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to participate actively in knowledge communication and knowledge construction, mobile and ubiquitous computing technologies enable the integration of informal and formal learning support.

This book is focused on an emerging area, i.e. combination of IoT and semantic technologies, which should enable breaking the silos of local and/or domain-specific IoT deployments. Taking into account the way that IoT ecosystems are realized, several challenges can be identified. Among them of definite importance are (this list is, obviously, not exhaustive): (i) How to provide common representation and/or shared understanding of data that will enable analysis across (systematically growing) ecosystems? (ii) How to build ecosystems based on data flows? (iii) How to track data provenance? (iv) How to ensure/manage trust? (v) How to search for things/data within ecosystems? (vi) How to store data and assure its quality?

Semantic technologies are often considered among the possible ways of addressing these (and other, related) questions. More precisely, in academic research and in industrial practice, semantic technologies materialize in the following contexts (this list is, also, not exhaustive, but indicates the breadth of scope of semantic technology usability): (i) representation of artefacts in IoT ecosystems and IoT networks, (ii) providing interoperability between heterogeneous IoT artefacts, (iii) representation of provenance information, enabling provenance tracking, trust establishment, and quality assessment, (iv) semantic search, enabling flexible access to data originating in different places across the ecosystem, (v) flexible storage of heterogeneous data. Finally, Semantic Web, Web of Things, and Linked Open Data are architectural paradigms, with which the aforementioned solutions are to be integrated, to provide production-ready deployments.

These proceedings represent the work of researchers participating in the 15th European Conference on Cyber Warfare and Security (ECCWS 2016) which is being hosted this year by the Universität der Bundeswehr, Munich, Germany on the 7-8 July 2016. ECCWS is a recognised event on the International research conferences calendar and provides a valuable platform for individuals to present their research findings, display their work in progress and discuss conceptual and empirical advances in the area of Cyberwar and Cyber Security. It provides an important opportunity for researchers and managers to come together with peers to share their experiences of using the varied and expanding range of Cyberwar and Cyber Security research available to them. With an initial submission of 110 abstracts, after the double blind, peer review process there are 37 Academic research papers and 11 PhD research papers, 1 Master's research paper, 2 Work In Progress papers and 2 non-academic papers published in these Conference Proceedings. These papers come from many different countries including Austria, Belgium, Canada, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Kenya, Luxembourg, Netherlands, Norway, Portugal, Romania, Russia, Slovenia, South Africa, Sweden, Turkey, UK and USA. This

is not only highlighting the international character of the conference, but is also promising very interesting discussions based on the broad treasure trove of experience of our community and participants."

As the demand for efficient energy sources continues to grow around the globe, electrical systems are becoming more essential in an effort to meet these increased needs. As these systems are being utilized more frequently, it becomes imperative to find ways of optimizing their overall function. The Handbook of Research on Emerging Technologies for Electrical Power Planning, Analysis, and Optimization features emergent methods and research in the systemic and strategic planning of energy usage. Highlighting theoretical perspectives and empirical research, this handbook is a comprehensive reference source for researchers, practitioners, students, and professionals interested in the current advancements and efficient use in power systems.

Applications in Bioinformatics

Electric Circuits and Networks

Next Generation Process Model with State of the Art Technologies

Proceedings of ESREL 2018, June 17-21, 2018, Trondheim, Norway

6G Mobile Wireless Networks

Serving the Stigmatized

Lean AI

The book covers all the aspects of Network Analysis for undergraduate course. The book provides comprehensive coverage of circuit analysis and simplification techniques, coupled circuits, network theorems, transient analysis, Laplace transform, network functions, two port network parameters, network topology and network synthesis with the help of large number of solved problems. The book starts with explaining the various circuit variables, elements and sources. Then it explains different network simplification techniques including mesh analysis, node analysis and source shifting. The basics of coupled circuits and dot conventions are also explained in support. The book covers the application of various network theorems to d.c. and a.c. circuits. The importance of initial conditions and transient analysis of various networks is also explained in the book. The Laplace transform plays an important role in the network analysis. The chapter on Laplace transform includes properties of Laplace transform and its application in the network analysis. The book includes the discussion of network functions of one and two port networks. The book covers the various aspects of two port network parameters along with the conditions of symmetry and reciprocity. It also derives the interrelationships between the two port network parameters. The book incorporates the discussion of network topology. Finally the book covers the fundamentals of network synthesis and synthesis of LC, RC and RL networks. The book uses plain and lucid language to explain each topic. The book provides the logical method of explaining the various complicated topics and stepwise methods to make the understanding easy. The

variety of solved examples is the feature of this book. The book explains the philosophy of the subject which makes the understanding of the subject very clear and makes the subject more interesting. The students have to omit nothing and possibly have to cover nothing more.

This text covers many different aspects of both wide area and local area networks. It goes behind networking jargon to demonstrate why networking protocols have evolved as they have, and the need for standardization. The text also gives an insight into the challenges which still remain and some of the possibilities for the future.

This book presents select proceedings of the International Conference on Futuristic Communication and Network Technologies (CFCNT 2020) conducted at Vellore Institute of Technology, Chennai. It covers various domains in communication engineering and networking technologies. This volume comprises of recent research in areas like optical communication, optical networks, optics and optical computing, emerging trends in photonics, MEMS and sensors, active and passive RF components and devices, antenna systems and applications, RF devices and antennas for microwave emerging technologies, wireless communication for future networks, signal and image processing, machine learning/AI for networks, internet of intelligent things, network security and blockchain technologies. This book will be useful for researchers, professionals, and engineers working in the core areas of electronics and communication.

The ubiquity of modern technologies has allowed for increased connectivity between people and devices across the globe. This connected infrastructure of networks creates numerous opportunities for applications and uses. As the applications of the internet of things continue to progress so do the security concerns for this technology. The study of threat prevention in the internet of things is necessary as security breaches in this field can ruin industries and lives. Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications is a vital reference source that examines recent developments and emerging trends in security and privacy for the internet of things through new models, practical solutions, and technological advancements related to security. Highlighting a range of topics such as cloud security, threat detection, and open source software, this multi-volume book is ideally designed for engineers, IT consultants, ICT procurement managers, network system integrators, infrastructure service providers, researchers, academics, and professionals interested in current research on security practices pertaining to the internet of things.

Select Proceedings of NOIEAS 2019

Instrument Engineers' Handbook, Volume 3

Journal of the American Statistical Association

How Innovative Startups Use Artificial Intelligence to Grow

ECCWS2016-Proceedings fo the 15th European Conference on Cyber Warfare and Security "

Second International Conference on Image Processing and Capsule Networks

Numerical Optimization in Engineering and Sciences

Polymeric Gels: Characterization, Properties and Biomedical Applications covers the fundamentals and applications of polymeric gels. Particular emphasis is given to their synthesis, properties and characteristics, with topics such as natural, synthetic, and smart polymeric gels, medical applications, and advancements in conductive and magnetic gels presented. The book covers the basics and applications of hydrogels, providing readers with a comprehensive guide on the types of polymeric gels used in the field of biomedical engineering. Provides guidance for decisions on the suitability and appropriateness of a synthetic route and characterization technique for particular polymeric networks Analyzes and compares experimental data Presents in-depth information on the physical properties of polymeric gels using mathematical models Uses an interdisciplinary approach to discuss potential new applications for both established polymeric gels and recent advances

Advances in machine learning techniques and ever-increasing computing power has helped create a new generation of hardware and software technologies with practical applications for nearly every industry. As the progress has, in turn, excited the interest of venture investors, technology firms, and a growing number of clients, implementing intelligent automation in both physical and information systems has become a must in business. **Handbook of Research on Smart Technology Models for Business and Industry** is an essential reference source that discusses relevant abstract frameworks and the latest experimental research findings in theory, mathematical models, software applications, and prototypes in the area of smart technologies. Featuring research on topics such as digital security, renewable energy, and intelligence management, this book is ideally designed for machine learning specialists, industrial experts, data scientists, researchers, academicians, students, and business professionals seeking coverage on current smart technology models.

The book is written for an undergraduate course on the theory of Feedback Control Systems. It provides comprehensive explanation of theory and practice of control system engineering. It elaborates various aspects of time domain and frequency domain analysis and design of control systems. Each chapter starts with the background of the topic. Then it gives the conceptual knowledge about the topic dividing it in various sections and subsections. Each chapter provides the detailed explanation of the topic, practical examples and variety of solved problems. The explanations are given using very simple and lucid language. All the chapters are arranged in a specific sequence which helps to build the understanding of the subject in a logical fashion. The book starts with explaining the various types of control systems. Then it explains how to obtain the mathematical models of various types of systems such as electrical, mechanical, thermal and liquid level systems. Then the book includes good coverage of the block diagram and signal flow graph methods of representing the various systems and the reduction methods to obtain simple system from the analysis point of view. The book further illustrates the steady state and transient analysis of control systems. The book covers the fundamental knowledge of controllers used in practice to optimize the performance of the systems. The book emphasizes the detailed analysis of second order systems as these systems are common in practice and higher order systems can be approximated as second order systems. The book teaches the concept of stability and time domain stability analysis using Routh-Hurwitz method and root locus method. It further explains the fundamentals of frequency domain analysis of the systems including co-relation between time domain and frequency domain. The book gives very simple techniques for stability analysis of the systems in the frequency domain, using Bode plot, Polar plot and Nyquist plot methods. It also explores the concepts of compensation and design of the control systems in time domain and frequency domain.

The classical approach loses the importance of initial conditions in the systems. Thus the book provides the detailed explanation of modern approach of analysis which is the state variable analysis of the systems including methods of finding the state transition matrix, solution of state equation and the concepts of controllability and observability. The book also introduces the concept of discrete time systems including digital and sample data systems, z-transform, difference equations, state space representation, pulse transfer functions and stability of linear discrete time systems. The variety of solved examples is the feature of this book which helps to inculcate the knowledge of the design and analysis of the control systems in the students. The book explains the philosophy of the subject which makes the understanding of the concepts very clear and makes the subject more interesting.

This book presents select peer-reviewed papers presented at the International Conference on Numerical Optimization in Engineering and Sciences (NOIEAS) 2019. The book covers a wide variety of numerical optimization techniques across all major engineering disciplines like mechanical, manufacturing, civil, electrical, chemical, computer, and electronics engineering. The major focus is on innovative ideas, current methods and latest results involving advanced optimization techniques. The contents provide a good balance between numerical models and analytical results obtained for different engineering problems and challenges. This book will be useful for students, researchers, and professionals interested in engineering optimization techniques.

Proceedings of the International Conference on Intelligent Systems and Signal Processing

Handbook of Research on Smart Technology Models for Business and Industry

Dependable IoT for Human and Industry: Modeling, Architecting, Implementation

Micro- and Nano-Structured Interpenetrating Polymer Networks

Grassroots Innovation

Machine Learning, Image Processing, Network Security and Data Sciences

Characterization, Properties and Biomedical Applications

Instrument Engineers' Handbook – Volume 3: Process Software and Digital Networks, Fourth Edition is the latest addition to an enduring collection that industrial automation (AT) professionals often refer to as the "bible." First published in 1970, the entire handbook is approximately 5,000 pages, designed as standalone volumes that cover the measurement (Volume 1), control (Volume 2), and software (Volume 3) aspects of automation. This fourth edition of the third volume provides an in-depth, state-of-the-art review of control software packages used in plant optimization, control, maintenance, and safety. Each updated volume of this renowned reference requires about ten years to prepare, so revised installments have been issued every decade, taking into account the numerous developments that occur from one publication to the next. Assessing the rapid evolution of automation and optimization in control systems used in all types of industrial plants, this book details the wired/wireless communications and software used. This includes the ever-increasing number of applications for

intelligent instruments, enhanced networks, Internet use, virtual private networks, and integration of control systems with the main networks used by management, all of which operate in a linked global environment. Topics covered include: Advances in new displays, which help operators to more quickly assess and respond to plant conditions Software and networks that help monitor, control, and optimize industrial processes, to determine the efficiency, energy consumption, and profitability of operations Strategies to counteract changes in market conditions and energy and raw material costs Techniques to fortify the safety of plant operations and the security of digital communications systems This volume explores why the holistic approach to integrating process and enterprise networks is convenient and efficient, despite associated problems involving cyber and local network security, energy conservation, and other issues. It shows how firewalls must separate the business (IT) and the operation (automation technology, or AT) domains to guarantee the safe function of all industrial plants. This book illustrates how these concerns must be addressed using effective technical solutions and proper management policies and practices. Reinforcing the fact that all industrial control systems are, in general, critically interdependent, this handbook provides a wide range of software application examples from industries including: automotive, mining, renewable energy, steel, dairy, pharmaceutical, mineral processing, oil, gas, electric power, utility, and nuclear power.

The book provides insights into International Conference on Intelligent Systems and Signal Processing (ISSP 2017) held at G.H. Patel College of Engineering & Technology, Gujarat, India during March 24-25, 2017. The book comprises contributions by the research scholars and academicians covering the topics in signal processing and communication engineering, applied electronics and emerging technologies, computer vision and machine learning, big data and cloud computing and advanced intelligent power electronics and drives systems. The main emphasis of the book is on dissemination of information, experience and research results on the current topics of interest through in-depth discussions and contribution of researchers from all over world. The book is useful for research community, academicians, industrialists and post graduate students across the globe.

This book is a pioneering yet primary general reference resource on cyber physical systems and their security concerns. Providing a fundamental theoretical background, and a clear and comprehensive overview of security issues in the domain of cyber physical systems, it is useful for students in the fields of information technology, computer science, or computer engineering where this topic is a substantial emerging area of study.

This two-volume set (CCIS 1240-1241) constitutes the refereed proceedings of the Second International Conference on Machine Learning, Image Processing, Network Security and Data Sciences, MIND 2020, held in

Silchar, India. Due to the COVID-19 pandemic the conference has been postponed to July 2020. The 79 full papers and 4 short papers were thoroughly reviewed and selected from 219 submissions. The papers are organized according to the following topical sections: data science and big data; image processing and computer vision; machine learning and computational intelligence; network and cyber security.

Safety and Reliability – Safe Societies in a Changing World

Second International Conference, MIND 2020, Silchar, India, July 30 - 31, 2020, Proceedings, Part I

Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018)

Select Proceedings of VICFCNT 2020

Control System Theory

Concepts, Methodologies, Tools, and Applications

Network Analysis and Synthesis

Safety and Reliability – Safe Societies in a Changing World collects the papers presented at the 28th European Safety and Reliability Conference, ESREL 2018 in Trondheim, Norway, June 17-21, 2018. The contributions cover a wide range of methodologies and application areas for safety and reliability that contribute to safe societies in a changing world. These methodologies and applications include: - foundations of risk and reliability assessment and management - mathematical methods in reliability and safety - risk assessment - risk management - system reliability - uncertainty analysis - digitalization and big data - prognostics and system health management - occupational safety - accident and incident modeling - maintenance modeling and applications - simulation for safety and reliability analysis - dynamic risk and barrier management - organizational factors and safety culture - human factors and human reliability - resilience engineering - structural reliability - natural hazards - security - economic analysis in risk management *Safety and Reliability – Safe Societies in a Changing World* will be invaluable to academics and professionals working in a wide range of industrial and governmental sectors: offshore oil and gas, nuclear engineering, aeronautics and aerospace, marine transport and engineering, railways, road transport, automotive engineering, civil engineering, critical infrastructures, electrical and electronic engineering, energy production and distribution, environmental engineering, information technology and telecommunications, insurance and finance, manufacturing, marine transport, mechanical engineering, security and protection, and policy making.

There are numerous publications which introduce and discuss the Internet of Things (IoT). In the midst of these, this work has several unique characteristics which should change the reader's perspective, and in particular, provide a more profound understanding of the impact of the IoT on society. Dependable IoT for Human and Industry covers the main aspects of Internet of Things and IoT based systems such as global issues of applications, modeling, development and implementation of dependable IoT for different human and industry domains. Technical topics discussed in the book include: Introduction in Internet of vital and trust Things Modelling and assessment techniques for dependable and secure IoT systems Architecting and development of IoT systems Implementation of IoT for smart cities and drone fleets; business and

blockchain, transport and industry Training courses and education experience on Internet and Web of Thing

The book is written for an undergraduate course on the Feedback Control Systems. It provides comprehensive explanation of theory and practice of control system engineering. It elaborates various aspects of time domain and frequency domain analysis and design of control systems. Each chapter starts with the background of the topic. Then it gives the conceptual knowledge about the topic dividing it in various sections and subsections. Each chapter provides the detailed explanation of the topic, practical examples and variety of solved problems. The explanations are given using very simple and lucid language. All the chapters are arranged in a specific sequence which helps to build the understanding of the subject in a logical fashion. The book starts with explaining the various types of control systems. Then it explains how to obtain the mathematical models of various types of systems such as electrical, mechanical, thermal and liquid level systems. Then the book includes good coverage of the block diagram and signal flow graph methods of representing the various systems and the reduction methods to obtain simple system from the analysis point of view. The book further illustrates the steady state and transient analysis of control systems. The book covers the fundamental knowledge of controllers used in practice to optimize the performance of the systems. The book emphasizes the detailed analysis of second order systems as these systems are common in practice and higher order systems can be approximated as second order systems. The book teaches the concept of stability and time domain stability analysis using Routh-Hurwitz method and root locus method. It further explains the fundamentals of frequency domain analysis of the systems including co-relation between time domain and frequency domain. The book gives very simple techniques for stability analysis of the systems in the frequency domain, using Bode plot, Polar plot and Nyquist plot methods. It also explores the concepts of compensation and design of the control systems in time domain and frequency domain. The classical approach loses the importance of initial conditions in the systems. Thus, the book provides the detailed explanation of modern approach of analysis which is the state variable analysis of the systems including methods of finding the state transition matrix, solution of state equation and the concepts of controllability and observability. The variety of solved examples is the feature of this book which helps to inculcate the knowledge of the design and analysis of the control systems in the students. The book explains the philosophy of the subject which makes the understanding of the concepts very clear and makes the subject more interesting.

A moral dilemma gripped Professor Gupta when he was invited by the Bangladeshi government to help restructure their agricultural sector in 1985. He noticed how the marginalized farmers were being paid poorly for their otherwise unmatched knowledge. The gross injustice of this constant imbalance led Professor Gupta to found what would turn into a resounding social and ethical movement—the Honey Bee Network—bringing together and elevating thousands of grassroots innovators. For over two decades, Professor Gupta has travelled through rural lands unearthing innovations by the ranks—from the famed Mitti Cool refrigerator to the footbridge of Meghalaya. He insists that to fight the largest and most persistent problems of the world we must eschew expensive research labs and instead, look towards ordinary folk. Innovation—that oft-flung around word—is stripped to its core in this book. Poignant and personal, Grassroots Innovation is an important treatise from a social crusader of our time.

Circuits and Networks

Learning in the Synergy of Multiple Disciplines

Neural Networks and Systolic Array Design

Advances in Secure Computing, Internet Services, and Applications

Proceedings of ICCDN 2018

4th European Conference on Technology Enhanced Learning, EC-TEL 2009 Nice, France, September 29--October 2, 2009 Proceedings

Predictive Intelligence in Biomedical and Health Informatics

6G Mobile Wireless Networks Springer Nature

This book is the world's first book on 6G Mobile Wireless Networks that aims to provide a comprehensive understanding of key drivers, use cases, research requirements, challenges and open issues that are expected to drive 6G research. In this book, we have invited world-renowned experts from industry and academia to share their thoughts on different aspects of 6G research. Specifically, this book covers the following topics: 6G Use Cases, Requirements, Metrics and Enabling Technologies, PHY Technologies for 6G Wireless, Reconfigurable Intelligent Surface for 6G Wireless Networks, Millimeter-wave and Terahertz Spectrum for 6G Wireless, Challenges in Transport Layer for Tbit/s Communications, High-capacity Backhaul Connectivity for 6G Wireless, Cloud Native Approach for 6G Wireless Networks, Machine Type Communications in 6G, Edge Intelligence and Pervasive AI in 6G, Blockchain: Foundations and Role in 6G, Role of Open-source Platforms in 6G, and Quantum Computing and 6G Wireless. The overarching aim of this book is to explore the evolution from current 5G networks towards the future 6G networks from a service, air interface and network perspective, thereby laying out a vision for 6G networks. This book not only discusses the potential 6G use cases, requirements, metrics and enabling technologies, but also discusses the emerging technologies and topics such as 6G PHY technologies, reconfigurable intelligent surface, millimeter-wave and THz communications, visible light communications, transport layer for Tbit/s communications, high-capacity backhaul connectivity, cloud native approach, machine-type communications, edge intelligence and pervasive AI, network security and blockchain, and the role of open-source platform in 6G. This book provides a systematic treatment of the state-of-the-art in these emerging topics and their role in supporting a wide variety of verticals in the future. As such, it provides a comprehensive overview of the expected applications of 6G with a detailed discussion of their requirements and possible enabling technologies. This book also outlines the possible challenges and research directions to facilitate the future research and development of 6G mobile wireless networks. This book examines the current state of the art, new challenges, opportunities, and applications of IPNs. With contributions from experts across the globe, this survey is an outstanding resource reference for anyone involved in the field of polymer materials design for advanced technologies. □ Comprehensively summarizes many of the recent technical research accomplishments in the area of micro and nanostructured Interpenetrating Polymer Networks □ Discusses various aspects of synthesis, characterization, structure, morphology, modelling, properties, and applications of IPNs □ Describes how nano-structured IPNs correlate their multiscale structure to their properties and morphologies □ Serves as a one-stop reference resource for important research accomplishments in the area of IPNs and nano-structured polymer systems □ Includes chapters from leading researchers in the

IPN field from industry, academy, government and private research institutions

This book presents the proceedings of the International Conference on Computer Networks, Big Data and IoT (ICCB-2018), held on December 19-20, 2018 in Madurai, India. In recent years, advances in information and communication technologies [ICT] have collectively aimed to streamline the evolution of internet applications. In this context, increasing the ubiquity of emerging internet applications with an enhanced capability to communicate in a distributed environment has become a major need for existing networking models and applications. To achieve this, Internet of Things [IoT] models have been developed to facilitate a smart interconnection and information exchange among modern objects – which plays an essential role in every aspect of our lives. Due to their pervasive nature, computer networks and IoT can easily connect and engage effectively with their network users. This vast network continuously generates data from heterogeneous devices, creating a need to utilize big data, which provides new and unprecedented opportunities to process these huge volumes of data. This International Conference on Computer Networks, Big Data, and Internet of Things [ICCB] brings together state-of-the-art research work, which briefly describes advanced IoT applications in the era of big data. As such, it offers valuable insights for researchers and scientists involved in developing next-generation, big-data-driven IoT applications to address the real-world challenges in building a smartly connected environment.

Advances in Communication, Devices and Networking

Control System Engineering

Futuristic Communication and Network Technologies

Technical, Societal, and Future Implications

Computer Communication Networks

ISSP 2017

Fog Computing for Healthcare 4.0 Environments

This book highlights major issues related to big data analysis using computational intelligence techniques, mostly interdisciplinary in nature. It comprises chapters on computational intelligence technologies, such as neural networks and learning algorithms, evolutionary computation, fuzzy systems and other emerging techniques in data science and big data, ranging from methodologies, theory and algorithms for handling big data, to their applications in bioinformatics and related disciplines. The book describes the latest solutions, scientific results and methods in solving intriguing problems in the fields of big data analytics, intelligent agents and computational intelligence. It reflects the state of the art research in the field and novel applications of new processing techniques in computer science. This book is useful to both doctoral students and researchers from computer science and engineering fields and bioinformatics related domains.

America's incarceration rate was roughly constant from 1925 to 1973, with an average of 110 people behind bars for every 100,000 residents. By 2013, however, the rate of incarceration in state and federal prisons had increased sevenfold to 716. Compared with

102 for Canada, 132 for England and Wales, 85 for France, and a paltry 48 in Japan, the United States is the worlds' most aggressive jailer. When one factors in those on parole or probation, the American correctional system is in control of more than 7.3 million Americans, or one in every 31 U.S. adults. This means that 6.7 million adult men and women -- about 3.1 percent of the total U.S. adult population -- are now very non-voluntary members of America's "correctional community." Some key questions that need to be addressed are: "What are we doing with those 7.3 million Americans? How are they being treated while they are incarcerated? How can we best prepare them to return to their communities?" More than 650,000 offenders are released back into our communities every year; however, 70% are rearrested within three years of their release. Serving the Stigmatized is the first book of its kind that explores best practices when dealing with a specific prison population while under some form of institutional control. If the established goal of a correctional facility is to "rehabilitate," then it is imperative that the rehabilitation is effective and does not simply serve as a political buzz word. The timing of releasing this book coincides with a real movement in the United States, supported by both conservative and liberal advocates and foundations, to decrease the size of the prison population by returning more offenders to their communities. The text examines 14 specific populations and how to effectively treat them in order to better serve them and our communities.

This book includes the papers presented in 2nd International Conference on Image Processing and Capsule Networks [ICIPCN 2021]. In this digital era, image processing plays a significant role in wide range of real-time applications like sensing, automation, health care, industries etc. Today, with many technological advances, many state-of-the-art techniques are integrated with image processing domain to enhance its adaptiveness, reliability, accuracy and efficiency. With the advent of intelligent technologies like machine learning especially deep learning, the imaging system can make decisions more and more accurately. Moreover, the application of deep learning will also help to identify the hidden information in volumetric images. Nevertheless, capsule network, a type of deep neural network, is revolutionizing the image processing domain; it is still in a research and development phase. In this perspective, this book includes the state-of-the-art research works that integrate intelligent techniques with image processing models, and also, it reports the recent advancements in image processing techniques. Also, this book includes the novel tools and techniques for deploying real-time image processing applications. The chapters will briefly discuss about the intelligent image processing technologies, which leverage an authoritative and detailed representation by delivering an enhanced image and video recognition and adaptive processing mechanisms, which may clearly define the image and the family of image processing techniques and applications that are closely related to the humanistic way of thinking.

Predictive Intelligence in Biomedical and Health Informatics focuses on imaging, computer-aided diagnosis and therapy as well as intelligent biomedical image processing and analysis. It develops computational models, methods and tools for biomedical engineering related to computer-aided diagnostics (CAD), computer-aided surgery (CAS), computational anatomy and

bioinformatics. Large volumes of complex data are often a key feature of biomedical and engineering problems and computational intelligence helps to address such problems. Practical and validated solutions to hard biomedical and engineering problems can be developed by the applications of neural networks, support vector machines, reservoir computing, evolutionary optimization, biosignal processing, pattern recognition methods and other techniques to address complex problems of the real world.

Semantic IoT: Theory and Applications

Process Software and Digital Networks, Fourth Edition

Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications

The Evolution of Economic Diversity

Handbook of Research on Emerging Technologies for Electrical Power Planning, Analysis, and Optimization

Working within the Incarcerated Environment

Computational Intelligence and Big Data Analytics

How can startups successfully scale customer acquisition and revenue growth with a Lean team? Out-of-the-box acquisition solutions from Facebook, Google, and others provide a good start, but the companies that can tailor those solutions to meet their specific needs, objectives, and goals will come out winners. But that hasn't been an easy task—until now. With this practical book, author Lomit Patel shows you how to use AI and automation to provide an operational layer atop those acquisition solutions to deliver amazing results for your company. You'll learn how to adapt, customize, and personalize cross-channel user journeys to help your company attract and retain customers—to usher in the new age of Autonomous Marketing. Learn how AI and automation can support the customer acquisition efforts of a Lean Startup Dive into Customer Acquisition 3.0, an initiative for gaining and retaining customers Explore ways to use AI for marketing purposes Understand the key metrics for determining the growth of your startup Determine the right strategy to foster user acquisition in your company Manage the increased complexity and risk inherent in AI projects

The traditional role of evolutionary theory in the social sciences has been to explain the existence of an object in terms of the survival of the fittest. In economics this approach has acted as a justification for hypotheses such as profit maximisation, or the existence of institutions in terms of their overall efficiency. This volume challenges that view and argues that one of the first tasks of economic theory should be to explain the enormous diversity of institutional arrangements that has characterised human societies.

Technological advancements have extracted a vast amount of useful knowledge and information for applications and services. These developments have evoked intelligent solutions that have been utilized in efforts to secure this data and avoid potential complex problems. Advances in Secure Computing, Internet Services, and Applications presents current research on the applications of computational intelligence in order to focus on the challenge humans face when securing knowledge and data. This book is a vital reference source for researchers, lecturers, professors, students, and developers, who have interest in secure computing and recent advanced in real life applications.

Electric Circuits and Networks is designed to serve as a textbook for a two-semester undergraduate course on basic electric circuits and networks. The book builds on the subject from its basic principles. Spread over seventeen chapters, the book can be taught with

varying degree of emphasis on its six subsections based on the course requirement. Written in a student-friendly manner, its narrative style places adequate stress on the principles that govern the behaviour of electric circuits and networks.

Fog Data Analytics for IoT Applications

Solutions manual

Cyber Security for Cyber Physical Systems

Polymeric Gels

Soft Computing for Security Applications

Prodromal Parkinson's Disease

Minds On The Margin Are Not Marginal Minds

This book provides an analysis of the role of fog computing, cloud computing, and Internet of Things in providing uninterrupted context-aware services as they relate to Healthcare 4.0. The book considers a three-layer patient-driven healthcare architecture for real-time data collection, processing, and transmission. It gives insight to the readers for the applicability of fog devices and gateways in Healthcare 4.0 environments for current and future applications. It also considers aspects required to manage the complexity of fog computing for Healthcare 4.0 and also develops a comprehensive taxonomy.

Neural networks (NNs) and systolic arrays (SAs) have many similar features. This volume describes, in a unified way, the basic concepts, theories and characteristic features of integrating or formulating different facets of NNs and SAs, as well as presents recent developments and significant applications. The articles, written by experts from all over the world, demonstrate the various ways this integration can be made to efficiently design methodologies, algorithms and architectures, and also implementations, for NN applications. The book will be useful to graduate students and researchers in many related areas, not only as a reference book but also as a textbook for some parts of the curriculum. It will also benefit researchers and practitioners in industry and R&D laboratories who are working in the fields of system design, VLSI, parallel processing, neural networks, and vision.

The book covers recent trends in the field of devices, wireless communication and networking. It presents the outcomes of the International Conference in Communication, Devices and Networking (ICCDN 2018), which was organized by the Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India on 2-3 June, 2018. Gathering cutting-edge research papers prepared by researchers, engineers and industry professionals, it will help young and experienced scientists and developers alike to explore new perspectives, and offer them inspirations on addressing real-world problems in the field of electronics, communication, devices and networking.

This book discusses the unique nature and complexity of fog data analytics (FDA) and develops a comprehensive taxonomy abstracted into a process model. The exponential increase in sensors and smart gadgets (collectively referred as smart devices or Internet of things (IoT) devices) has generated significant

amount of heterogeneous and multimodal data, known as big data. To deal with this big data, we require efficient and effective solutions, such as data mining, data analytics and reduction to be deployed at the edge of fog devices on a cloud. Current research and development efforts generally focus on big data analytics and overlook the difficulty of facilitating fog data analytics (FDA). This book presents a model that addresses various research challenges, such as accessibility, scalability, fog nodes communication, nodal collaboration, heterogeneity, reliability, and quality of service (QoS) requirements, and includes case studies demonstrating its implementation. Focusing on FDA in IoT and requirements related to Industry 4.0, it also covers all aspects required to manage the complexity of FDA for IoT applications and also develops a comprehensive taxonomy.

Fifth International Conference on Artificial Neural Networks, 7-9 July 1997

Proceedings of ICSCS 2021

ICIPCN 2021

Interoperability, Provenance and Beyond

From Design to Applications