Microcontroller Based Street Light Control System

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Proceedings of International Conference on Advanced Computing Applications - Jyotsna Kumar Mandal 2021-11-23
This book gathers selected high-quality research papers presented at the 2nd International Conference on Advanced Computing Applications (ICACA 2021), held virtually during 27––28 March 2021. The book is divided into four sections. These are communication and computing, signal processing and multimedia, computational intelligence and data analytics and decision computing. The topics covered are advanced communication technologies, IoT-based systems and applications, network security and reliability, virtualization technologies, compressed sensors and multimedia applications, signal image and video processing, machine learning, pattern recognitions, intelligent computing, big data analytics, analytics in bio-computing, AI-driven 6G mobile wireless networks and autonomous driving.
The Routledge Companion to Technology Management - Tugrul Daim 2022-08-31
Bringing together an international range of expertise, this comprehensive Companion to Technology Management is designed to facilitate the development of management frameworks adaptable for a wide range of organizations, as well as an overview of the development and integration of technology in advanced and emerging economies. Research-based and drawing on a range of practical tools and international cases, it covers the diverse spectrum of the challenges of technology management and how to approach them: I Fundamentals of Technology Management provides an overview of the fundamental aspects of technology management. II Technology Planning focusses on technology-driven organizations, government labs and universities. III Technology Evaluation includes evaluation and assessment, adoption and forecasting through management tools. IV Technology Development and Transfer includes integration, marketing and intellectual property management. V Managing Technological Innovations addresses policy, open innovation and technology entrepreneurship. VI Society and Technology Management focusses on social issues which impact technology and its management. VII New Technologies and Emerging Regions includes blockchain, biotechnologies and smart cities. This Companion is an essential comprehensive source of new and emerging approaches for researchers and advanced students in engineering and technology management, as well as professionals seeking an authoritative global reference source.
Embedded Computing and Mechatronics with the PIC32 Microcontroller - Kevin Lynch 2015-12-08
For the first time in a single reference, this book

provides the beginner with a coherent and logical introduction to the hardware and software of the PIC32, bringing together key material from the PIC32 Reference Manual, Data Sheets, XC32 C Compiler User's Guide, Assembler and Linker Guide, MIPS32 CPU manuals, and Harmony documentation. This book also trains you to use the Microchip documentation, allowing better life-long learning of the PIC32. The philosophy is to get you started quickly, but to emphasize fundamentals and to eliminate "magic steps" that prevent a deep understanding of how the software you write connects to the hardware. Applications focus on mechatronics: microcontroller-controlled electromechanical systems incorporating sensors and actuators. To support a learn-by-doing approach, you can follow the examples throughout the book using the sample code and your PIC32 development board. The exercises at the end of each chapter help you put your new skills to practice. Coverage includes: A practical introduction to the C programming language Getting up and running quickly with the PIC32 An exploration of the hardware architecture of the PIC32 and differences among PIC32 families Fundamentals of embedded computing with the PIC32, including the build process, time- and memory-efficient programming, and interrupts A peripheral reference, with extensive sample code covering digital input and output, counter/timers, PWM, analog input, input capture, watchdog timer, and communication by the parallel master port, SPI, I2C, CAN, USB, and UART An introduction to the Microchip Harmony programming framework Essential topics in mechatronics, including interfacing sensors to the PIC32, digital signal processing, theory of operation and control of brushed DC motors, motor sizing and gearing, and other actuators such as stepper motors, RC servos, and brushless DC motors For more information on the book, and to download free sample code, please visit http://www.nu32.org Extensive, freely downloadable sample code for the NU32 development board incorporating the PIC32MX795F512H microcontroller Free online instructional videos to support many of the chapters

2017 15th International Conference on Electrical Machines, Drives and Power Systems (ELMA) - IEEE Staff 2017-06

The scope of the conference is covered by the folowing topics electrical machines, transformers,electromgnetism, electrical drives, robotics, mehatronics, new materials and components, renewable energy, electric traction, electritechnologies, marketing, education

Inventive Communication and Computational Technologies - G. Ranganathan 2022-01-11

This book gathers selected papers presented at the Inventive Communication and Computational Technologies conference (ICICCT 2021), held on 25–26 June 2021 at Gnanamani College of Technology, Tamil Nadu, India. The book covers the topics such as Internet of things, social networks, mobile communications, big data analytics, bio-inspired computing, and cloud computing. The book is exclusively intended for academics and practitioners working to resolve practical issues in this area.

Internet of Things and Its Applications - Sachi Nandan Mohanty 2021-11-25

This book offers a holistic approach to the Internet of Things (IoT) model, covering both the technologies and their applications, focusing on uniquely identifiable objects and their virtual representations in an Internet-like structure. The authors add to the rapid growth in research on IoT communications and networks, confirming the scalability and broad reach of the core concepts. The book is filled with examples of innovative applications and real-world case studies. The authors also address the business, social, and legal aspects of the Internet of Things and explore the critical topics of security and privacy and their challenges for both individuals and organizations. The contributions are from international experts in academia, industry, and research.

Ecosystemic Evolution Feeded by Smart Systems - Dino Giuli 2018-04-13

This book is a printed edition of the Special Issue "Ecosystemic Evolution Feeded by Smart Systems" that was published in Future Internet

Proceedings of Second International Conference on Smart Energy and Communication - Dinesh Goyal 2021-01-04

This book gathers selected papers presented at the 2nd International Conference on Smart Energy and Communication (ICSEC 2020), held at Poornima Institute of Engineering and

Technology, Jaipur, India, on March 20–21, 2020. It covers a range of topics in electronics and communication engineering and electrical engineering, including analog circuit design, image processing, wireless and microwave communication, optoelectronics and photonic devices, nano-electronics, renewable energy, smart grid, power systems and industry applications.

Intelligent Communication, Control and Devices - Rajesh Singh 2018-04-10

The book focuses on the integration of intelligent communication systems, control systems, and devices related to all aspects of engineering and sciences. It contains high-quality research papers presented at the 2nd international conference, ICICCD 2017, organized by the Department of Electronics, Instrumentation and Control Engineering of University of Petroleum and Energy Studies, Dehradun on 15 and 16 April, 2017. The volume broadly covers recent advances of intelligent communication, intelligent control and intelligent devices. The work presented in this book is original research work, findings and practical development experiences of researchers, academicians, scientists and industrial practitioners.

Smart Cities—Opportunities and Challenges - Sirajuddin Ahmed 2020-04-20

This book comprises select proceedings of the International Conference on Smart Cities: Opportunities and Challenges (ICSC 2019). The book contains chapters based on urban planning and design, policies and financial management, environment, energy, transportation, smart materials, sustainable development, information technologies, data management and urban sociology reflecting the major themes of the conference. The contents focus on current research towards improved governance and efficient management of infrastructure such as water, energy, transportation and housing for sustainable development, economic growth, and improved quality of life, especially for developing nations. This book will be useful for academicians, researchers, and policy makers interested in designing, developing, planning, managing, and maintaining smart cities.

Intelligent Manufacturing and Mechatronics - Mohd Najib Ali Mokhtar 2022

This book presents the proceedings of SympoSIMM 2021, the 4th edition of the Symposium on Intelligent Manufacturing and Mechatronics. Focusing on "Strengthening Innovations Towards Industry 4.0", the book is divided into five parts covering various areas of manufacturing engineering and mechatronics stream, namely, intelligent manufacturing and artificial intelligence, Instrumentation and control, design modelling and simulation, process and machining technology, and smart material. The book will be a valuable resource for readers wishing to embrace the new era of Industry 4.0.

2018 7th International Conference on Computer and Communication Engineering (ICCCE) - IEEE Staff 2018-09-19

Light & heavy current devices for communication and applications in Innovative Technologies to Serve Humanity

Security and Privacy Applications for Smart City Development - Sharvari Chandrashekhar Tamane 2020-10-01

This book explores the fundamentals of smart cities along with issues, controversies, problems and applications concerning security and privacy in smart city development. Future smart cities must incorporate innovations like smart rainwater harvesting, smart street lighting, digital identity management, solar energy, intelligent transport systems and emerging communication applications. The target audience of the book includes professionals, researchers, academics, advanced-level students, technology developers, doctors and biologists working in the field of smart city applications. Professionals will find innovative ideas for marketing and research, while developers can use various technologies like IoTand block chain to develop the applications discussed here. As the book shows, by integrating new technologies, the cities of the future are becoming a reality today.

Advances in Computational Intelligence, Security and Internet of Things - Ashim Saha 2020-03-04

This volume constitutes the refereed proceedings of the Second International Conference on Computational Intelligence, Security and Internet of Things, ICCISIoT 2019, held in Agartala, India, in December 2019. The

31 full papers and 6 short papers were carefully reviewed and selected from 153 submissions. The papers are organised according to the following topics: Computational Intelligence, Security, Internet of Things. Papers from the extended track are also presented in the volume.

International Conference on Innovative Computing and Communications - Siddhartha Bhattacharyya 2018-11-02

The book includes high-quality research papers presented at the International Conference on Innovative Computing and Communication (ICICC 2018), which was held at the Guru Nanak Institute of Management (GNIM), Delhi, India on 5–6 May 2018. Introducing the innovative works of scientists, professors, research scholars, students and industrial experts in the field of computing and communication, the book promotes the transformation of fundamental research into institutional and industrialized research and the conversion of applied exploration into real-time applications.

Cold Prince VS Vicious Princess - Yang JiaXiaoJiang 2020-07-25

Thinking of her, Jiang Chu Mo. As a genius pharmacist of the twenty-first century, her career was smooth sailing and she was in high spirits. She had never thought that she would be transported to another world. It was fine if he had transcended, but when he opened his eyes, he found that he was in a critical situation. Oh, buy! Something's not right. Let's start over! "This is bad..." The gloomy voice called out, "Want to run?"

Innovations in Electronics and Communication Engineering - H. S. Saini 2018-08-28

The book is a collection of best selected research papers presented at 6th International Conference on Innovations in Electronics and Communication Engineering at Guru Nanak Institutions Hyderabad, India. The book presents works from researchers, technocrats and experts about latest technologies in electronic and communication engineering. The book covers various streams of communication engineering like signal processing, VLSI design, embedded systems, wireless communications, and electronics and communications in general. The authors have discussed the latest cutting edge technology and the volume will serve as a reference for young researchers.

Digital System Design - Dawoud Shenouda Dawoud 2010-04-10

Today, embedded systems are widely deployed in just about every piece of machinery from toasters to spacecrafts, and embedded system designers face many challenges. They are asked to produce increasingly complex systems using the latest technologies, but these technologies are changing faster than ever. They are asked to produce better quality designs with a shorter time-to-market. They are asked to implement increasingly complex functionality but, more importantly, to satisfy numerous other constraints. To achieve these current goals, the designer must be aware of such design constraints and, more importantly, the factors that have a direct effect on them. One of the challenges facing embedded system designers is the selection of the optimum processor for the application in hand: single-purpose, general-purpose, or application specific. Microcontrollers are one member of the family of the application specific processors. Digital System Design concentrates on the use of a microcontroller as the embedded system's processor and how to use it in many embedded system applications. The book covers both the hardware and software aspects needed to design using microcontrollers and is ideal for undergraduate students and engineers that are working in the field of digital system design.

Emerging Technologies in Data Mining and Information Security - João Manuel R. S. Tavares 2021-05-04

This book features research papers presented at the International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2020) held at the University of Engineering & Management, Kolkata, India, during July 2020. The book is organized in three volumes and includes high-quality research work by academicians and industrial experts in the field of computing and communication, including full-length papers, research-in-progress papers, and case studies related to all the areas of data mining, machine learning, Internet of things (IoT), and information security.

Advances in Energy Technology - Ramesh C. Bansal 2021-07-27

This book presents select proceedings of International Conference on Energy, Material

Sciences and Mechanical Engineering (EMSME) 2020, held at National Institute of Technology Delhi. Various topics covered in this book include clean materials, solar energy systems, wind energy systems, power optimization, grid integration of renewable energy, smart energy storage technologies, artificial intelligence in solar and wind system, analysis of clean energy material in environment, converter topology, modelling and simulation. This book will be useful for researchers and professionals working in the areas of solar material science, electrical engineering, and energy technologies.

Programming Embedded Systems - Michael Barr 2006-10-11

Authored by two of the leading authorities in the field, this guide offers readers the knowledge and skills needed to achieve proficiency with embedded software.

Software Engineering and Knowledge Engineering: Theory and Practice - Wei Zhang 2012-06-30

2012 International Conference on Software Engineering, Knowledge Engineering and Information Engineering (SEKEIE 2012) will be held in Macau, April 1-2, 2012 . This conference will bring researchers and experts from the three areas of Software Engineering, Knowledge Engineering and Information Engineering together to share their latest research results and ideas. This volume book covered significant recent developments in the Software Engineering, Knowledge Engineering and Information Engineering field, both theoretical and applied. We are glad this conference attracts your attentions, and thank your support to our conference. We will absorb remarkable suggestion, and make our conference more successful and perfect.

Smart Energy and Advancement in Power Technologies - Kumari Namrata 2022-11-08

This book comprises peer-reviewed proceedings of the International Conference on Smart Energy and Advancement in Power Technologies (ICSEAPT-2021). The book includes peer-reviewed papers on renewable energy economics and policy, renewable energy resource assessment, operations management and sustainability, energy audit, global warming, waste and resource management, green energy deployment, green buildings, integration of green energy, energy efficiency, etc. The book serves as a valuable reference resource for academics and researchers across the globe.

Smart Trends in Computing and Communications - Yu-Dong Zhang 2021

This book gathers high-quality papers presented at the Fifth International Conference on Smart Trends in Computing and Communications (SmartCom 2021), organized by Global Knowledge Research Foundation (GR Foundation) from March 2 3, 2021. It covers the state of the art and emerging topics in information, computer communications, and effective strategies for their use in engineering and managerial applications. It also explores and discusses the latest technological advances in, and future directions for, information and knowledge computing and its applications.

Smart Cities Policies and Financing - John Vacca 2022-01-19

Smart Cities Policies and Financing: Approaches and Solutions is the definitive professional reference for harnessing the full potential of policy making and financial planning in smart cities. It covers the effective tools for capturing the dynamic relations between people, policies, financing, and environments, and where they are most often useful and effective for all relevant stakeholders. The book examines the key role of science, technology, and innovation (STI) - especially in information and communications technologies - in the design, development, and management of smart cities policies and financing. It identifies the problems and offers practical solutions in implementation of smart infrastructure policies and financing. Smart Cities Policies and Financing is also about how the implementation of smart infrastructure projects (related to the challenges of the lack of financing and the application of suitable policies) underlines the key roles of science, technology and innovation (STI) communities in addressing these challenges and provides key policies and financing that will help guide the design and development of smart cities. Brings together experts from academia, government and industry to offer state-of- the-art solutions for improving the lives of billions of people in cities around the globe Creates awareness among governments of the various policy tools available, such as output-based contracting,

public-private partnerships, procurement policies, long-term contracting, and targeted research funds in order to promote smart infrastructure implementation, and encouraging the use of such tools to shape markets for smart infrastructure and correct market failures Ensures the insclusiveness of smart city projects by adequately addressing the special needs of marginalized sections of society including the elderly, persons with disabilities, and inhabitants of informal settlements and informal sectors Ensures gender considerations in the design of smart cities and infrastructure through the use of data generated by smart systems to make cities safer and more responsive to the needs of women Demonstrate practical implementation through real-life case studies Enhances reader comprehension using learning aids such as hands-on exercises, checklists, chapter summaries, review questions, and an extensive appendix of additional resources

Biologically-Inspired Energy Harvesting through Wireless Sensor Technologies - Ponnusamy, Vasaki 2016-04-05

The need for sustainable sources of energy has become more prevalent in an effort to conserve natural resources, as well as optimize the performance of wireless networks in daily life. Renewable sources of energy also help to cut costs while still providing a reliable power sources. Biologically-Inspired Energy Harvesting through Wireless Sensor Technologies highlights emerging research in the areas of sustainable energy management and transmission technologies. Featuring technological advancements in green technology, energy harvesting, sustainability, networking, and autonomic computing, as well as bio-inspired algorithms and solutions utilized in energy management, this publication is an essential reference source for researchers, academicians, and students interested in renewable or sustained energy in wireless networks.

Instrumentation and Control Systems - William Bolton 2004-06-03

In a clear and readable style, Bill Bolton addresses the basic principles of modern instrumentation and control systems, including examples of the latest devices, techniques and applications. Unlike the majority of books in this field, only a minimal prior knowledge of mathematical methods is assumed. The book focuses on providing a comprehensive introduction to the subject, with Laplace presented in a simple and easily accessible form, complimented by an outline of the mathematics that would be required to progress to more advanced levels of study. Taking a highly practical approach, Bill Bolton combines underpinning theory with numerous case studies and applications throughout, to enable the reader to apply the content directly to real-world engineering contexts. Coverage includes smart instrumentation, DAQ, crucial health and safety considerations, and practical issues such as noise reduction, maintenance and testing. An introduction to PLCs and ladder programming is incorporated in the text, as well as new information introducing the various software programmes used for simulation. Problems with a full answer section are also included, to aid the reader's self-assessment and learning, and a companion website (for lecturers only) at http://textbooks.elsevier.com features an Instructor's Manual including multiple choice questions, further assignments with detailed solutions, as well as additional teaching resources. The overall approach of this book makes it an ideal text for all introductory level undergraduate courses in control engineering and instrumentation. It is fully in line with latest syllabus requirements, and also covers, in full, the requirements of the Instrumentation & Control Principles and Control Systems & Automation units of the new Higher National Engineering syllabus from Edexcel. * Assumes minimal prior mathematical knowledge, creating a highly accessible student-centred text * Problems, case studies and applications included throughout, with a full set of answers at the back of the book, to aid student learning, and place theory in real-world engineering contexts * Free online lecturer resources featuring supporting notes, multiple-choice tests, lecturer handouts and further assignments and solutions

Intelligent and Cloud Computing - Debahuti Mishra 2022-04-22

This book features a collection of high-quality research papers presented at the International Conference on Intelligent and Cloud Computing (ICICC 2021), held at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, India,

during October 22–23, 2021. The book includes contributions on system and network design that can support existing and future applications and services. It covers topics such as cloud computing system and network design, optimization for cloud computing, networking, and applications, green cloud system design, cloud storage design and networking, storage security, cloud system models, big data storage, intra-cloud computing, mobile cloud system design, real-time resource reporting and monitoring for cloud management, machine learning, data mining for cloud computing, data-driven methodology and architecture, and networking for machine learning systems.

Intelligent Technologies and Applications - Imran Sarwar Bajwa 2019-03-11

This book constitutes the refereed proceedings of the First International Conference on Intelligent Technologies and Applications, INTAP 2018, held in Bahawalpur, Pakistan, in October 2018. The 68 revised full papers and 6 revised short papers presented were carefully reviewed and selected from 251 submissions. The papers of this volume are organized in topical sections on AI and health; sentiment analysis; intelligent applications; social media analytics; business intelligence;Natural Language Processing; information extraction; machine learning; smart systems; semantic web; decision support systems; image analysis; automated software engineering.

PIC Microcontrollers: Know It All - Lucio Di Jasio 2007-08-13

The Newnes Know It All Series takes the best of what our authors have written over the past few years and creates a one-stop reference for engineers involved in markets from communications to embedded systems and everywhere in between. PIC design and development a natural fit for this reference series as it is one of the most popular microcontrollers in the world and we have several superbly authored books on the subject. This material ranges from the basics to more advanced topics. There is also a very strong project basis to this learning. The average embedded engineer working with this microcontroller will be able to have any question answered by this compilation. He/she will also be able to work through real-life problems via the projects contained in the book. The Newnes Know It All Series presentation of theory, hard fact, and project-based direction will be a continual aid in helping the engineer to innovate in the workplace. Section I. An Introduction to PIC Microcontrollers Chapter 1. The PIC Microcontroller Family Chapter 2. Introducing the PIC 16 Series and the 16F84A Chapter 3. Parallel Ports, Power Supply and the Clock Oscillator Section II. Programming PIC Microcontrollers using Assembly Language Chapter 4. Starting to Program-An Introduction to Assembler Chapter 5. Building Assembler Programs Chapter 6. Further Programming Techniques Chapter 7. Prototype Hardware Chapter 8. More PIC Applications and Devices Chapter 9. The PIC 1250x Series (8-pin PIC microcontrollers) Chapter 10. Intermediate Operations using the PIC 12F675 Chapter 11. Using Inputs Chapter 12. Keypad Scanning Chapter 13. Program Examples Section III. Programming PIC Microcontrollers using PicBasic Chapter 14. PicBasic and PicBasic Pro Programming Chapter 15. Simple PIC Projects Chapter 16. Moving On with the 16F876 Chapter 17. Communication Section IV. Programming PIC Microcontrollers using MBasic Chapter 18. MBasic Compiler and Development Boards Chapter 19. The Basics-Output Chapter 20. The Basics-Digital Input Chapter 21. Introductory Stepper Motors Chapter 22. Digital Temperature Sensors and Real-Time Clocks Chapter 23. Infrared Remote Controls Section V. Programming PIC Microcontrollers using C Chapter 24. Getting Started Chapter 25. Programming Loops Chapter 26. More Loops Chapter 27. NUMB3RS Chapter 28. Interrupts Chapter 29. Taking a Look under the Hood Over 900 pages of practical, hands-on content in one book! Huge market - as of November 2006 Microchip Technology Inc., a leading provider of microcontroller and analog semiconductors, produced its 5 BILLIONth PIC microcontroller Several points of view, giving the reader a complete 360 of this microcontroller

The 2021 International Conference on Smart Technologies and Systems for Internet of Things - Ishfaq Ahmad 2022

This book contains papers presented at the 2021 International Conference on Smart Technologies and Systems for Internet of Things, held on

November 2627, 2021, in Shanghai, China. It covers topics like distributed processing for sensor data in CPS networks, approximate reasoning and pattern recognition for CPS networks, distributed processing in mobile networking, data analytics for social media sensor data integration, data platforms for efficient integration with CPS networks, virtualized and cloud-oriented resources for data processing for CPS networks, machine learning algorithms for CPS networks, data security and privacy in CPS networks, sensor fusion algorithms, sensor signal processing, data acquisition and preprocessing technology, intelligent computing, data mining methods and algorithms, big data system solutions and tools platform, intelligent control and intelligent management, and operational situation awareness utilizing big data-driven intelligence. It caters to postgraduate students, researchers, and practitioners specializing and working in related areas.

Information Security Handbook - Noor Zaman Jhanjhi 2022-02-17

This handbook provides a comprehensive collection of knowledge for emerging multidisciplinary research areas such as cybersecurity, IoT, Blockchain, Machine Learning, Data Science, and AI. This book brings together, in one resource, information security across multiple domains. Information Security Handbook addresses the knowledge for emerging multidisciplinary research. It explores basic and high-level concepts and serves as a manual for industry while also helping beginners to understand both basic and advanced aspects in security-related issues. The handbook explores security and privacy issues through the IoT ecosystem and implications to the real world and, at the same time, explains the concepts of IoT-related technologies, trends, and future directions. University graduates and postgraduates, as well as research scholars, developers, and end-users, will find this handbook very useful.

Smart Systems and IoT: Innovations in Computing - Arun K. Somani 2019-10-26

The book features original papers from the 2nd International Conference on Smart IoT Systems: Innovations and Computing (SSIC 2019), presenting scientific work related to smart solution concepts. It discusses computational collective intelligence, which includes interactions between smart devices, smart environments and smart interactions, as well as information technology support for such areas. It also describes how to successfully approach various government organizations for funding for business and the humanitarian technology development projects. Thanks to the high-quality content and the broad range of the topics covered, the book appeals to researchers pursuing advanced studies.

Advances in Automation, Signal Processing, Instrumentation, and Control - Venkata Lakshmi Narayana Komanapalli 2021-03-04

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.

Applied Informatics for Industry 4.0 - Nazmul Siddique 2023-02-17

Applied Informatics for Industry 4.0 combines the technologies of computer science and information science to assist in the management and processing of data to provide different types of services. Due to the adaptation of 4.0 IR-related technologies, applied informatics is playing a vital role in different sectors such as healthcare, complex system design and privacy-related issues. This book focuses on cutting edge research from the fields of informatics and complex industrial systems, and will cover topics including health informatics, bioinformatics, brain informatics, genomics and proteomics, data and network security and more. The text will appeal to beginners and advanced researchers in the fields of computer science, information sciences, electrical and electronic engineering and robotics.

Smart Intelligent Computing and

Applications - Suresh Chandra Satapathy 2019-10-03
This book presents high-quality papers from the Third International Conference on Smart Computing and Informatics (SCI 2018−19), organized by the School of Computer Engineering and School of Computer Application, Kalinga Institute of Industrial Technology Deemed to be University, Bhubaneswar, from 21 to 22 December 2018. It includes advanced and multi-disciplinary research on the design of smart computing and informatics, focusing on innovation paradigms in system knowledge, intelligence and sustainability that have the potential to provide realistic solutions to various problems in society, the environment and industry. The papers featured provide a valuable contribution to the deployment of emerging computational and knowledge transfer approaches, optimizing solutions in varied disciplines of science, technology and health care.
Energy Efficiency and Sustainable Lighting - Manuel J. Hermoso-Orzáez 2020-03-25
The lighting of both exteriors and interiors is a field within electrical and lighting engineering, where important technological changes have been taking place oriented towards environmental sustainability and energy efficiency. LED technology has been gradually gaining ground in the world of lighting over other technologies due to its high lighting and energy efficiency and savings. However, some problems related to overheating or associated regulation are emerging. This has prompted the search for new, more efficient, and sustainable forms of lighting. This book presents successful cases related to energy efficiency and lighting that may be of great interest to those trying to enter the world of scientific research.
Multi-disciplinary Trends in Artificial Intelligence - Somnuk Phon-Amnuaisuk 2017-10-25
This book constitutes the refereed conference proceedings of the 11th International Conference on Multi-disciplinary Trends in Artificial Intelligence, MIWAI 2017, held in Gadong, Brunei, in November 2017. The 40 revised full papers presented were carefully reviewed and selected from 82 submissions. They are organized in the following topical sections: knowledge representation and reasoning; data mining and machine learning; deep learning and its applications; document analysis; intelligent information systems; swarm intelligence.
Information, Computer and Application Engineering - Hsiang-Chuan Liu 2018-06-12
This proceedings volume brings together peer-reviewed papers presented at the International Conference on Information Technology and Computer Application Engineering, held 10-11 December 2014, in Hong Kong, China. Specific topics under consideration include Computational Intelligence, Computer Science and its Applications, Intelligent Information Processing and Knowledge Engineering, Intelligent Networks and Instruments, Multimedia Signal Processing and Analysis, Intelligent Computer-Aided Design Systems and other related topics. This book provides readers a state-of-the-art survey of recent innovations and research worldwide in Information Technology and Computer Application Engineering, in so-doing furthering the development and growth of these research fields, strengthening international academic cooperation and communication, and promoting the fruitful exchange of research ideas. This volume will be of interest to professionals and academics alike, serving as a broad overview of the latest advances in the dynamic field of Information Technology and Computer Application Engineering.
Introduction to Embedded Systems, Second Edition - Edward Ashford Lee 2016-12-30
An introduction to the engineering principles of embedded systems, with a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems, and the software they run is called embedded

software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate computation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems.