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Computer Systems: Architectures, Modeling, and Simulation - Andy Pimentel 2004-11-18

This book constitutes the refereed proceedings of the 4th International Workshop on Systems, Architectures, Modeling, and Simulation, SAMOS 2004, held in Samos, Greece on July 2004. Besides the SAMOS 2004 proceedings, the book also presents 19 revised papers from the predecessor workshop SAMOS 2003. The 55 revised full papers presented were carefully reviewed and selected for inclusion in the book. The papers are organized in topical sections on reconfigurable computing, architectures and implementation, and systems modeling and simulation.

Internet of Things, Smart Spaces, and Next Generation Networks and Systems - Sergey Balandin 2015-08-12

This book constitutes the joint refereed proceedings of the 15th International Conference on Next Generation Wired/Wireless Advanced Networks and Systems, NEW2AN 2015, and the 8th Conference on Internet of Things and Smart Spaces, ruSMART 2015, held in St. Petersburg, Russia, in August 2015. The 74 revised full papers were carefully reviewed and selected from numerous submissions. The 15 papers selected for ruSMART are organized in topical sections on IoT infrastructure, IoT platforms, smart spaces and IoT cases, and smart services and solutions. The 59 papers from NEW2AN deal with the following topics: streaming, video, and TCP applications, mobile "ad hoc" networks, security, and clouds, sensor networks and IoT, cellular systems, novel systems and techniques, business and services, signals and circuits, optical and satellite systems, and advanced materials and their

properties.

Robot Manipulators - Agustin Jimenez 2010-03-01

This book presents the most recent research advances in robot manipulators. It offers a complete survey to the kinematic and dynamic modelling, simulation, computer vision, software engineering, optimization and design of control algorithms applied for robotic systems. It is devoted for a large scale of applications, such as manufacturing, manipulation, medicine and automation. Several control methods are included such as optimal, adaptive, robust, force, fuzzy and neural network control strategies. The trajectory planning is discussed in details for point-to-point and path motions control. The results in obtained in this book are expected to be of great interest for researchers, engineers, scientists and students, in engineering studies and industrial sectors related to robot modelling, design, control, and application. The book also details theoretical, mathematical and practical requirements for mathematicians and control engineers. It surveys recent techniques in modelling, computer simulation and implementation of advanced and intelligent controllers.

Workspace Scaling and Haptic Feedback for Industrial Telepresence and Teleaction Systems with Heavy-duty Teleoperators - Marwan Radi 2012

Model-Based Design for Embedded Systems - Gabriela Nicolescu 2018-09-03

The demands of increasingly complex embedded systems and associated performance computations have resulted in the development of heterogeneous computing architectures that

often integrate several types of processors, analog and digital electronic components, and mechanical and optical components—all on a single chip. As a result, now the most prominent challenge for the design automation community is to efficiently plan for such heterogeneity and to fully exploit its capabilities. A compilation of work from internationally renowned authors, *Model-Based Design for Embedded Systems* elaborates on related practices and addresses the main facets of heterogeneous model-based design for embedded systems, including the current state of the art, important challenges, and the latest trends. Focusing on computational models as the core design artifact, this book presents the cutting-edge results that have helped establish model-based design and continue to expand its parameters. The book is organized into three sections: Real-Time and Performance Analysis in Heterogeneous Embedded Systems, Design Tools and Methodology for Multiprocessor System-on-Chip, and Design Tools and Methodology for Multidomain Embedded Systems. The respective contributors share their considerable expertise on the automation of design refinement and how to relate properties throughout this refinement while enabling analytic and synthetic qualities. They focus on multi-core methodological issues, real-time analysis, and modeling and validation, taking into account how optical, electronic, and mechanical components often interface. Model-based design is emerging as a solution to bridge the gap between the availability of computational capabilities and our inability to make full use of them yet. This approach enables teams to start the design process using a high-level model that is gradually refined through abstraction levels to ultimately yield a prototype. When executed well, model-based design encourages enhanced performance and quicker time to market for a product. Illustrating a broad and diverse spectrum of applications such as in the automotive aerospace, health care, consumer electronics, this volume provides designers with practical, readily adaptable modeling solutions for their own practice. *Active Safety and the Mobility Industry* - Delphi Corp. 2011-04-11 Safety is a key element in new vehicle design and active safety, together with driver

distraction prevention, has become one of the most talked about issues in the mobility industry. This book features 20 SAE technical papers, originally published in 2009 and 2010, which showcase how the mobility industry is considering all aspects of safety in designing and producing safer vehicles. These papers were selected by SAE International's 2010 President Dr. Andrew Brown Jr., Executive Director and Chief Technologist for Delphi Corporation. The contents of this book explore a variety of safety issues in the areas of market and consumer preferences; driver assistance and modeling; active safety system, crash sensing and sensor fusion; communications; and road safety. The publication also includes a number of articles authored by renowned experts in the field of active safety. This book is the second in the trilogy from SAE on "Safe, Green and Connected" vehicles in the mobility industry edited by Dr. Andrew Brown, Jr. The other two books in this trilogy are: *Green Technologies and the Mobility Industry Connectivity* and the *Mobility Industry Buy a Combination of Books and Save!* This trilogy can be purchased in a combination of two books as follows: *Green Technologies and Active Safety in the Mobility Industry Green Technologies and Connectivity in the Mobility Industry Active Safety and Connectivity in the Mobility Industry Buy the Entire 3 Book Set and Save the Most!* **Green, Safe & Connected: The Future of Mobility Computational Intelligence** - De-Shuang Huang 2010-06-18

This is the proceedings of the International Conference on Intelligent Computing, ICIC 2006, Kunming, China, August 2006. The book presents 165 revised full papers, carefully chosen and reviewed, organized in topical sections on fuzzy systems, fuzzy-neuro-evolutionary hybrids, supervised, unsupervised and reinforcement learning, intelligent agent and Web applications, intelligent fault diagnosis, natural language processing and expert systems, natural language human-machine interface using artificial neural networks, and intelligent financial engineering.

Robot Operating System (ROS) - Anis Koubaa 2016-02-09

The objective of this book is to provide the reader with a comprehensive coverage on the

Robot Operating Systems (ROS) and latest related systems, which is currently considered as the main development framework for robotics applications. The book includes twenty-seven chapters organized into eight parts. Part 1 presents the basics and foundations of ROS. In Part 2, four chapters deal with navigation, motion and planning. Part 3 provides four examples of service and experimental robots. Part 4 deals with real-world deployment of applications. Part 5 presents signal-processing tools for perception and sensing. Part 6 provides software engineering methodologies to design complex software with ROS. Simulations frameworks are presented in Part 7. Finally, Part 8 presents advanced tools and frameworks for ROS including multi-master extension, network introspection, controllers and cognitive systems. This book will be a valuable companion for ROS users and developers to learn more ROS capabilities and features.

Fault-Tolerant Control of Nondeterministic Input/Output Automata - Yannick Salomon Nke 2013

This book presents novel methods of fault-tolerant control theory in a discrete-event system framework. Nondeterministic input/output automata are used to model nominal and faulty technological systems. The main contributions are the following: Control design method for discrete-event systems Fault modeling technique for actuator, sensor and system internal faults and failures Off-line and on-line control reconfiguration based on trajectory re-planning and input/output adaptation. Two small size running examples are used to explain the developed methods. Experiments on a manufacturing cell demonstrate the application of these methods in a realistic environment. The state of the art is provided on methods for modeling, supervisory control and fault-tolerant control of discrete-event systems.

Remote and Telerobotics - Nicolas Mollet 2010-03-01

Any book which presents works about controlling distant robotics entities, namely the field of telerobotics, will propose advanced technics concerning time delay compensation, error handling, autonomous systems, secured and complex distant manipulations, etc. So does

this new book, *Remote and Telerobotics*, which presents such state-of-the-art advanced solutions, allowing for instance to develop an open low-cost Robotics platform or to use very efficient prediction models to compensate latency. This edition is organized around eleven high-level chapters, presenting international research works coming from Japan, Korea, France, Italy, Spain, Greece and Netherlands. **Plug-and-play control of interconnected systems** - Sven Bodenbun 2017

In the networked control of interconnected systems, the communication network is primarily used for the exchange of measurements amongst the control stations. Plug-and-play control extends the usage of this network towards the exchange of models with the aim to automatically design control stations at runtime. Therefore, every subsystem is equipped with a design agent that initially knows only the model of its subsystem. To design a control station by a design agent, first, a suitable model of the subsystem that interacts with other subsystems has to be set up. Second, local design conditions have to be found that guarantee the adherence of the global control aim. If the designed control station is finally plugged into the control equipment, the overall closed-loop system plays as desired. The focus of this thesis is to enable the design agent to accomplish the controller design. Therefore, three approaches are proposed which focus on the accuracy of the model that is used for the design with respect to the achievable overall closed-loop performance. The main result is a novel concept for the self-organised controller design by means of design agents. This concept is applied to achieve fault tolerance and to integrate new subsystems. The proposed methods are tested and evaluated through simulations and experiments on a thermofluid process and a multizone furnace.

Unmanned Aircraft Systems - Kimon P. Valavanis 2008-12-21

Unmanned Aircraft Systems (UAS) have seen unprecedented levels of growth during the last decade in both military and civilian domains. It is anticipated that civilian applications will be dominant in the future, although there are still barriers to be overcome and technical challenges to be met. Integrating UAS into, for example, civilian space, navigation, autonomy,

see-detect-and-avoid systems, smart designs, system integration, vision-based navigation and training, to name but a few areas, will be of prime importance in the near future. This special volume is the outcome of research presented at the International Symposium on Unmanned Aerial Vehicles, held in Orlando, Florida, USA, from June 23-25, 2008, and presents state-of-the-art findings on topics such as: UAS operations and integration into the national airspace system; UAS navigation and control; micro-, mini-, small UAVs; UAS simulation testbeds and frameworks; UAS research platforms and applications; UAS applications. This book aims at serving as a guide tool on UAS for engineers and practitioners, academics, government agencies and industry. Previously published in the Journal of Intelligent and Robotic Systems, 54 (1-3, 2009).

Raspberry Pi Technology - Simon J. Cox
2018-04-03

This book is a printed edition of the Special Issue "Raspberry Pi Technology" that was published in Electronics

Network Modeling, Simulation and Analysis in MATLAB - Dac-Nhuong Le 2019-08-06

The purpose of this book is first to study MATLAB programming concepts, then the basic concepts of modeling and simulation analysis, particularly focus on digital communication simulation. The book will cover the topics practically to describe network routing simulation using MATLAB tool. It will cover the dimensions' like Wireless network and WSN simulation using MATLAB, then depict the modeling and simulation of vehicles power network in detail along with considering different case studies. Key features of the book include: Discusses different basics and advanced methodology with their fundamental concepts of exploration and exploitation in NETWORK SIMULATION. Elaborates practice questions and simulations in MATLAB Student-friendly and Concise Useful for UG and PG level research scholar Aimed at Practical approach for network simulation with more programs with step by step comments. Based on the Latest technologies, coverage of wireless simulation and WSN concepts and implementations

10th International Conference on Robotics, Vision, Signal Processing and Power

Applications - Mohamad Adzhar Md Zawawi
2019-04-02

This proceedings book presents a collection of research papers from the 10th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2018), which serves as a platform for researchers, scientists, engineers, academics and industrial professionals from around the globe to share their research findings and development activities. The book covers various topics of interest, including, but not limited to:

- Robotics, Control, Mechatronics and Automation
- Vision, Image, and Signal Processing
- Artificial Intelligence and Computer Applications
- Electronic Design and Applications
- Biomedical, Bioengineering and Applications
- RF, Antenna Applications and Telecommunication Systems
- Power Systems, High Voltage and Renewable Energy
- Electrical Machines, Drives and Power

Electronics•Devices, Circuits and Embedded Systems•Sensors and Sensing Techniques

Real-Time Simulation Technologies: Principles, Methodologies, and Applications

- Katalin Popovici 2017-12-19

Real-Time Simulation Technologies: Principles, Methodologies, and Applications is an edited compilation of work that explores fundamental concepts and basic techniques of real-time simulation for complex and diverse systems across a broad spectrum. Useful for both new entrants and experienced experts in the field, this book integrates coverage of detailed theory, acclaimed methodological approaches, entrenched technologies, and high-value applications of real-time simulation—all from the unique perspectives of renowned international contributors. Because it offers an accurate and otherwise unattainable assessment of how a system will behave over a particular time frame, real-time simulation is increasingly critical to the optimization of dynamic processes and adaptive systems in a variety of enterprises. These range in scope from the maintenance of the national power grid, to space exploration, to the development of virtual reality programs and cyber-physical systems. This book outlines how, for these and other undertakings, engineers must assimilate real-time data with computational tools for rapid decision making

under uncertainty. Clarifying the central concepts behind real-time simulation tools and techniques, this one-of-a-kind resource: Discusses the state of the art, important challenges, and high-impact developments in simulation technologies Provides a basis for the study of real-time simulation as a fundamental and foundational technology Helps readers develop and refine principles that are applicable across a wide variety of application domains As science moves toward more advanced technologies, unconventional design approaches, and unproven regions of the design space, simulation tools are increasingly critical to successful design and operation of technical systems in a growing number of application domains. This must-have resource presents detailed coverage of real-time simulation for system design, parallel and distributed simulations, industry tools, and a large set of applications.

Control Engineering and Information Systems - Zhijing Liu 2015-01-19

Control Engineering and Information Systems contains the papers presented at the 2014 International Conference on Control Engineering and Information Systems (ICCEIS 2014, Yueyang, Hunan, China, 20-22 June 2014). All major aspects of the theory and applications of control engineering and information systems are addressed, including: - Intelligent systems - Teaching cases - Pattern recognition - Industry application - Machine learning - Systems science and systems engineering - Data mining - Optimization - Business process management - Evolution of public sector ICT - IS economics - IS security and privacy - Personal data markets - Wireless ad hoc and sensor networks - Database and system security - Application of spatial information system - Other related areas Control Engineering and Information Systems provides a valuable source of information for scholars, researchers and academics in control engineering and information systems.

5th International Conference on Biomedical Engineering in Vietnam - Vo Van Toi 2014-11-18

This volume presents the proceedings of the Fifth International Conference on the Development of Biomedical Engineering in Vietnam which was held from June 16-18, 2014

in Ho Chi Minh City. The volume reflects the progress of Biomedical Engineering and discusses problems and solutions. I aims identifying new challenges, and shaping future directions for research in biomedical engineering fields including medical instrumentation, bioinformatics, biomechanics, medical imaging, drug delivery therapy, regenerative medicine and entrepreneurship in medical devices.

Simulation und Test 2017 - Johannes Liebl 2018-02-12

Die inhaltlichen Schwerpunkte des Tagungsbandes zur ATZlive-Veranstaltung Simulation und Test 2017 liegen unter anderem auf den Möglichkeiten der Digitalisierung für Prozesse im Bereich der Fahrzeugentwicklung. Darüber hinaus widmet sich die Tagung dem Antriebsstrang in all seinen verbrennungsmotorischen und elektrifizierten Ausprägungen. Zudem betrachtet sie die geometrische, funktionale oder elektrische Fahrzeugintegration von Komponenten. Die Tagung ist eine unverzichtbare Plattform für den Wissens- und Gedankenaustausch von Forschern und Entwicklern aller Unternehmen und Institutionen, die dieses Ziel verfolgen.

IT Convergence and Security 2012 - Kuinam J. Kim 2012-12-12

The proceedings approaches the subject matter with problems in technical convergence and convergences of security technology. This approach is new because we look at new issues that arise from techniques converging. The general scope of the proceedings content is convergence security and the latest information technology. The intended readership are societies, enterprises, and research institutes, and intended content level is mid- to highly educated personals. The most important features and benefits of the proceedings are the introduction of the most recent information technology and its related ideas, applications and problems related to technology convergence, and its case studies and finally an introduction of converging existing security techniques through convergence security. Overall, through the proceedings, authors will be able to understand the most state of the art information strategies and technologies of convergence security.

FPGA-Based Embedded System Developer's Guide - A. Arockia Bazil Raj 2018-04-09

The book covers various aspects of VHDL programming and FPGA interfacing with examples and sample codes giving an overview of VLSI technology, digital circuits design with VHDL, programming, components, functions and procedures, and arithmetic designs followed by coverage of the core of external I/O programming, algorithmic state machine based system design, and real-world interfacing examples. • Focus on real-world applications and peripherals interfacing for different applications like data acquisition, control, communication, display, computing, instrumentation, digital signal processing and top module design • Aims to be a quick reference guide to design digital architecture in the FPGA and develop system with RTC, data transmission protocols

Modelling and Control of Dynamic Systems Using Gaussian Process Models - Juš Kocijan 2015-11-21

This monograph opens up new horizons for engineers and researchers in academia and in industry dealing with or interested in new developments in the field of system identification and control. It emphasizes guidelines for working solutions and practical advice for their implementation rather than the theoretical background of Gaussian process (GP) models. The book demonstrates the potential of this recent development in probabilistic machine-learning methods and gives the reader an intuitive understanding of the topic. The current state of the art is treated along with possible future directions for research. Systems control design relies on mathematical models and these may be developed from measurement data. This process of system identification, when based on GP models, can play an integral part of control design in data-based control and its description as such is an essential aspect of the text. The background of GP regression is introduced first with system identification and incorporation of prior knowledge then leading into full-blown control. The book is illustrated by extensive use of examples, line drawings, and graphical presentation of computer-simulation results and plant measurements. The research results presented are applied in real-life case studies

drawn from successful applications including: a gas-liquid separator control; urban-traffic signal modelling and reconstruction; and prediction of atmospheric ozone concentration. A MATLAB® toolbox, for identification and simulation of dynamic GP models is provided for download.

Applications of Intelligent Control to Engineering Systems - Kimon P. Valavanis 2009-06-11

This book reflects the work of top scientists in the field of intelligent control and its applications, prognostics, diagnostics, condition based maintenance and unmanned systems. It includes results, and presents how theory is applied to solve real problems.

Optical Fiber Communication Systems with MATLAB® and Simulink® Models, Second Edition - Le Nguyen Binh 2014-12-01

Carefully structured to instill practical knowledge of fundamental issues, Optical Fiber Communication Systems with MATLAB® and Simulink® Models describes the modeling of optically amplified fiber communications systems using MATLAB® and Simulink®. This lecture-based book focuses on concepts and interpretation, mathematical procedures, and engineering applications, shedding light on device behavior and dynamics through computer modeling. Supplying a deeper understanding of the current and future state of optical systems and networks, this Second Edition: Reflects the latest developments in optical fiber communications technology Includes new and updated case studies, examples, end-of-chapter problems, and MATLAB® and Simulink® models Emphasizes DSP-based coherent reception techniques essential to advancement in short- and long-term optical transmission networks Optical Fiber Communication Systems with MATLAB® and Simulink® Models, Second Edition is intended for use in university and professional training courses in the specialized field of optical communications. This text should also appeal to students of engineering and science who have already taken courses in electromagnetic theory, signal processing, and digital communications, as well as to optical engineers, designers, and practitioners in industry.

Bioinformatics and Biomedical Engineering - Ignacio Rojas 2018-04-19

This two volume set LNBI 10813 and LNBI 10814 constitutes the proceedings of the 6th International Work-Conference on Bioinformatics and Biomedical Engineering, IWBBIO 2018, held in Granada, Spain, in April 2018. The 88 regular papers presented were carefully reviewed and selected from 273 submissions. The scope of the conference spans the following areas: bioinformatics for healthcare and diseases; bioinformatics tools to integrate omics dataset and address biological question; challenges and advances in measurement and self-parametrization of complex biological systems; computational genomics; computational proteomics; computational systems for modelling biological processes; drug delivery system design aided by mathematical modelling and experiments; generation, management and biological insights from big data; high-throughput bioinformatic tools for medical genomics; next generation sequencing and sequence analysis; interpretable models in biomedicine and bioinformatics; little-big data. Reducing the complexity and facing uncertainty of highly underdetermined phenotype prediction problems; biomedical engineering; biomedical image analysis; biomedical signal analysis; challenges in smart and wearable sensor design for mobile health; and healthcare and diseases.

Intelligent Condition Based Monitoring -

Nishchal K. Verma 2020-01-13

This book discusses condition based monitoring of rotating machines using intelligent adaptive systems. The book employs computational intelligence and fuzzy control principles to deliver a module that can adaptively monitor and optimize machine health and performance. This book covers design and performance of such systems and provides case studies and data models for fault detection and diagnosis. The contents cover everything from optimal sensor positioning to fault diagnosis. The principles laid out in this book can be applied across rotating machinery such as turbines, compressors, and aircraft engines. The adaptive fault diagnostics systems presented can be used in multiple time and safety critical applications in domains such as aerospace, automotive, deep earth and deep water exploration, and energy.

15. Internationales Stuttgarter Symposium -

Michael Bargende 2015-05-05

Das Mobilitätsverhalten in unserer Gesellschaft wandelt sich und mit ihm die Anforderungen an das Kraftfahrzeug. In Zeiten von Klimawandel durch steigende Luftverschmutzung, Verknappung und Verteuerung fossiler Energien aber auch zunehmender Digitalisierung verändern sich die aktuellen Fahrzeugkonzepte und entwickeln sich weiter. Das Auto der Zukunft muss sparsam, umweltfreundlich, sicher, komfortabel, digital vernetzt und automatisiert sein. Gleichzeitig soll es das Bedürfnis nach Individualität erfüllen, den Fahrer emotional ansprechen und so den Reiz erzeugen, das Fahrzeug sein Eigen nennen zu wollen. Dies ist ein Balanceakt, der die Automobilindustrie vor sehr große Herausforderungen stellt.

Reconfigurable Computing: Architectures, Tools and Applications - Jürgen Becker 2009-03-09

Reconfigurable computing (RC) technologies offer the promise of substantial performance gains over traditional architectures by customizing, sometimes at run-time, the topology of the underlying architecture to match the specific needs of a given application. Contemporary reconfigurable architectures allow for the definition of architectures with functional and storage units that match the specific needs of a given computation, in terms of function, bit-width and control structures. Compared to standard microprocessor architectures, advantages are possible in terms of power consumption on a broad range of different application fields. Moreover, the flexibility enabled by reconfiguration is also seen as a basic technique for overcoming transient failures in emerging device structures. Techniques for achieving reconfigurable systems are numerous and require the joint development of reconfigurable hardware systems to support the dynamic behavior, e.g., suitable programming models, tools and languages, to support the reconfiguration process during run-time as well as during design-time. This includes verification techniques that can demonstrate formally correct reconfiguration sequences at each stage. While there are many problems, the existence and development of technologies such as recent multi- and many-core processor architectures, dynamically reconfigurable and multi-grain

computing architectures, as well as application-specific processors suggest that there is a very strong need for adaptive and reconfigurable systems.

Intelligent Robotics and Applications -

Honghai Liu 2010-10-27

The market demand for skills, knowledge and adaptability have positioned robotics to be an important field in both engineering and science. One of the most highly visible applications of robotics has been the robotic automation of many industrial tasks in factories. In the future, a new era will come in which we will see a greater success for robotics in non-industrial environments. In order to anticipate a wider deployment of intelligent and autonomous robots for tasks such as manufacturing, healthcare, entertainment, search and rescue, surveillance, exploration, and security missions, it is essential to push the frontier of robotics into a new dimension, one in which motion and intelligence play equally important roles. The 2010 International Conference on Intelligent Robotics and Applications (ICIRA 2010) was held in Shanghai, China, November 10-12, 2010. The theme of the conference was "Robotics Harmonizing Life," a theme that reflects the ever-growing interest in research, development and applications in the dynamic and exciting areas of intelligent robotics. These volumes of Springer's Lecture Notes in Artificial Intelligence and Lecture Notes in Computer Science contain 140 high-quality papers, which were selected at least for the papers in general sessions, with a 62% acceptance rate. Traditionally, ICIRA 2010 holds a series of plenary talks, and we were fortunate to have two such keynote speakers who shared their expertise with us in diverse topic areas spanning the range of intelligent robotics and application activities.

Hydrogen-Air PEM Fuel Cell - Shiwen Tong

2018-09-24

The book presents the modeling and control of hydrogen-air PEM fuel cells, including simultaneous estimation of the parameters and states, fuzzy cluster modeling, SPM-based predictive control and advanced fuzzy control. MATLAB/Simulink-based modeling and control programs are discussed in detail. With simulations and experiments, it is an essential

reference for both scientists and industrial engineers.

Embedded Systems - Kiyofumi Tanaka

2012-03-02

Nowadays, embedded systems - the computer systems that are embedded in various kinds of devices and play an important role of specific control functions, have permitted various aspects of industry. Therefore, we can hardly discuss our life and society from now onwards without referring to embedded systems. For wide-ranging embedded systems to continue their growth, a number of high-quality fundamental and applied researches are indispensable. This book contains 19 excellent chapters and addresses a wide spectrum of research topics on embedded systems, including basic researches, theoretical studies, and practical work. Embedded systems can be made only after fusing miscellaneous technologies together. Various technologies condensed in this book will be helpful to researchers and engineers around the world.

SIMULINK Real-time Workshop - 1997

Cyber-Physical Distributed Systems - Huadong

Mo 2021-08-23

CYBER-PHYSICAL DISTRIBUTED SYSTEMS

Gather detailed knowledge and insights into cyber-physical systems behaviors from a cutting-edge reference written by leading voices in the field. In *Cyber-Physical Distributed Systems: Modeling, Reliability Analysis and Applications*, distinguished researchers and authors Drs. Huadong Mo, Giovanni Sansavini, and Min Xie deliver a detailed exploration of the modeling and reliability analysis of cyber physical systems through applications in infrastructure and energy and power systems. The book focuses on the integrated modeling of systems that bring together physical and cyber elements and analyzing their stochastic behaviors and reliability with a view to controlling and managing them. The book offers a comprehensive treatment on the aging process and corresponding online maintenance, network degradation, and cyber-attacks occurring in cyber-physical systems. The authors include many illustrative examples and case studies based on real-world systems and offer readers a rich set of references for further research and

study. Cyber-Physical Distributed Systems covers recent advances in combinatorial models and algorithms for cyber-physical systems modeling and analysis. The book also includes: A general introduction to traditional physical/cyber systems, and the challenges, research trends, and opportunities for real cyber-physical systems applications that general readers will find interesting and useful Discussions of general modeling, assessment, verification, and optimization of industrial cyber-physical systems Explorations of stability analysis and enhancement of cyber-physical systems, including the integration of physical systems and open communication networks A detailed treatment of a system-of-systems framework for the reliability analysis and optimal maintenance of distributed systems with aging components Perfect for undergraduate and graduate students in computer science, electrical engineering, cyber security, industrial and system engineering departments, Cyber-Physical Distributed Systems will also earn a place on the bookshelves of students taking courses related to reliability, risk and control engineering from a system perspective. Reliability, safety and industrial control professionals will also benefit greatly from this book.

Integrated Models for Information Communication Systems and Networks:

Design and Development - Atayero, Aderemi Aaron Anthony 2013-06-30

With current advancements in the modeling and simulation of systems and networks, researchers and developers are better able to determine the probable state of current systems and envision the state of future systems during the design stage. The uses and accuracies of these models are essential to every aspect of communication systems. Integrated Models for Information Communication Systems and Networks: Design and Development explores essential information and current research findings on information communication systems and networks. This reference source aims to assist professionals in the desire to enhance their knowledge of modeling at systems level with the aid of modern software packages.

XXVII Brazilian Congress on Biomedical Engineering - Teodiano Freire Bastos-Filho 2021 This book presents cutting-edge research and

developments in the field of Biomedical Engineering. It describes both fundamental and clinically-oriented findings, highlighting advantages and challenges of innovative methods and technologies, such as artificial intelligence, wearable devices and neuroengineering, important issues related to health technology management and human factors in health, and new findings in biomechanical analysis and modeling. Gathering the proceedings of the XXVII Brazilian Congress on Biomedical Engineering, CBEB 2020, held on October 26-30, 2020, in Vitoria, Brazil, and promoted by the Brazilian Society of Biomedical Engineering SBEB, this book gives emphasis to research and developments carried out by Brazilian scientists, institutions and professionals. It offers an extensive overview on new trends and clinical implementation of technologies, and it is intended to foster communication and collaboration between medical scientists, engineers, and researchers inside and outside the country.

Electronics, Information Technology and Intellectualization - Young Min Song

2015-01-08

The International Conference on Electronics, Information Technology and Intellectualization (ICEITI2014) was dedicated to build a high-level international academic communication forum for international experts and scholars. This first conference of an annual series was held in Pengcheng, Shenzhen, China 16-17 August 2014. Many prestigious experts

Rapid BeagleBoard Prototyping with MATLAB and Simulink - Dr. Xuewu Dai

2013-10-25

This book is a fast-paced guide with practical, hands-on recipes which will show you how to prototype Beagleboard-based audio/video applications using Matlab/Simlink and Sourcery Codebench on a Windows host. Beagleboard Embedded Projects is great for students and academic researchers who have practical ideas and who want to build a proof-of-concept system on an embedded hardware platform quickly and efficiently. It is also useful for product design engineers who want to ratify their applications and reduce the time-to-market. It is assumed that you are familiar with Matlab/Simulink and have some basic knowledge of computer

hardware. Experience in Linux is favoured but not necessary, as our software development is purely on a Windows host.

Recent Advances in Electrical Engineering, Electronics and Energy - Miguel Botto-Tobar
2022-07-18

This book constitutes the proceedings of the XVI Multidisciplinary International Congress on Science and Technology (CIT 2021), held in Quito, Ecuador, on 14-18 June 2021, proudly organized by Universidad de las Fuerzas Armadas ESPE in collaboration with GDEON. CIT is an international event with a multidisciplinary approach that promotes the dissemination of advances in Science and Technology research through the presentation of keynote conferences. In CIT, theoretical, technical, or application works that are research products are presented to discuss and debate ideas, experiences, and challenges. Presenting high-quality, peer-reviewed papers, the book discusses the following topics: · Electrical and Electronic · Energy and Mechanics

Proceedings of 3rd International Conference on Advanced Computing, Networking and Informatics - Atulya Nagar
2015-09-03

Advanced Computing, Networking and Informatics are three distinct and mutually exclusive disciplines of knowledge with no apparent sharing/overlap among them. However, their convergence is observed in many real world applications, including cyber-security,

internet banking, healthcare, sensor networks, cognitive radio, pervasive computing amidst many others. This two volume proceedings explore the combined use of Advanced Computing and Informatics in the next generation wireless networks and security, signal and image processing, ontology and human-computer interfaces (HCI). The two volumes together include 132 scholarly articles, which have been accepted for presentation from over 550 submissions in the Third International Conference on Advanced Computing, Networking and Informatics, 2015, held in Bhubaneswar, India during June 23-25, 2015.

Model Driven Engineering Languages and Systems - Robert B. France 2012-09-19

This book constitutes the refereed proceedings of the 15th International Conference on Model Driven Engineering Languages and Systems, MODELS 2012, held in Innsbruck, Austria, in September/October 2012. The 50 papers presented in this volume were carefully reviewed and selected from a total of 181 submissions. They are organized in topical sections named: metamodels and domain specific modeling; models at runtime; model management; modeling methods and tools, consistency analysis, software product lines; foundations of modeling; static analysis techniques; model testing and simulation; model transformation; model matching, tracing and synchronization; modeling practices and experience; and model analysis.