Programming Arduino With Fuzzy Logic

This book includes a selection of articles from the 2018 International Conference on Information Technology & Systems (ICITS 18), held on January 10 – 12, 2018, at the Universidad Estatal Península de Santa Elena, Libertad City, Ecuador. ICIST is a global fo for researchers and practitioners to present and discuss recent findings and innovatio trends, lessons learned and the challenges of modern information technology and syst research, together with their technological development and applications. The main top covered include information and knowledge management; organizational models and information systems; software and systems modeling; software systems, architectures applications and tools; multimedia systems and applications; computer networks, mobi pervasive systems; intelligent and decision support systems; big data analytics and app human–computer interaction; ethics, computers & security; health informatics; and info technologies in education.

This book discusses the basic requirements and constraints in building a brain–comput interaction system. These include the technical requirements for building the signal pro module and the acquisition module. The major aspects to be considered when designin acquisition module for a brain–computer interaction system are the human brain, types applications of brain–computer systems, and the basics of EEG (electroencephalogram) recording. The book also compares the algorithms that have been and that can be use the signal processing module of brain–computer interfaces, and describes the various acquisition devices available and compares their features and inadequacies. Further, it examines in detail the use of Emotiv EPOC (an EEG acquisition module developed by Em to build a complete brain–computer interaction system for driving robots using a neura classification module.

Discover how to build your own smart Internet of Things projects and bring a new deg interconnectivity to your world About This Book Learn how to extract and analyse dat physical devices and build smart IoT projects Master the skills of building enticing proj as a neural network autonomous car, computer vision through a camera, and cloud-ba applications This project-based guide leverages revolutionary computing chips such as Raspberry Pi, Arduino, and so on Who This Book Is For If you are hobbyist who is keen making smart IoT projects, then this book is for you. You should have a basic knowledg Python. What You Will Learn Implement data science in your IoT projects and build a sr temperature controller Create a simple machine learning application and implement dec system concepts Develop a vision machine using OpenCV Build a robot car with manua automatic control Implement speech modules with your own voice commands for IoT p Connect IoT to a cloud-based server In Detail Internet of Things (IoT) is a groundbreak technology that involves connecting numerous physical devices to the Internet and co them. Creating basic IoT projects is common, but imagine building smart IoT projects t extract data from physical devices, thereby making decisions by themselves. Our book overcomes the challenge of analyzing data from physical devices and accomplishes all imagination can dream up by teaching you how to build smart IoT projects. Basic stati various applied algorithms in data science and machine learning are introduced to acce your knowledge of how to integrate a decision system into a physical device. This boo IoT projects such as building a smart temperature controller, creating your own vision project, building an autonomous mobile robot car, controlling IoT projects through voic

commands, building IoT applications utilizing cloud technology and data science, and m
more. We will also leverage a small yet powerful IoT chip, Raspberry Pi with Arduino, ir
to integrate a smart decision-making system in the IoT projects. Style and approach T
follows a project-based approach to building smart IoT projects using powerful boards
the Raspberry Pi, Arduino, and the IoT chip.

This book briefly summarizes the current state of the art technologies and solutions f
and tracking (L&T) in wireless sensor networks (WSN), focusing on RSS-based scheme
authors offer broad and in-depth coverage of essential topics including range-based ar
free localization strategies, and signal path loss models. In addition, the book includes
models and how state estimation techniques and advanced machine learning technique
utilized to design L&T systems for a given problem using low cost measurement metri
RSS). This book also provides MATLAB examples to demonstrate fundamental algorithm
L&T and provides online access to all MATLAB codes. The book allows practicing engine
and graduate students to keep pace with contemporary research and new technologie
L&T domain. Presents a variety of perspectives on real time location and tracking (L&T
problems and low cost solutions; Allows readers to simulate L&T systems and validate
using real time measurements; Includes MATLAB based examples, codes and illustration
obtained results.

Fuzzy Algorithms for Control
AI Techniques for Reliability Prediction for Electronic Components
Junk Box Arduino
Smart Internet of Things Projects
Proceedings of Mechanical Engineering Research Day 2019
Proceedings of the 15th International Conference on Innovative Mobile and Internet Se
Ubiquitous Computing (IMIS-2021)
Proceedings of EMENA-ISTL 2019
Buku ini merupakan cara belajar untuk mata kuliah Praktik Kendali Cerdas
Second International Conference on Intelligent Computing and
Applications was the annual research conference aimed to bring together
researchers around the world to exchange research results and address
open issues in all aspects of Intelligent Computing and Applications. The
main objective of the second edition of the conference for the scientists,
scholars, engineers and students from the academia and the industry is to
present ongoing research activities and hence to foster research relations
between the Universities and the Industry. The theme of the conference
unified the picture of contemporary intelligent computing techniques as an
integral concept that highlights the trends in computational intelligence
and bridges theoretical research concepts with applications. The
conference covered vital issues ranging from intelligent computing, soft
computing, and communication to machine learning, industrial automation,
process technology and robotics. This conference also provided variety of
opportunities for the delegates to exchange ideas, applications and
experiences, to establish research relations and to find global partners for
future collaboration.

We all hate to throw electronics away. Use your 5 volt Arduino and have fun

with them instead! Raid your electronics junk box to build the Cestino (Arduino compatible) board and nine other electronics projects, from a logic probe to a microprocessor explorer, and learn some advanced, old-school techniques along the way. Don't have a well-stocked junk box? No problem. Nearly all the components used in these projects are still available (and cheap) at major electronic parts houses worldwide. Junk Box Arduino is the ultimate have-fun-while-challenging-your-skills guide for Arduino hackers who've gone beyond the basic tutorials and are ready for adventures in electronics. Bonus materials include all the example sketches, the Cestino core and bootloader source code, and links to suppliers for parts and tools. Bonus materials include extensions to the Cestino, Sourceforge links for updated code, and all the source-code for the projects.

Build smarter programs with the power of neural networks and the simplicity of PythonAbout This Book* Make your roots stronger in neural networks by this concept-rich yet highly practical guide; from single layer to multiple layers with the help of Python* Through this book, you will develop a strong background in neural networks, regardless of your level of previous knowledge in this subject* You will be able to implement solutions from scratch, so the whole process on foundations of neural network solution design will be paced by youWho This Book Is ForThis book is designed for novices as well as intermediate Python developers who have a statistical background and want to work with neural networks to get better results from complex data. It also contains enough food for thought for those who want to improve their skills in machine learning and deep learning.What You Will Learn* See the latest innovations in the field* Become fluent in Python to develop neural networks solutions capable of solving complex and interesting tasks* Implement neural networks step-by-step* Solve your complex computational problems with the aid of neural networks and Python* The reader will be able to set up his/her neural network with ease, according to the objective he/she wants to apply.* The reader will be able to design time series based models using RNNs in Python.* Will be able to design high level solutions with CNNs in PythonIn DetailIf you wish to solve your complex computational problem efficiently, neural networks come to the rescue. This book will teach you how to ace neural networks and solve your computational problems with Python-right from predicting to self-learning models-with ease. We start off with neural network design, then you'll build a solid foundational knowledge of how a neural network learns from data, and the principles behind it.This book cover various types of neural networks including recurrent neural networks and convoluted neural networks. You will not only learn how to train neural networks, but also see a generalization of these networks. With the help of practical examples and real-world use cases, you will learn to implement

these neural networks in your applications.
Research on e-Learning and ICT in Education
Robotic Sailing 2016
Engineering Applications for New Materials and Technologies
ICICA 2015
Real-Time BCI System Design to Control Arduino Based Speed
Controllable Robot Using EEG

Hybrid Intelligent Systems in Control, Pattern Recognition and Medicine
This book, divided in two volumes, originates from Techno-Societal 2018: the 2nd
International Conference on Advanced Technologies for Societal Applications,
Maharashtra, India, that brings together faculty members of various engineering
colleges to solve Indian regional relevant problems under the guidance of eminent
researchers from various reputed organizations. The focus is on technologies that help
develop and improve society, in particular on issues such as the betterment of
differently abled people, environment impact, livelihood, rural employment, agriculture,
healthcare, energy, transport, sanitation, water, education. This conference aims to
help innovators to share their best practices or products developed to solve specific
local problems which in turn may help the other researchers to take inspiration to solve
problems in their region. On the other hand, technologies proposed by expert
researchers may find applications in different regions. This offers a multidisciplinary
platform for researchers from a broad range of disciplines of Science, Engineering and
Technology for reporting innovations at different levels.
Arduino and Scilab based Projects provides information ranging from the basics to
advanced knowledge of Arduino and its interfacing with input/output devices (display
devices, actuators, sensors), communication modules (RF modem, Zigbee) and Scilab.
It also provides embedded system based on Arduino with simulation, programming and
interfacing with Scilab, Arduino interfacing with Scilab with and without Arduino 1.1
packages. Chapters are arranged in an easy-to-understand sequence that enhances
the learning experience for readers. Descriptions of real time project prototypes with
programming and simulation of Arduino and Scilab.
This book gathers selected papers presented at International Conference on Machine
Learning, Advances in Computing, Renewable Energy and Communication (MARC
2020), held in Krishna Engineering College, Ghaziabad, India, during December 17–18,
2020. This book discusses key concepts, challenges, and potential solutions in
connection with established and emerging topics in advanced computing, renewable
energy, and network communications.
This book describes the latest advances in fuzzy logic, neural networks and
optimization algorithms, as well as their hybrid combinations, and their applications in
areas such as: intelligent control and robotics, pattern recognition, medical diagnosis,
time series prediction, and optimization of complex problems. The book is divided into
five main parts. The first part proposes new concepts and algorithms based on type-1
and type-2 fuzzy logic and their applications; the second explores new concepts and
algorithms in neural networks and fuzzy logic applied to recognition. The third part
examines the theory and practice of meta-heuristics in various areas of application,

while the fourth highlights diverse applications of fuzzy logic, neural networks and hybrid intelligent systems in medical contexts. Finally, the fifth part focuses on applications of fuzzy logic, neural networks and meta-heuristics to robotics problems.
Arduino meets MATLAB: Interfacing, Programs and Simulink
Arduino and Scilab based Projects
June 3-8, 2018, Prague, Czech Republic (Vol.2)
Proceedings of the 3rd International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA) 2014
Integration of Renewable Energy Sources with Smart Grid
Industrial Networks and Intelligent Systems
Concepts, Methodologies, Tools, and Applications
Control Theory in Biomedical Engineering: Applications in Physiology and Medical Robotics highlights the importance of control theory and feedback control in our lives and explains how this theory is central to future medical developments. Control theory is fundamental for understanding feedback paths in physiological systems (endocrine system, immune system, neurological system) and a concept for building artificial organs. The book is suitable for graduate students and researchers in the control engineering and biomedical engineering fields, and medical students and practitioners seeking to enhance their understanding of physiological processes, medical robotics (legs, hands, knees), and controlling artificial devices (pacemakers, insulin injection devices). Control theory profoundly impacts the everyday lives of a large part of the human population including the disabled and the elderly who use assistive and rehabilitation robots for improving the quality of their lives and increasing their independence. Gives an overview of state-of-the-art control theory in physiology, emphasizing the importance of this theory in the medical field through concrete examples, e.g., endocrine, immune, and neurological systems Takes a comprehensive look at advances in medical robotics and rehabilitation devices and presents case studies focusing on their feedback control Presents the significance of control theory in the pervasiveness of medical robots in surgery, exploration, diagnosis, therapy, and rehabilitation
This book is an essential text for researchers and academics seeking the most comprehensive and up-to-date coverage of all aspects of e-learning and ICT in education, providing expanded peer-reviewed content from research presented at the 10th Panhellenic Conference on ICT in Education. The volume includes papers covering technical, pedagogical, organizational, instructional, as well as policy aspects of ICT in Education and e-Learning, and emphasizes applied research relevant to the educational realities in schools, colleges, universities and informal learning organizations. Research on e-Learning and ICT in Education is a valuable resource for education professionals interested in keeping up with current trends, perspectives, and approaches determining e-Learning and ICT integration in practice, including learning and teaching, curriculum and instructional design, learning media and environments, teacher education and professional development.
Programming and Interfacing with Arduino provides an in-depth understanding of the Arduino UNO board. It covers programming concepts, working and interfacing of sensors, input/output devices, communication modules, and actuators with Arduino UNO board. This book contains a large number of programming examples

along with the description and interfacing details of hardware with Arduino UNO board. It discusses important topics, including SPI communication protocol, I2C communication protocol, light-emitting diode, potentiometer, analog-to-digital converter, pulse width modulation, temperature sensor LM35, humidity and temperature sensor DHT11, motor driver L293D, LED interfacing and programming, and push-button interfacing and programming. Aimed at senior undergraduate students and professionals in areas such as electrical engineering, electronics, and communication engineering, this text: Discusses construction and working of sensors, including ultrasonic sensor, temperature sensor, and optical sensor. Covers construction, working, programming, and interfacing of IO devices. Discusses programming, interfacing construction, and working of relay with the Arduino board for controlling high-voltage devices. Covers interfacing diagram of devices with the Arduino board. Provides videos demonstrating the implementation of programs on the Arduino board.

Leverage the power of advanced analytics and predictive modeling in Tableau using the statistical powers of R About This Book A comprehensive guide that will bring out the creativity in you to visualize the results of complex calculations using Tableau and R Combine Tableau analytics and visualization with the power of R using this step-by-step guide Wondering how R can be used with Tableau? This book is your one-stop solution. Who This Book Is For This book will appeal to Tableau users who want to go beyond the Tableau interface and deploy the full potential of Tableau, by using R to perform advanced analytics with Tableau. A basic familiarity with R is useful but not compulsory, as the book will start off with concrete examples of R and will move quickly into more advanced spheres of analytics using online data sources to support hands-on learning. Those R developers who want to integrate R in Tableau will also benefit from this book. What You Will Learn Integrate Tableau's analytics with the industry-standard, statistical prowess of R. Make R function calls in Tableau, and visualize R functions with Tableau using RServe. Use the CRISP-DM methodology to create a roadmap for analytics investigations. Implement various supervised and unsupervised learning algorithms in R to return values to Tableau. Make quick, cogent, and data-driven decisions for your business using advanced analytical techniques such as forecasting, predictions, association rules, clustering, classification, and other advanced Tableau/R calculated field functions. In Detail Tableau and R offer accessible analytics by allowing a combination of easy-to-use data visualization along with industry-standard, robust statistical computation. Moving from data visualization into deeper, more advanced analytics? This book will intensify data skills for data viz-savvy users who want to move into analytics and data science in order to enhance their businesses by harnessing the analytical power of R and the stunning visualization capabilities of Tableau. Readers will come across a wide range of machine learning algorithms and learn how descriptive, prescriptive, predictive, and visually appealing analytical solutions can be designed with R and Tableau. In order to maximize learning, hands-on examples will ease the transition from being a data-savvy user to a data analyst using sound statistical tools to perform advanced analytics. By the end of this book, you will get to grips with advanced calculations in R and Tableau for analytics and prediction with the help of use cases and hands-on

examples. Style and approach Tableau (uniquely) offers excellent visualization combined with advanced analytics; R is at the pinnacle of statistical computational languages. When you want to move from one view of data to another, backed up by complex computations, the combination of R and Tableau makes the perfect solution. This example-rich guide will teach you how to combine these two to perform advanced analytics by integrating Tableau with R and create beautiful data visualizations.

Proceedings of MARC 2020

Proceedings of CIS 2020, Volume 1

Received Signal Strength Based Target Localization and Tracking Using Wireless Sensor Networks

World Congress on Medical Physics and Biomedical Engineering 2018

Artificial Intelligence and Heuristics for Smart Energy Efficiency in Smart Cities

Congress on Intelligent Systems

Ten Projects in Upcycled Electronics

Fuzzy Algorithms for Control gives an overview of the research results of a number of European research groups that are active and play a leading role in the field of fuzzy modeling and control. It contains 12 chapters divided into three parts. Chapters in the first part address the position of fuzzy systems in control engineering and in the AI community. State-of-the-art surveys on fuzzy modeling and control are presented along with a critical assessment of the role of these methodologists in control engineering. The second part is concerned with several analysis and design issues in fuzzy control systems. The analytical issues addressed include the algebraic representation of fuzzy models of different types, their approximation properties, and stability analysis of fuzzy control systems. Several design aspects are addressed, including performance specification for control systems in a fuzzy decision-making framework and complexity reduction in multivariable fuzzy systems. In the third part of the book, a number of applications of fuzzy control are presented. It is shown that fuzzy control in combination with other techniques such as fuzzy data analysis is an effective approach to the control of modern processes which present many challenges for the design of control systems. One has to cope with problems such as process nonlinearity, time-varying characteristics for incomplete process knowledge. Examples of real-world industrial applications presented in this book are a blast furnace, a lime kiln and a solar plant. Other examples of challenging problems in which fuzzy logic plays an important role and which are included in this book are mobile robotics and aircraft control. The aim of this book is to address both theoretical and practical subjects in a balanced way. It will therefore be useful for readers from the academic world and also from industry who want to apply fuzzy control in practice.

An autonomous sailboat robot is a boat that only uses the wind on its sail as the propelling force, without remote control or human assistance to achieve its mission. Robotic sailing offers the potential of long range and long term autonomous wind propelled, solar or wave-powered carbon neutral devices.

Robotic sailing devices could contribute to monitoring of environmental, ecological, meteorological, hydrographic and oceanographic data. These devices can also be used in traffic monitoring, border surveillance, security, assistance and rescue. The dependency on changing winds and sea conditions presents a considerable challenge for short and long term route and stability planning, collision avoidance and boat control. Building a robust and seaworthy sailing robot presents a truly complex and multi-disciplinary challenge for boat designers, naval architects, systems/electrical engineers and computer scientists. Over the last decade, several events such as Sailbot, World Robotic Sailing Championship and the International Robotic Sailing Conference (WRSC/IRSC) and Microtransat have sparked an explosion in the number of groups working on autonomous sailing robots. Many of the challenges in building truly autonomous sailing robots still remain unsolved. These proceedings present the work of researchers on current and future challenges in autonomous sailboat development, presented at the WRSC/IRSC 2014 in Galway, Ireland, 8th – 12th September 2014.

Collaborative and Humanoid Robots guides readers through the fundamentals and state-of-the-art concepts and future expectations of robotics. It showcases interesting research topics on robots and cobots by researchers, industry practitioners, and academics. Divided into two sections on "Collaborative Robots" and "Humanoid Robots," this book includes surveys of recent publications that investigative the interaction between humanoid robots and humans; safe adaptive trajectory tracking control of robots; 3D printed, self-learning robots; robot trajectory, guidance, and control; social robots; Tiny Blind assistive humanoid robots; and more.

This book discusses the expertise, skills, and techniques needed for the development of new materials and technologies. It focuses on finite element and finite volume methods that are used for engineering simulations, and present many state-of-the-art applications and advances to highlight these methods' importance. For example, modern joining technologies can be used to fabricate new compound or composite materials, even those formed from dissimilar component materials. These composite materials are often exposed to harsh environments, must deliver specific characteristics, and are primarily used in automotive and marine technologies, i.e., ships, amphibious vehicles, docks, offshore structures, and even robots. To achieve the desired material performance, computer-based engineering tools are widely used for simulation, data evaluation, and design processes.

Proceedings of the Second International Conference on the Future of ASEAN (ICoFA) 2017 – Volume 2

Proceedings of the 2nd International Conference on Advanced Technologies for Societal Applications - Volume 1

Advanced Analytics with R and Tableau

Science and Technology

Proceedings of 2nd International Conference on Intelligent Computing and Applications
Proceedings of the 9th International Robotic Sailing Conference
Programming and Interfacing with Arduino

There are a lot of e-business security concerns. Knowing about e-business security issues will likely help overcome them. Keep in mind, companies that have control over their e-business are likely to prosper most. In other words, setting up and maintaining a secure e-business is essential and important to business growth. This book covers state-of-the art practices in e-business security, including privacy, trust, security of transactions, big data, cloud computing, social network, and distributed systems.

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

The 3rd International Conference on Intelligent and Interactive Computing 2021 (IIC 2021) was held virtually at Universiti Teknikal Malaysia Melaka (UTeM), Melaka, Malaysia, on 9 September 2021. The event was jointly organized by the Department of Interactive Media and Department of Intelligent Computing and Analytics, Faculty of Information and Communication Technology, Universiti Teknikal Malaysia Melaka (UTeM), with the theme 'Empowering the World with Intelligent and Immersive Computing towards Smart Solutions'. This open access e-proceedings contains a compilation of 38 selected papers from the IIC 2021. The technical committees received a great response for submissions from various area including computational intelligence, data analytics, robotics and automation, multimedia and immersive technologies, education 4.0 and others. We hope that this proceeding will serve as a valuable reference for researchers. The event has achieved its aim which is to gather academic scholars and industry practitioners to share valuable knowledge and expertise in related disciplines. Moreover, it is hoped that this conference has opened up opportunities to explore recent advancements and challenges on selected research discipline. As the editors-in-chief, we are grateful and would like to convey our sincerest gratitude to the fellow review members for their effort in reviewing the submitted papers for this proceeding. We are thankful to all the authors for revising their papers according to the proceeding requirements. Also, we would like to express our thoughtful appreciation to the organizer of the IIC 2021.

This book contains selected papers that address a variety of topics related to the design, development and operation of unmanned and fully autonomous sailing boats. These papers were presented in the 9th International Robotic Sailing Conference, in association with the 9th World Robotic Sailing Championship that took place in Viana do Castelo, Portugal from the 5th to 10th of September 2016. The book is divided in three parts, each focusing on key aspects of robotic sailing. The first part addresses

the design, construction and validation of autonomous sailboat platforms, including their rigs, appendages and control mechanisms. The second part is devoted to the development of sensors and algorithms to enhance the performance of robotic sailing boats, in terms of their speed, course control and manoeuvring ability. Finally, the papers in the last part are dedicated to the improvement of behaviours required for the accomplishment of complex autonomous missions. Robotic sailing is a relatively new multidisciplinary area of research, with a recognized great potential for persistent ocean observation. Using the wind for boat propulsion is something mankind has been doing for centuries. Automating and optimizing the sailing process in the harsh marine environment is an ever present challenge which is now promising to bear fruit.

Proceedings of the Third International Conference on Computational Intelligence and Informatics

Techno-Societal 2018

Volume 1

Innovation in Information Systems and Technologies to Support Learning Research

Cara Sukses Belajar Praktik Kendali Cerdas

Proceedings of the International Conference on Information Technology & Systems (ICITS 2018)

Horizons in Computer Science Research

This volume contains 95 papers presented at FICTA 2014: Third International Conference on Frontiers in Intelligent Computing: Theory and Applications. The conference was held during 14-15, November, 2014 at Bhubaneswar, Odisha, India. This volume contains papers mainly focused on Data Warehousing and Mining, Machine Learning, Mobile and Ubiquitous Computing, AI, E-commerce & Distributed Computing and Soft Computing, Evolutionary Computing, Bio-inspired Computing and its Applications.

Programming and Interfacing with ArduinoCRC Press

This book provides glimpses into contemporary research in information systems & technology, learning, artificial intelligence (AI), machine learning, and security and how it applies to the real world, but the ideas presented also span the domains of telehealth, computer vision, the role and use of mobile devices, brain–computer interfaces, virtual reality, language and image processing and big data analytics and applications. Great research arises from asking pertinent research questions. This book reveals some of the authors' "beautiful questions" and how they develop the subsequent "what if" and "how" questions, offering readers food for thought and whetting their appetite for further research by the same authors.

This book examines how business, the social sciences, science and technology will impact the future of ASEAN. Following the ASEAN VISION 2020, it analyses the issues faced by ASEAN countries, which are diverse, while also positioning ASEAN as a competitive entity through partnerships. On the 30th anniversary of ASEAN, all ASEAN leaders agreed to the establishment of the ASEAN VISION 2020, which delineates the formation of a peaceful, stable and dynamically developed region while maintaining a community of caring societies in Malaysia, Indonesia,

Singapore, Brunei, Vietnam, Thailand, the Philippines, Myanmar, Laos and Cambodia. In keeping with this aspiration, Universiti Teknologi MARA Perlis took the initial steps to organise conferences and activities that highlight the role of the ASEAN region. The Second International Conference on the Future of ASEAN (ICoFA) 2017 was organised by the Office of Academic Affairs, Universiti Teknologi MARA Perlis, to promote more comprehensive integration among ASEAN members. This book, divided into two volumes, offers a useful guide for all those engaged in research on business, the social sciences, science and technology. It will also benefit researchers worldwide who want to gain more knowledge about ASEAN countries
Proceedings of the 7th International Robotic Sailing Conference
Technological, Pedagogical and Instructional Perspectives
23rd HCI International Conference, HCII 2021, Virtual Event, July 24–29, 2021, Proceedings
Collaborative and Humanoid Robots
Innovative Mobile and Internet Services in Ubiquitous Computing
HCI International 2021 - Late Breaking Papers: Multimodality, eXtended Reality, and Artificial Intelligence
Advances in Communication, Devices and Networking

There are a myriad of mathematical problems that cannot be solved using traditional methods. The development of fuzzy expert systems has provided new opportunities for problem-solving amidst uncertainties. Fuzzy Systems: Concepts, Methodologies, Tools, and Applications is a comprehensive reference source on the latest scholarly research and developments in fuzzy rule-based methods and examines both theoretical foundations and real-world utilization of these logic sets. Featuring a range of extensive coverage across innovative topics, such as fuzzy logic, rule-based systems, and fuzzy analysis, this is an essential publication for scientists, doctors, engineers, physicians, and researchers interested in emerging perspectives and uses of fuzzy systems in various sectors.
This book starts with an overview of renewable energy technologies, smart grid technologies, energy storage systems, and covers the details of renewable energy integration with smart grid and the corresponding controls. This book provides better views on power scenario in developing countries. The requirement of the integration of smart grid along with the energy storage systems are deeply discussed to acknowledge the importance of sustainable development of smart city. The methodologies are made quite possible with the high-efficient power convertor topologies and intelligent control schemes. These control schemes are capable to provide better control with the help of machine intelligence techniques and artificial intelligence. The book also addresses the modern power convertor topologies and the corresponding control schemes for renewable energy integration with smart grid. The design and analysis of power converters that are used for grid integration of solar PV along with simulation and experimental results are illustrated. The protection aspects of the microgrid with power electronic configurations for wind energy systems are elucidated.
This e-book is a compilation of papers presented at the 6th Mechanical Engineering

Research Day (MERD'19) - Kampus Teknologi UTeM, Melaka, Malaysia on 31 July 2019.
This book features high-quality papers presented at the International Conference on Computational Intelligence and Informatics (ICCII 2018), which was held on 28–29 December 2018 at the Department of Computer Science and Engineering, JNTUH College of Engineering, Hyderabad, India. The papers focus on topics such as data mining, wireless sensor networks, parallel computing, image processing, network security, MANETS, natural language processing and Internet of things.
Handbook of e-Business Security
Case Study: Tipasa, Algeria
Proceedings of ICCDN 2017
3rd International Conference, INISCOM 2017, Ho Chi Minh City, Vietnam, September 4, 2017, Proceedings
Proceedings of the 3rd International Conference on Intelligent and Interactive Computing 2021
ICCII 2018
Robotic Sailing 2014

In the industry of manufacturing and design, one major constraint has been enhancing operating performance using less time. As technology continues to advance, manufacturers are looking for better methods in predicting the condition and residual lifetime of electronic devices in order to save repair costs and their reputation. Intelligent systems are a solution for predicting the reliability of these components; however, there is a lack of research on the advancements of this smart technology within the manufacturing industry. AI Techniques for Reliability Prediction for Electronic Components provides emerging research exploring the theoretical and practical aspects of prediction methods using artificial intelligence and machine learning in the manufacturing field. Featuring coverage on a broad range of topics such as data collection, fault tolerance, and health prognostics, this book is ideally designed for reliability engineers, electronic engineers, researchers, scientists, students, and faculty members seeking current research on the advancement of reliability analysis using AI.

In the first chapter of this book, Jos� M. Chaves-Gonz�lez discusses DNA sequence design and proposes a multi-objective approach using swarm intelligence to solve optimisation issues. In the second chapter, Alina Andreica suggests the significance of using systematically applied mathematical algorithms to design and implement software. Additionally, she proposes specific mathematical models of problems of equivalence and simplification. Next, Galina M. Antonova provides a supplement of findings presented in the book Pattern Recognition: Practices, Perspectives and Challenges (D B Vincent; Nova Science Publishers Inc, 2013) in the third chapter. In the fourth chapter,

Mohammed Blej and Mostafa Azizi propose the use of fuzzy logic in order to efficiently schedule in real-time systems. Following this, in the fifth chapter Jos� F L Naranjo, Julio C B Torres, and Roberto A Tenenbaum explore an advantageous configuration for spatial interpolation of Head Related Impulse Responses, or HRIRs, through artificial neural networks, making this appropriate for auralisation systems. M�rcia Horn, Sandro Sawicki, Fabricia Roos-Frantz, Rafael Z Frantz, and Igor G Haugg examine the performance of application integration solutions through the development of formal models of simulation established on Markov chains in the sixth chapter. Next, the seventh chapter by Alexsandro Q Lencina, Roberto S Cargnin, Fabricia Roos-Frantz, Rafael Z Frantz, and Sandro Sawicki presents a case study on an integration solution to a real-world problem of integration in managing research results. Following this, the eighth chapter by Seiichi Nakamori explores continual temperature regulation in a closed space using the Arduino program. In the ninth and final chapter, Jonghoek Kim discusses the building of an information (sensor) network through numerous robots setting out information nodes.

This book includes proceedings of the 15th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2021), which took place in Asan, Korea, on July 1-3, 2021. With the proliferation of wireless technologies and electronic devices, there is a fast-growing interest in Ubiquitous and Pervasive Computing (UPC). The UPC enables to create a human-oriented computing environment where computer chips are embedded in everyday objects and interact with physical world. Through UPC, people can get online even while moving around, thus, having almost permanent access to their preferred services. With a great potential to revolutionize our lives, UPC also poses new research challenges. The aim of the book is to provide the latest research findings, methods, development techniques, challenges, and solutions from both theoretical and practical perspectives related to UPC with an emphasis on innovative, mobile, and Internet services.

This book is a collection of selected papers presented at the First Congress on Intelligent Systems (CIS 2020), held in New Delhi, India during September 5 – 6, 2020. It includes novel and innovative work from experts, practitioners, scientists and decision-makers from academia and industry. It covers topics such as Internet of Things, information security, embedded systems, real-time systems, cloud computing, big data analysis, quantum computing, automation systems, bio-inspired intelligence, cognitive systems, cyber physical systems, data analytics, data/web mining, data science, intelligence for security, intelligent decision making systems, intelligent information

processing, intelligent transportation, artificial intelligence for machine vision, imaging sensors technology, image segmentation, convolutional neural network, image/video classification, soft computing for machine vision, pattern recognition, human computer interaction, robotic devices and systems, autonomous vehicles, intelligent control systems, human motor control, game playing, evolutionary algorithms, swarm optimization, neural network, deep learning, supervised learning, unsupervised learning, fuzzy logic, rough sets, computational optimization, and neuro fuzzy systems.

Applications in Physiology and Medical Robotics

Machine Learning, Advances in Computing, Renewable Energy and Communication

Control Theory in Biomedical Engineering

Neural Network Programming with Python

Fuzzy Systems: Concepts, Methodologies, Tools, and Applications

This book provides a single platform for beginners in systems engineering to start Arduino interface projects with MATLAB®. It covers the basics of the programming with Arduino and Arduino interfacing with MATLAB® (with and without the use or I/O packages) in 3 sections, respectively. Key features: -introduces readers to Arduino IDE, Proteus simulation modeling, Arduino interfaces with display devices, sensor interfaces (both digital and analog), actuators, MATLAB® GUIs, digital read/write systems with I/O interfaces and automation systems. -organized layout for a reader friendly experience -provides detailed circuit diagrams -provides relevant simulation modeling instructions This is an ideal book for engineering students and system designers for learning the basic programming and simulation of Arduino and MATLAB® based real time project prototypes.

This book (vol. 2) presents the proceedings of the IUPESM World Congress on Biomedical Engineering and Medical Physics, a triennially organized joint meeting of medical physicists, biomedical engineers and adjoining health care professionals. Besides the purely scientific and technological topics, the 2018 Congress will also focus on other aspects of professional involvement in health care, such as education and training, accreditation and certification, health technology assessment and patient safety. The IUPESM meeting is an important forum for medical physicists and biomedical engineers in medicine and healthcare learn and share knowledge, and discuss the latest research outcomes and technological advancements as well as new ideas in both medical physics and biomedical engineering field.

This book constitutes the thoroughly refereed post-conference proceedings of the Third International Conference on Industrial Networks and Intelligent Systems, INISCOM 2017, held in Ho chi Minh City, Vietnam, in September 2017. The 31 revised full papers carefully reviewed and selected from 45 submissions. The papers cover topics on telecommunications systems and networks, intelligent

systems, industrial networks, and applications, computer science, security and privacy, hardware and software design.