

Digital Communication Chennai Anna University Syllabus

The electric vehicle market has been gradually gaining prominence in the world due to the rise in pollution levels caused by traditional IC engine-based vehicles. The advantages of electric vehicles are multi-pronged in terms of cost, energy efficiency, and environmental impact. The running and maintenance cost are considerably less than traditional models. The harmful exhaust emissions are reduced, besides the greenhouse gas emissions, when the electric vehicle is supplied from a renewable energy source. However, apart from some Western nations, many developing and underdeveloped countries have yet to take up this initiative. This lack of enthusiasm has been primarily attributed to the capital investment required for charging infrastructure and the slow transition of energy generation from the fossil fuel to the renewable energy format. Currently, there are very few charging stations, and the construction of the same needs to be ramped up to supplement the growth of electric vehicles. Grid integration issues also crop up when the electric vehicle is used to either do supply addition to or draw power from the grid. These problems need to be fixed at all the levels to enhance the future of energy efficient transportation. Electric Vehicles and the Future of Energy Efficient Transportation explores the growth and adoption of electric vehicles for the purpose of sustainable transportation and presents a critical analysis in terms of the economics, technology, and environmental perspectives of electric vehicles. The chapters cover the benefits and limitations of electric vehicles, techno-economic feasibility of the technologies being developed, and the impact this has on society. Specific points of discussion include electric vehicle architecture, wireless power transfer, battery management, and renewable resources. This book is of interest for individuals in the automotive sector and allied industries, policymakers, practitioners, engineers, technicians, researchers, academicians, and students looking for updated information on the technology, economics, policy, and environmental aspects of electric vehicles.

Recent advancements and innovations in medical image and data processing have led to a need for robust and secure mechanisms to transfer images and signals over the internet and maintain copyright protection. The Handbook of Research on Information Security in Biomedical Signal Processing provides emerging research on security in biomedical data as well as techniques for accurate reading and further processing. While highlighting topics such as image processing, secure access, and watermarking, this publication explores advanced models and algorithms in information security in the modern healthcare system. This publication is a vital resource for academicians, medical professionals, technology developers, researchers, students, and practitioners seeking current research on intelligent techniques in medical data security.

"This book further explores various issues and proposed solutions for the provision of Quality of Service (QoS) on the wireless networks"--Provided by publisher.

The book features research papers presented at the International Conference on Computer Networks and Inventive Communication Technologies (ICCNCT 2018), offering significant contributions from researchers and practitioners in academia and industry. The topics covered include computer networks, network protocols and wireless networks, data communication technologies, and network security. Covering the main core and specialized issues in the areas of next-generation wireless network design, control, and management, as well as in the areas of protection, assurance, and trust in information security practices, these proceedings are a valuable resource, for researchers, instructors, students, scientists, engineers, managers, and industry practitioners.

First International Conference on Computer Science and Information Technology, CCSIT 2011, Bangalore, India, January 2-4, 2011. Proceedings

Digital Communication

Advancing Cloud Database Systems and Capacity Planning With Dynamic Applications

Digital Logic Circuits

Organizational Efficiency through Intelligent Information Technologies

This book primarily focuses on the design of analog and digital communication systems; and has been structured to cater to the second year engineering undergraduate students of Computer Science, Information Technology, Electrical Engineering and Electronics and Communication departments. For better understanding, the basics of analog communication systems are outlined before the digital communication systems section. The content of this book is also suitable for the students with little knowledge in communication systems. The book is divided into five modules for efficient presentation, and it provides numerous examples and illustrations for the detailed understanding of the subject, in a thorough manner. Technical topics discussed in the book include: Analog modulation techniques-AM, FM and PMDigital modulation techniques-ASK, FSK, QPSK, MSK and M-ary modulationPulse modulation techniques and Data communicationSource coding techniques-Shannon Fano and Huffman coding; channel coding techniques-Linear block codes and convolutional codesAdvanced communication techniques topics include-Cellular communication, Satellite communication and multiple access schemes.

?This book on Microwave Engineering presents the subject in simplified manner with equal weightage to both introductory and advance level topics. The book encompasses the entire undergraduate requirements of the microwave engineering course with plentiful pedagogical aids. The students will find this book extremely handy during the course. Salient Features: ? Demonstration of Monolithic Microwave Integrated Circuits with emphasis on device structure, wafer processing technology, circuit Design and RF performances ? Dedicated Chapter on Solid State Semiconductor Devices and Microwave Amplifier Design and Matching ? In depth concept analysis supported by stepwise solution of derivations

"This book explores various aspects of design and development of intelligent technologies by bringing together the latest in research in the fields of information systems, intelligent agents, collaborative works and much more"--Provided by publisher.

This book discusses applications of computational intelligence in sensor networks. Consisting of twenty chapters, it addresses topics ranging from small-scale data processing to big data processing realized through sensor nodes with the help of computational approaches. Advances in sensor technology and computer networks have enabled sensor networks to evolve from small systems of large sensors to large nets of miniature sensors, from wired communications to wireless communications, and from static to dynamic network topology. In spite of these technological advances, sensor networks still face the challenges of communicating and processing large amounts of imprecise and partial data in resource-constrained environments. Further, optimal deployment of sensors in an environment is also seen as an intractable problem. On the other hand, computational intelligence techniques like neural networks, evolutionary computation, swarm intelligence, and fuzzy systems are gaining popularity in solving intractable problems in various disciplines including sensor networks. The contributions combine the best attributes of these two distinct fields, offering readers a comprehensive overview of the emerging research areas and presenting first-hand experience of a variety of computational intelligence approaches in sensor networks.

Digital Signal Processing (With Cd) 2E

Combating Security Breaches and Criminal Activity in the Digital Sphere

Histopathological Image Analysis in Medical Decision Making

Electric Vehicles and the Future of Energy Efficient Transportation

Statistical Theory Of Communication

Biomedical Signal Analysis for Connected Healthcare provides rigorous coverage on several generations of techniques, including time domain approaches for event detection, spectral analysis for interpretation of clinical events of interest, time-varying signal processing for understanding dynamical aspects of complex biomedical systems, the application of machine learning principles in enhanced clinical decision-making, the application of sparse techniques and compressive sensing in providing low-power applications that are essential for wearable designs, the emerging paradigms of the Internet of Things, and connected healthcare. Provides comprehensive coverage of biomedical engineering, technologies, and healthcare applications of various physiological signals Covers vital signals, including ECG, EEG, EMG and body sounds Includes case studies and MATLAB code for selected applications

This book is extensively designed for the third semester ECE students as per Anna university syllabus R-2013. The following chapters constitute the following units Chapter 1, 2 and -Unit 1Chapter 3 covers -Unit 2 Chapter 4 and 5 covers:-Unit 3Chapter 6 covers : -Unit 4Chapter 7 covers : -Unit 5Chapter 8 covers : -Unit 5 CHAPTER 1: Introduces the Number System, binary arithmetic and codes. CHAPTER 2: Deals with Boolean algebra, simplification using Boolean theorems, K-map method , Quine McCluskey method, logic gates, implementation of switching function using basic Logical Gates and Universal Gates. CHAPTER 3: Describes the combinational circuits like Adder, Subtractor, Multiplier, Divider, magnitude comparator, encoder, decoder, code converters, Multiplexer and Demultiplexer. CHAPTER 4: Describes with Latches, Flip-Flops, Registers and Counters CHAPTER 5: Concentrates on the Analysis as well as design of synchronous sequential circuits, Design of synchronous counters, sequence generator and Sequence detector CHAPTER 6: Concentrates the Design as well as Analysis of Fundamental Mode circuits, Pulse mode Circuits, Hazard Free Circuits, ASM Chart and Design of Asynchronous counters. CHAPTER 7: Discussion on memory devices which includes ROM, RAM, PLA, PAL, Sequential logic devices and ASIC. CHAPTER 8: Concentrate on the comparison, operation and characteristics of RTL, DTL, TTL, ECL and MOS families. We have taken enough care to present the definitions and statements of basic laws and theorems, problems with simple steps to make the students familiar with the fundamentals of Digital Design.

This book provides solution for Challenges facing engineers in urban environments looking towards smart development and IoT. The authors address the challenges faced in developing smart applications along with the solutions. Topics addressed include reliability, security and financial issues in relation to all the smart and sustainable development solutions discussed. The solutions they provide are affordable, resistive to threats, and provide high reliability. The book pertains to researchers, academics, professionals, and students. Provides solutions to urban sustainable development problems facing engineers in developing and developed countries Discusses issues with industrial problems and current issues in smart city development Includes solutions that are reliable, secure and financially sound

This textbook is for undergraduate students of electronics and telecommunication engineering and allied disciplines, as well as diploma and course courses. This book offers an introductory survey of the conceptual development of the subject. It provides a simple and lucid presentations of the essential principles, formulae and definitions of Digital Communications.

Select Proceedings of ICASIC 2020

Applications, Access and Aberrations

DIGITAL COMMUNICATION

Advances in Computer Science and Information Technology

Internet of Things in Smart Technologies for Sustainable Urban Development

With exponentially increasing amount of data accumulating in real time, there is no reason why one should not turn data into a competitive advantage. While machine learning, driven by advancements in artificial intelligence, has made great strides, it has not been able to surpass a number of challenges that still prevail in the way of better success. Such limitations as the lack of better methods, deeper understanding of problems, and advanced tools are hindering progress. Challenges and Applications of Data Analytics in Social Perspectives provides innovative insights into the prevailing challenges in data analytics and its application on social media and focuses on various machine learning and deep learning techniques in improving practice and research. The content within this publication examines topics that include collaborative filtering, data visualization, and edge computing. It provides research ideal for data scientists, data analysts, IT specialists, website designers, e-commerce professionals, government officials, software engineers, social media analysts, industry professionals, academicians, researchers, and students.

This volume constitutes the first of three parts of the refereed proceedings of the First International Conference on Computer Science and Information Technology, CCSIT 2010, held in Bangalore, India, in January 2011. The 59 revised full papers presented in this volume were carefully reviewed and selected. The papers are organized in topical sections on distributed and parallel systems and algorithms; DSP, image processing, pattern recognition, and multimedia; software engineering; database and data Mining; as well as soft computing, such as AI, neural networks, fuzzy systems, etc.

"This reference book brings together various perspectives on the usage and application of mobile technologies and networks in global business"--Provided by publisher.

Digital Advances in Medicine, E-Health, and Communication Technologies explores the developments and trends in medical informatics and its approaches toward telemedicine and e-health applications. This comprehensive collection of research brings together academia and industry by highlighting recent advances in electronic health, medical communications and applications for e-health and medicine.

Smart Intelligent Computing and Communication Technology

Computational Intelligence in Sensor Networks

Microwave Engineering

Handbook of Research on Information Security in Biomedical Signal Processing

Quality of Service Architectures for Wireless Networks: Performance Metrics and Management

This book gathers selected papers presented at the 7th International Conference on Innovations in Electronics and Communication Engineering, held at Guru Nanak Institutions in Hyderabad, India. It highlights contributions by researchers, technocrats and experts regarding the latest technologies in electronic and communication engineering, and addresses various aspects of communication engineering, including signal processing, VLSI design, embedded systems, wireless communications, and electronics and communications in general. Covering cutting-edge technologies, the book offers a valuable resource, especially for young researchers.

The book, organised in ten chapters, comprehensively presents the concepts pertaining to digital communication in a very simplified manner. Mathematical intricacies of ideas which form the bedrock of digital communication such as sampling, baseband data transmission, information theory, error control coding, and modulation are presented in a style understandable to an undergraduate student. Each and every topic, no matter how simple it seems, is followed by solved examples. Besides, additional information on certain topics are provided in appropriate annexures. Thus, the flow of the topics is not interrupted with unnecessary deviations from the viewpoint of an average student, whereas at the same time, the brighter students can go through these annexures to gain advanced knowledge. The book is primarily intended for the undergraduate students of Electronics and Communication Engineering, Electronics and Telecommunication Engineering, and Telecommunication Engineering offered in various Indian universities. The text is also of immense use to the aspirants of AMIE exam and AMIETE exam. KEY FEATURES - Solved problems and exercises at the end of each chapter are provided from practice point of view. - Chapter-end references are given for further exploration of several advanced topics touched upon in the text. - Numerous figures and tables are included to help grasp the concepts discussed.

PREFACE OF THE BOOK This book is extensively designed for the third semester EEE/EIE students as per Anna university syllabus R-2013. The following chapters constitute the following units Chapter 1, 9 covers :-Unit 1Chapter 2 and 3 covers -Unit 2Chapter 4 and 5 covers : -Unit 3Chapter 6 and 7 covers :-Unit 4Chapter 8 VHDL :-Unit 5 CHAPTER 1: Introduces the Number System, binary arithmetic and codes. CHAPTER 2: Deals with Boolean algebra, simplification using Boolean theorems, K-map method , Quine McCluskey method, logic gates, implementation of switching function using basic Logical Gates and Universal Gates. CHAPTER 3: Describes the combinational circuits like Adder, Subtractor, Multiplier, Divider, magnitude comparator, encoder, decoder, code converters, Multiplexer and Demultiplexer. CHAPTER 4: Describes with Latches, Flip-Flops, Registers and Counters CHAPTER 5: Concentrates on the Analysis as well as design of synchronous sequential circuits, Design of synchronous counters, sequence generator and Sequence detector CHAPTER 6: Concentrates the Design as well as Analysis of Fundamental Mode circuits, Pulse mode Circuits, Hazard Free Circuits, ASM Chart and Design of Asynchronous counters. CHAPTER 7: Discussion on memory devices which includes ROM, RAM, PLA, PAL, Sequential logic devices and ASIC. CHAPTER 8: The chapter concentrates on the design, fundamental building blocks, Data types, operates, subprograms, packages, compilation process used for VHDL. It discusses on Finite state machine as an important tool for designing logic level state machines. The chapter also discusses register transform level designing and test benches usage in stimulation of the state logic machines CHAPTER 9: Concentrate on the comparison, operation and characteristics of RTL, DTL, TTL, ECL and MOS families. We have taken enough care to present the definitions and statements of basic laws and theorems, problems with simple steps to make the students familiar with the fundamentals of Digital Design.

This cutting-edge volume focuses on how artificial intelligence can be used to give computers the ability to imitate human sight. With contributions from researchers in diverse countries, including Thailand, Spain, Japan, Turkey, Australia, and India, the book explains the essential modules that are necessary for comprehending artificial intelligence experiences to provide machines with the power of vision. The volume also presents innovative research developments, applications, and current trends in the field. The chapters cover such topics as visual quality improvement, Parkinson's disease diagnosis, hypersensitive retinopathy detection through retinal fundus, big image data processing, N-grams for image classification, medical brain images, chatbot applications, credit score improvisation, vision-based vehicle lane detection, damaged vehicle parts recognition, partial image encryption of medical images, and image synthesis. The chapter authors show different approaches to computer vision, image processing, and frameworks for machine learning to build automated and stable applications. Deep learning is included for making immersive application-based systems, pattern recognition, and biometric systems. The book also considers efficiency and comparison at various levels of using algorithms for real-time applications, processes, and analysis.

Digital Communications and Signal Processing (Second Edition)

Internet of Things in Biomedical Engineering

Analog and Digital Electronics

International Conference on Computer Networks and Communication Technologies

All marketing is digital and everyone should have a digital strategy. Everything is going mobile. "The world has never been more social" is the recent talk in the community. Digital Communication is the key enabler of that. Digital information tends to be far more resistant to transmit and interpret errors than information symbolized in an analog medium. This accounts for the clarity of digitally-encoded telephone connections, compact audio disks, and much of the enthusiasm in the engineering community for digital communications technology. A contemporary and comprehensive coverage of the field of digital communication, this book explores modern digital communication techniques. The purpose of this book is to extend and update the knowledge of the reader in the dynamically changing field of digital communication.

This Book Deals With The Application Of Statistics To Communication Systems And Radar Analysis Information Theory, Coding, Random Processes, Optimum Linear Systems And Estimation Theory Forms The Subject Matter Of This Book. The Subject Treatment Requires A Basic Knowledge Of Probability And Statistics. This Book Is Intended As A Text For A Graduate Level Course On Electronics And Communication Engineering.

Analog and Digital Electronics is designed specifically to cater to the needs of third Semester students of B.Tech. in Computer Science and Engineering, JNTU. The book has a perfect blend of focused content and complete coverage as per the syllabus. Simple, easy-to-understand and difficult-jargon-free text elucidates the fundamentals of analog and digital electronics. Several solved examples, including circuit diagrams and adequate questions further help students understand and apply the concepts. Few Highlights - Comprehensive syllabus coverage as per latest pattern - Lucid presentation style - Rich pool of pedagogy, illustrative Examples and Review Questions

In a world dependent on digital technologies, business corporations continually try to stay ahead of their competitors by adopting the most updated technology into their business processes. Many companies are adopting digital transformation models, data analytics, big data, data empowerment, and data sharing as key strategies and as service disruptors for information delivery and record management. Higher education institutions have adopted digital service innovation as a core to driving their business processes. Such services are key to ensuring efficiency and improving organizational performance. Digital Transformation and Innovative Services for Business and Learning is a collection of innovative research on the latest digital services and their role in supporting the digital transformation of businesses and education. While highlighting topics including brand equality, digital banking, and generational workforce, this book is ideally designed for managers, executives, IT consultants, industry professionals, academicians, researchers, and students.

Challenges and Applications of Data Analytics in Social Perspectives

An Elementary Approach on Solid State Devices

Advanced Soft Computing Techniques in Data Science, IoT and Cloud Computing

Technical, Methodological, and Social Perspectives

Digital Transformation and Innovative Services for Business and Learning

The internet of things (IoT) has emerged to address the need for connectivity and seamless integration with other devices as well as big data platforms for analytics. However, there are challenges that IoT-based applications face including design and implementation issues; connectivity problems; data gathering, storing, and analyzing in cloud-based environments; and IoT security and privacy issues. Emerging Trends in IoT and Integration with Data Science, Cloud Computing, and Big Data Analytics is a critical reference source that provides theoretical frameworks and research findings on IoT and big data integration. Highlighting topics that include wearable sensors, machine learning, machine intelligence, and mobile computing, this book serves professionals who want to improve their understanding of the strategic role of trust at different levels of the information and knowledge society. It is therefore of most value to data scientists, computer scientists, data analysts, IT specialists, academicians, professionals, researchers, and students working in the field of information and knowledge management in various disciplines that include but are not limited to information and communication sciences, administrative sciences and management, education, sociology, computer science, etc. Moreover, the book provides insights and supports executives concerned with the management of expertise, knowledge, information, and organizational development in different types of work communities and environments.

Recent developments in the fields of intelligent computing and communication have paved the way for the handling of current and upcoming problems and brought about significant technological advancements. This book presents the proceedings of IConIC 2021, the 4th International Conference on Intelligent Computing, held on 26 and 27 March 2021 in Chennai, India. The principle objective of the annual IConIC conference is to provide an international scientific forum where participants can exchange innovative ideas in relevant fields and interact in depth through discussion with their peer group. The theme of the 2021 conference and this book is 'Smart Intelligent Computing and Communication Technology', and the 109 papers included here focus on the technological innovations and trendsetting initiatives in medicine, industry, education and security that are improving and optimizing business and technical processes and enabling inclusive growth. The papers are grouped under 2 headings: Evolution of Computing Intelligence; and Computing and Communication, and cover a broad range of intelligent-computing research and applications. The book provides an overview of the cutting-edge developments and emerging areas of study in the technological fields of intelligent computing, and will be of interest to researchers and practitioners from both academia and industry.

In recent years, the surge of blockchain technology has been rising due to its proven reliability in ensuring secure and effective transactions, even between untrusted parties. Its application is broad and covers public and private domains varying from traditional communication networks to more modern networks like the internet of things and the internet of energy crossing fog and edge computing, among others. As technology matures and its standard use cases are established, there is a need to gather recent research that can shed light on several aspects and facts on the use of blockchain technology in different fields of interest. Enabling Blockchain Technology for Secure Networking and Communications consolidates the recent research initiatives directed towards exploiting the advantages of blockchain technology for benefiting several areas of applications that vary from security and robustness to scalability and privacy-preserving and more. The chapters explore the current applications of blockchain for networking and communications, the future potentials of blockchain technology, and some not-yet-prospected areas of research and its application. This book is ideal for practitioners, stakeholders, researchers, academicians, and students interested in the concepts of blockchain technology and the potential and pitfalls of its application in different utilization domains.

This book examines the nature, extent and implications of rapid strides digitalization has made in India since the turn of the millennium. These have been examined not merely in the sphere of information and communication technology (ICT) but its multifarious applications spreading across almost all aspects of production, services and institutions which have profound repercussions for the transformation of the society and economy at the micro, meso and macro levels. With contributions from both ICT scholars and social scientists, this book presents diverse scenarios and unravels challenges faced in the process of technological progress by the users of these disruptive technologies (automation, e-commerce, big data analytics & algorithms, artificial intelligence, cloud computing, etc.) which, unlike heavy machines (emodded technology), mostly defy physical space, pace of mobility and interoperability between technologies. Chapters in this volume address challenges and possibilities in establishing and operating intricate engineering infrastructure, technical and societal constraints encountered in broad-based digitalization across layers of educational and social skills conducive to different geographies. Issues dealt within this book include farming, healthcare, education, food processing, e-commerce, labour, rural community development, open source data and information democracy. The chapters also reflect upon implications on local economy and society of the very global nature of these seamless technologies where inter-operability remains the quintessential advantage of digitalization whether promoted or spearheaded through the state, private sector or global capital. The book critiques policy inadequacies and suggests plausible policy approaches to reduce the adverse impacts of fast digitalization and broad-base potential benefits across space and levels of socio-economic development of regions and society. This book would be of interest to scholars, practitioners, technocrats, industry analysts, policy makers and civil society agencies.

Digital Advances in Medicine, E-Health, and Communication Technologies

Proceedings of International Conference, INCOSET 2012

Information Metrics and Management

ICCNCT 2018

Proceedings of the 7th ICEECE 2018

This Book Presents An Exhaustive Exposition Of The Theory And Practice Of Digital Signal Processing. Basic Concepts And Techniques Have Been Explained In Detail And Suitably Illustrated With Practical Examples And Software Programs. Practice Problems And Projects Have Also Been Given Throughout The Book.The Book Begins With An Introduction To Signals And The Relative Merits Of Analog And Digital Methods. Hardware Details Of Present-Day Dsp Integrated Circuits Are Explained Next And Full Tested Circuits Are Provided For Project Work By Students.Fourier Transforms Are Then Explained In Detail. Subsequently, Recursive Filter Design Methods Are Discussed With Typical Examples And Programs.An Exhaustive Account Of Various Filters Is Then Given With Design Techniques. The Discussion Is Illustrated Through Software Programs And Practical Design Examples.The Book Concludes With A Detailed Discussion Of Lattice Type Filters And Their Usage In Speech Processing. With Its Comprehensive Coverage And Practical Approach, This Is An Essential Text For Electrical, Electronics And Communication Engineering Students. Practising Engineers Would Also Find This Book To Be A Valuable Reference Source.

This treatise on the subject "An Elementary Approach on Solid State Devices" contains comprehensive treatment of subject matter in a simple lucid and direct language. It covers the syllabus of various Indian universities. This book contains five modules which emphasizes on an adaptive and systematic approach from introduction to mainstream applications. It will be beneficial for students, researchers and academia's for a time bound and effective reading for easy understanding of the subject. All the five modules are saturated with much needed text supported by simple and self-explanatory figures and worked examples whenever required. This is a foundation core subject in Electronics and Communication Engineering, and many competitive examinations like GATE, IES etc. This book will be beneficial for preparing the subject in-depth for such competitive objective and descriptive examinations.

With the rapid advancement in technology, a myriad of new threats have emerged in online environments. This is a broad spectrum of these digital risks requires new and innovative methods for protection against cybercrimes. Combating Security Breaches and Criminal Activity in the Digital Sphere is a pivotal reference source for the latest scholarly research on current trends in cyber forensic investigations, focusing on advanced techniques for protecting information security and preventing potential exploitation for online users. Featuring law enforcement perspectives, theoretical foundations, and forensic methods, this book is ideally designed for policy makers, analysts, researchers, technology developers, and upper-level students.

The present book is based on the research papers presented in the International Conference on Emerging Trends in Science, Engineering and Technology 2012, held at Tiruchirappalli, India. The papers presented bridges the gap between science, engineering and technology. This book covers a variety of topics, including mechanical, production, aeronautical, material science, energy, civil and environmental energy, scientific management, etc. The prime objective of the book is to fully integrate the scientific contributions from academicians, industrialists and research scholars.

Introduction to Analog and Digital Communication

The Digitalization Comundrum in India

Emerging Trends in Science, Engineering and Technology

Digital Electronics

Advances in Automation, Signal Processing, Instrumentation, and Control

This book presents the select proceedings of the International Conference on Automation, Signal Processing, Instrumentation and Control (i-CASIC) 2020. The book mainly focuses on emerging technologies in electrical systems, IoT-based instrumentation, advanced industrial automation, and advanced image and signal processing. It also includes studies on the analysis, design and implementation of instrumentation systems, and high-accuracy and energy-efficient controllers. The contents of this book will be useful for beginners, researchers as well as professionals interested in instrumentation and control, and other allied fields.

Internet of Things in Biomedical Engineering presents the most current research in Internet of Things (IoT) applications for clinical patient monitoring and treatment. The book takes a systems-level approach for both human-factors and the technical aspects of networking, databases and privacy. Sections delve into the latest advances and cutting-edge technologies, starting with an overview of the Internet of Things and biomedical engineering, as well as a focus on 'daily life'. Contributors from various experts then discuss 'computer assisted anthropology', 'LOUDFALL, and image guided surgery, as well as bio-informatics and data mining. This comprehensive coverage of the industry and technology is a perfect resource for students and researchers interested in the topic. Presents recent advances in IoT for biomedical engineering, covering biometrics, bioinformatics, artificial intelligence, computer vision and various network applications Discusses big data and data mining in healthcare and other IoT based biomedical data analysis Includes discussions on a variety of IoT applications and medical information systems Includes case studies and applications, as well as examples on how to automate data analysis with Perl R in IoT

Continuous improvements in data analysis and cloud computing have allowed more opportunities to develop systems with user-focused designs. This not only leads to higher success in day-to-day usage, but it increases the overall probability of technology adoption. Advancing Cloud Database Systems and Capacity Planning With Dynamic Applications is a key resource on the latest innovations in cloud database systems and their impact on the daily lives of people in modern society. Highlighting multidisciplinary studies on information storage and retrieval, big data architectures, and artificial intelligence, this publication is an ideal reference source for academicians, researchers, scientists, advanced level students, technology developers and IT officials.

Medical imaging technologies play a significant role in visualization and interpretation methods in medical diagnosis and practice using decision making, pattern classification, diagnosis, and learning. Progressions in the field of medical imaging lead to interdisciplinary discovery in microscopic image processing and computer-assisted diagnosis systems, and aids physicians in the diagnosis and early detection of diseases. Histopathological Image Analysis in Medical Decision Making provides emerging research exploring the theoretical and practical applications of image technologies and feature extraction procedures within the medical field. Featuring coverage on a broad range of topics such as image classification, digital image analysis, and prediction methods, this book is ideally designed for medical professionals, system engineers, medical students, researchers, and medical practitioners seeking current research on problem-oriented processing techniques in imaging technologies.

Emerging Trends in IoT and Integration with Data Science, Cloud Computing, and Big Data Analytics

Innovations in Electronics and Communication Engineering

Research Innovations and Trends

Basic Electrical and Electronics Engineering

Biomedical Signal Analysis for Connected Healthcare