select and design proper broadband microstrip antenna configurations for compact, tunable, dual-band and circular polarization applications. Moreover, the work compares all the broadband techniques and suggests the most attractive configuration.

MIMO Antennas for Wireless Communication - Leeladhar Malviya 2020-12-15
The desired objective of this book is to investigate diversity and mutual coupling effects on MIMO antenna designs for WLAN/WiMAX/LTE applications, controlled with diversity and ground modification techniques including equivalent circuit diagrams. Diversity techniques in MIMO antennas leading to the performance improvement ratings are demonstrated and deliberated. The book contributes towards the development of 2:1 VSWR MIMO antennas with diversity techniques for indoor/outdoor applications for high data rate, QOS, and SNR. The improved MIMO antenna structures are investigated and presented in this book including part of massive MIMO to provide the important aspects of emerging technology. Aimed at researchers, professionals and graduate students in electrical engineering, electromagnetics, communications and signal processing including antenna theory and design, smart antennas, communication systems, this book: Investigates real time MIMO antenna designs for WLAN/WiMAX/LTE applications. Covers effects of ECC, MEG, TARC, and equivalent circuit. Addresses the coupling and diversity aspects of antenna design problem for MIMO systems. Focus on the MIMO antenna designs for the real time applications. Exclusive chapter on 5G Massive MIMO along with case studies throughout the book.

Proceedings of International Conference on Emerging Technologies and Intelligent Systems - Mostafa Al-Emran 2021
This book sheds light on the emerging research trends in intelligent systems and their applications. It mainly focuses on four different themes, including Artificial Intelligence and Soft Computing, Information Security and Networking, Medical Informatics, and Advances in Information Systems. Each chapter contributes to the aforementioned themes by discussing the recent design, developments, and modifications of intelligent systems and their applications.

Emerging Technologies and Applications for a Smart and Sustainable World - Akhil Jabbar Meerja 2022-09-12
This reference distills information about emerging technologies and applications for smart city design and sustainable urban planning. Chapters present technology use-cases that have radical novelty and high scalability with a prominent impact on community living standards. These technologies prepare urban and rural dwellings for the transformation to the smart world. Applications and techniques highlighted in the book use a combination of artificial intelligence and IoT technologies in areas like transportation, energy, healthcare, education, governance, and manufacturing, to name a few. The book serves as a learning resource for smart city design and sustainable infrastructure planning. Scholars and professionals who are interested in understanding ways for transforming communities into smart communities can also benefit from the cases presented in the book.

Emerging Trends and Applications in Information Communication Technologies - Bhawani Shankar Chowdhry 2012-04-15
This book constitutes the refereed proceedings of the Second International Multi-topic Conference, IMTIC 2012, held in Jamshoro,

Pakistan, in March 2012. The 51 revised full papers presented were carefully reviewed and selected from 205 submissions. The papers address topics from information communication technologies.

Microstrip and Printed Antennas: Applications-Based Designs - Anil Pandey 2019-03-31
This comprehensive resource presents antenna fundamentals balanced with the design of printed antennas. Over 70 antenna projects, along with design dimensions, design flows and antenna performance results are discussed, including antennas for wireless communication, 5G antennas and beamforming. Examples of smartphone antennas, MIMO antennas, aerospace and satellite remote sensing array antennas, automotive antennas and radar systems and many more printed antennas for various applications are also included. These projects include design dimensions and parameters that incorporate the various techniques used by industries and academia. This book is intended to serve as a practical microstrip and printed antenna design guide to cover various real-world applications. All Antenna projects discussed in this book are designed, analyzed and simulated using full-wave electromagnetic solvers. Based on several years of the author's research in antenna design and development for RF and microwave applications, this book offers an in-depth coverage of practical printed antenna design methodology for modern applications.

Smart Antennas - Praveen Kumar Malik 2022
This book presents the latest techniques for the design of antenna, focusing specifically on the microstrip antenna. The authors discuss antenna structure, defected ground, MIMO, and fractal design. The book provides the design of microstrip antenna in terms of latest applications and uses in areas like IoT and device-to-device communication. The book also provides the current methods and techniques used for the enhancement of the performance parameters of the microstrip antenna. Chapters enhance the knowledge and skills of students and researchers in the latest in the communications world like IoT, D2D, satellite, wearable devices etc. The authors discuss applications such as microwave imaging, medical implants, hyperthermia treatments, and wireless wellness monitoring and how a decrease in size of antenna help facilitate application potential. Provides the latest techniques used for the design of antenna in terms of its structure, defected ground, MIMO and fractal design; Outlines steps to resolve issues with designing antenna, including the latest design and design parameters for microstrip antenna; Presents the design of conformal and miniaturized antenna structures for various applications.

LTE Communications and Networks - Masood Ur Rehman 2018-04-18
A comprehensive resource to the latest developments of system enhancement techniques of Femtocells, power management, interference mitigation and antenna design LTE Communications and Networks fills a gap in the literature to offer a comprehensive review of the most current developments of LTE Femtocells and antennas and explores their future growth. With contributions from a group of experts that represent the fields of wireless communications and mobile communications, signal processing and antenna design, this text identifies technical challenges and presents recent results related to the development, integration and enhancement of LTE systems in portable devices. The authors examine topics such as application of cognitive radio with efficient sensing mechanisms, interference mitigation and power management schemes for the LTE systems. They also provide a comprehensive account of design challenges and approaches, performance enhancement techniques and effects of user's presence on the LTE antennas. LTE Communications and Networks also highlights the promising technologies of multiband, multimode and reconfigurable antennas for efficient design of portable LTE devices. Designed to be a practical resource, this text: Explores the interference mitigation, power control and spectrum management in LTE Femtocells and related issues Contains information on the design challenges, different approaches, performance enhancement and application case scenarios for the LTE antennas Covers the most recent developments of system enhancement techniques in terms of Femtocells, power management, interference mitigation and antenna design Includes contributions from leading experts in the field Written for industry professionals and researchers, LTE Communications and Networks is a groundbreaking book that presents a comprehensive treatment to the LTE systems in the context of Femtocells and antenna design and covers the wide range of issues related to the topic.

Futuristic Trends in Network and Communication Technologies - Pradeep Kumar Singh 2018-12-24
This book constitutes the refereed proceedings of the First International

Conference on Futuristic Trends in Network and Communication Technologies, FTNCT 2018, held in Solan, India, in February 2018. The 37 revised full papers presented were carefully reviewed and selected from 239 submissions. The prime aim of the conference is to invite researchers from different domains of network and communication technologies to a single platform to showcase their research ideas. The selected papers are organized in topical sections on communication technologies, Internet of Things (IoT), network technologies, and wireless networks.

Microstrip Patch Antennas: A Designer's Guide - Rod Waterhouse 2013-04-17
This useful tool provides the reader with a current overview of where microstrip patch antenna technology is at, and useful information on how to design this form of radiator for their given application and scenario. Practical design cases are provided for each goal.

Advances in Electrical and Computer Technologies - Thangaprakash Sengodan 2021-02-26
This book comprises select proceedings of the International Conference on Advances in Electrical and Computer Technologies 2020 (ICAECT 2020). The papers presented in this book are peer-reviewed and cover latest research in electrical, electronics, communication and computer engineering. Topics covered include smart grids, soft computing techniques in power systems, smart energy management systems, power electronics, feedback control systems, biomedical engineering, geo informative systems, grid computing, data mining, image and signal processing, video processing, computer vision, pattern recognition, cloud computing, pervasive computing, intelligent systems, artificial intelligence, neural network and fuzzy logic, broad band communication, mobile and optical communication, network security, VLSI, embedded systems, optical networks and wireless communication. The volume can be useful for students and researchers working in the different overlapping areas of electrical, electronics and communication engineering.

Optical and Wireless Technologies - Manish Tiwari 2021-09-01
This book comprises select proceedings of the 4th International Conference on Optical and Wireless Technologies (OWT 2020). The contents of this volume focus on research carried out in the areas of Optical Communication, Optoelectronics, Optics, Wireless Communication, Wireless Networks, Sensors, Mobile Communications and Antenna and Wave Propagation. The volume also explores the combined use of various optical and wireless technologies in next generation applications, and their latest developments in applications like photonics, high speed communication systems and networks, visible light communication, nanophotonics, wireless and MIMO systems. This book will serve as a useful reference to scientists, academicians, engineers and policy-makers interested in the field of optical and wireless technologies.

Ubiquitous Networking - Essaid Sabir 2017-11-07
This book constitutes the refereed proceedings of the Third International Symposium on Ubiquitous Networking, UNet 2017, held in Casablanca, Morocco, in May 2017. The 56 full papers presented in this volume were carefully reviewed and selected from 127 submissions. They were organized in topical sections named: context-awareness and autonomy paradigms; mobile edge networking and virtualization; ubiquitous internet of things: emerging technologies and breakthroughs; and enablers, challenges and applications.

Handbook of Research on Design, Deployment, Automation, and Testing Strategies for 6G Mobile Core Network - Kumar, D. Satish 2022-03-04
To overcome the constraints of 5G for supporting new challenges, 6G wireless systems must be developed with new and attractive features. These systems are expected to increase performance and maximize quality of service several folds more than 5G along with other exciting features. However, 6G is still in its infancy and must be explored. The Handbook of Research on Design, Deployment, Automation, and Testing Strategies for 6G Mobile Core Network discusses the technological feats used in the new 6G wireless systems. It discusses the design, automation, and uses for industry as well as testing strategies. Covering topics such as 6G architecture, smart healthcare, and wireless communication, this major reference work is an excellent resource for computer scientists, engineers, students and professors in higher education, researchers, and academicians.

Printed Antennas - Binod Kumar Kanaujia 2020-11-22
Printed antennas have become an integral part of next-generation wireless communications and have been found to be commonly used to improve system capacity, data rate, reliability, etc. This book covers theory, design techniques, and the chronological regression of the printed antennas for various applications. This book will provide readers with the basic conceptual knowledge about antennas along with advanced techniques for antenna design. It covers a variety of analytical techniques and their CAD applications and discusses new applications of printed antenna technology such as sensing. The authors also present special reconfigurable antennas such as ME dipole, polarization, feeding, and DGS. The book will be useful to students as an introduction to design and applications of antennas. Additionally, experienced researchers in this field will find this book a ready reference and benefit from the techniques of research in printed antennas included in this book. Following are some of the salient features of this book: Covers a variety of analytical techniques and their CAD applications Discusses new applications of printed antenna technology such as sensing Examines the state of design techniques of printed antenna Presents special reconfigurable antennas such as ME dipole, polarization, feeding, and DGS

Microstrip Antenna Design for Wireless Applications - Praveen Kumar Malik 2021-11-30
This book focuses on recent advances in the field of microstrip antenna design and its applications in various fields including space communication, mobile communication, wireless communication, medical implants and wearable applications. Scholars as well as researchers and those in the electronics/ electrical/ instrumentation engineering fields will benefit from this book. The book shall provides the necessary literature and techniques using which to assist students and researchers would design antennas for the above- mentioned applications and will ultimately enable users to take measurements in different environments. It is intended to help scholars and researchers in their studies, by enhancing their the knowledge and skills in on the latest applications of microstrip antennas in the world of communications such as world like IoT, D2D, satellites and wearable devices, to name a few. FEATURES Addresses the complete functional framework workflow in printed antenna design systems Explores the basic and high-level concepts, including advanced aspects in planer design issues, thus serving as a manual for those in the the industry while also assisting beginners Provides the latest techniques used for antennas in terms of structure, defected ground, MIMO and fractal designs Discusses case studies related to data-intensive technologies in microchip antennas in terms of the most recent applications and similar uses for the Internet of Things and device-to-device communication

Antenna Design for Mobile Devices - Zhijun Zhang 2017-06-13
Expanded and updated, this practical guide is a one-stop design reference containing all an engineer needs when designing antennas Integrates state-of-the-art technologies with a special section for step-by-step antenna design Features up-to-date bio-safety and electromagnetic compatibility regulation compliance and latest standards Newly updated with MIMO antenna design, measurements and requirements Accessible to readers of many levels, from introductory to specialist Written by a practicing expert who has hired and trained numerous engineers

Electromagnetic Fields and Waves - Kim Ho Yeap 2019-05-15
In this book, a variety of topics related to electromagnetic fields and waves are extensively discussed. The topics encompass the physics of electromagnetic waves, their interactions with different kinds of media, and their applications and effects.

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.

Medical Imaging and Health Informatics - Tushar H. Jaware 2022-06-21
MEDICAL IMAGING AND HEALTH INFORMATICS Provides a comprehensive review of artificial intelligence (AI) in medical imaging as well as practical recommendations for the usage of machine learning (ML) and deep learning (DL) techniques for clinical applications. Medical imaging and health informatics is a subfield of science and engineering

which applies informatics to medicine and includes the study of design, development, and application of computational innovations to improve healthcare. The health domain has a wide range of challenges that can be addressed using computational approaches; therefore, the use of AI and associated technologies is becoming more common in society and healthcare. Currently, deep learning algorithms are a promising option for automated disease detection with high accuracy. Clinical data analysis employing these deep learning algorithms allows physicians to detect diseases earlier and treat patients more efficiently. Since these technologies have the potential to transform many aspects of patient care, disease detection, disease progression and pharmaceutical organization, approaches such as deep learning algorithms, convolutional neural networks, and image processing techniques are explored in this book. This book also delves into a wide range of image segmentation, classification, registration, computer-aided analysis applications, methodologies, algorithms, platforms, and tools; and gives a holistic approach to the application of AI in healthcare through case studies and innovative applications. It also shows how image processing, machine learning and deep learning techniques can be applied for medical diagnostics in several specific health scenarios such as COVID-19, lung cancer, cardiovascular diseases, breast cancer, liver tumor, bone fractures, etc. Also highlighted are the significant issues and concerns regarding the use of AI in healthcare together with other allied areas, such as the Internet of Things (IoT) and medical informatics, to construct a global multidisciplinary forum. Audience The core audience comprises researchers and industry engineers, scientists, radiologists, healthcare professionals, data scientists who work in health informatics, computer vision and medical image analysis.