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Control Systems Technology *Introduction to Fuzzy Sets, Fuzzy Logic, and Fuzzy Control Systems* **Control System Problems** *Digital Control Systems* **Analysis and design of control systems using MATLAB Solving Engineering System Dynamics Problems with MATLAB Control Systems** *Intelligent Systems Technologies and Applications* **International Conference on Information Technology and Communication Systems Agent and Multi-Agent Systems: Technologies and Applications** *Encyclopedia of Information Science and Technology, Fifth Edition* **Handbook of Research on Contemporary Perspectives on Web-Based Systems** *Survey of Dry SO₂ Control Systems* **Enterprise Information Systems** **Intelligent Fractional Order Systems and Control** *Advanced Fuzzy Logic Technologies in Industrial Applications* **Information Systems And Technologies For Network Society: Proceedings Of The Ipsj International Symposium** *Fuzzy Systems and Soft Computing in Nuclear Engineering* **On the Move to Meaningful Internet Systems 2005: CoopIS, DOA, and ODBASE Advances in Soft Computing** *New Developments in Flue Gas Desulfurization Technology* **Fuzzy Controller Design** *Proceedings of International Conference on Emerging Technologies and Intelligent Systems* **Distributed Systems for System Architects** *Proceedings of the 8th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT'18), Vol.1* **Information Systems and Technologies to Support Learning** *Recent Advances in Information Systems and Technologies* **Trends and Advances in Information Systems and Technologies** *Encapsulation and Controlled Release Technologies in Food Systems* *Advances in Databases and Information Systems* **TELECOMMUNICATION SYSTEMS AND TECHNOLOGIES-Volume II** *Intelligent Autonomous Systems 13* *Computers in Education Journal* *Cloud Connectivity and Embedded Sensory Systems* *Recent Advances in Information and Communication Technology 2019* *Semantic Web Technologies* *The Handbook of Applied Expert Systems* **PID Control** **Robotique flexible : Manipulation multi-échelle** **Intelligent Control of Robotic Systems**

The Handbook of Applied Expert Systems is a landmark work dedicated solely to this rapidly advancing area of study. Edited by Jay Liebowitz, a professor, author, and consultant known around the world for his work in the field, this authoritative source covers the latest expert system technologies, applications, methodologies, and practices. The book features contributions from more than 40 of the world's foremost expert systems authorities in industry, government, and academia. The Handbook is organized into two major sections. The first section explains expert systems technologies while the second section focuses on applied examples in a wide variety of industries. Key topics covered include fuzzy systems, genetic algorithm development, machine learning, knowledge representation, and much more. Advances in Soft Computing contains the most recent developments in the field of soft computing in engineering design and manufacture. The book comprises a selection of papers that were first presented in June 1998 at the 3rd On-line World Conference on Soft Computing in Engineering Design and Manufacturing. Amongst these are four invited papers by World-renowned researchers in the field. Soft computing is a collection of methodologies which aim to exploit tolerance for imprecision, uncertainty and partial truth to achieve tractability, robustness and low solution cost. The area of applications of soft computing is extensive. Principally the constituents of soft computing are: fuzzy computing, neuro-computing, genetic computing and probabilistic computing. The topics in this book are well focused on engineering design and manufacturing. This broad collection of 43 research papers, has been arranged into nine parts by the editors. These include: Design Support Systems, Intelligent Control, Data Mining and New Topics in EA basics. The papers on evolutionary design and optimisation are of particular interest. Innovative techniques are explored and the reader is introduced to new, highly advanced research results. The editors present a unique collection of papers that provide a comprehensive overview of current developments in soft computing research around the world. Information systems development underwent many changes as systems transitioned onto web-based forums. Complemented by advancements in security and technology, internet-based systems have become an information mainstay. The Handbook of Research on Contemporary Perspectives on Web-Based Systems is a critical scholarly resource that examines relevant theoretical frameworks, current practice guidelines, industry standards, and the latest empirical research findings in web-based systems. Featuring coverage on a wide range of topics such as data integration, mobile applications, and semantic web, this publication is geared toward computer engineers, IT specialists, software designers, professionals, researchers, and upper-level students seeking current and relevant research on the prevalence of these systems and advancements made to them. Telecommunication Systems and Technologies theme is a component of Encyclopedia of Physical Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. Telecommunication systems are emerging as the most important infrastructure asset to enable business, economic opportunities, information distribution, culture dissemination and cross-fertilization, and social relationships. As any crucial infrastructure, its design, exploitation, maintenance, and evolution require multi-faceted know-how and multi-disciplinary vision skills. The theme is structured in four main topics: Fundamentals of Communication and Telecommunication Networks; Telecommunication Technologies; Management of Telecommunication Systems/Services; Cross-Layer Organizational Aspects of Telecommunications, which are then expanded into multiple subtopics, each as a chapter. These two volumes are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs This book introduces a dynamic, on-line fuzzy inference system. In this system membership functions and control rules are not determined until the system is applied and each output of its lookup table is calculated based on current inputs. The book describes the real-world uses of new fuzzy techniques to simplify readers' tuning processes and enhance the performance of their control systems. It further contains application examples. The emergence of the discipline of encapsulation and controlled release has had a great impact on the food and dietary supplements sectors; principally around fortifying food systems with nutrients and health-promoting ingredients. The successful incorporation of these actives in food formulations depends on preserving their stability and bioavailability as well as masking undesirable flavors throughout processing, shelf life and consumption. This second edition of Encapsulation and Controlled Release Technologies in Food Systems serves as an improvement and a complement companion to the first. However, it differentiates itself in two main aspects. Firstly, it introduces the reader to novel encapsulation and controlled release technologies which have not yet been addressed by any existing book on this matter, and secondly, it offers an in-depth discussion on the impact of encapsulation and controlled release technologies on the bioavailability of health ingredients and other actives. In common with the first edition the book includes chapters written by distinguished authors and researchers in their respective areas of specialization. This book is designed as a reference for scientists and formulators in the food, nutraceuticals and consumer products industries who are looking to formulate new or existing products using microencapsulated ingredients. It is also a post-graduate text designed to provide students with an introduction to encapsulation and controlled release along with detailed coverage of various encapsulation technologies and their adaptability to specific applications. The primary audience for this book are advanced undergraduate students and graduate students. Computer architecture, as it happened in other fields such as electronics, evolved from the small to the large, that is, it left the realm of low-level hardware constructs, and gained new dimensions, as distributed systems became the keyword for system implementation. As such, the system architect, today, assembles pieces of hardware that are at least as large as a computer or a network router or a LAN hub, and assigns pieces of software that are self-contained, such as client or server programs, Java applets or protocol modules, to those hardware components. The freedom she/he now has, is tremendously challenging. The problems alas, have increased too. What was before mastered and tested carefully before a fully-fledged mainframe or a closely-coupled computer cluster came out on the market, is today left to the responsibility of computer engineers and scientists invested in the role of

system architects, who fulfil this role on behalf of software vendors and integrators, add-value system developers, R&D institutes, and final users. As system complexity, size and diversity grow, so increases the probability of inconsistency, unreliability, non responsiveness and insecurity, not to mention the management overhead. What System Architects Need to Know The insight such an architect must have includes but goes well beyond, the functional properties of distributed systems. Semantic web technologies (SWTs) offer the richest machine-interpretable (rather than just machine-processable) and explicit semantics that are being extensively used in various domains and industries. This book provides a roadmap for semantic web technologies (SWTs) and highlights their role in a wide range of domains including cloud computing, Internet of Things, big data, sensor network, and so forth. It also explores the prospects of these technologies including different data interchange formats, query languages, ontologies, Linked Data, and notations. The role of SWTs in 'epidemic Covid-19', 'e-learning platforms and systems', 'block chain', 'open online courses', and 'visual analytics in healthcare' is described as well. This book: Explores all the critical aspects of semantic web technologies (SWTs) Discusses the impact of SWTs on cloud computing, Internet of Things, big data, and sensor network Offers a comprehensive examination of the emerging research in the areas of SWTs and their related domains Provides a template to develop a wide range of smart and intelligent applications Includes latest applications and examples with real data This book is aimed at researchers and graduate students in computer science, informatics, web technology, cloud computing, and Internet of Things. In the early 1970s, fuzzy systems and fuzzy control theories added a new dimension to control systems engineering. From its beginnings as mostly heuristic and somewhat ad hoc, more recent and rigorous approaches to fuzzy control theory have helped make it an integral part of modern control theory and produced many exciting results. Yesterday's "art This book presents a selection of papers from the 2017 World Conference on Information Systems and Technologies (WorldCIST'17), held between the 11st and 13th of April 2017 at Porto Santo Island, Madeira, Portugal. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges involved in modern Information Systems and Technologies research, together with technological developments and applications. The main topics covered are: 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, Mobility and Pervasive Systems; Intelligent and Decision Support Systems; Big Data Analytics and Applications; Human-Computer Interaction; Ethics, Computers & Security; Health Informatics; Information Technologies in Education; and Information Technologies in Radiocommunications. This book features a selection of articles from the second edition of the conference Europe Middle East & North Africa Information Systems and Technologies to Support Learning 2018 (EMENA-ISTL'18), held in Fez, Morocco between 25th and 27th October 2018. EMENA-ISTL'18 was a global forum for researchers and practitioners to present and discuss recent findings and innovations, current trends, professional experiences and challenges in information systems & technologies to support learning. The main topics covered are: A) information systems technologies to support education; B) education in science, technology, engineering and Mathematics; C) emerging technologies in education learning innovation in the digital age; D) software systems, architectures, applications and tools; E) multimedia systems and applications; F) computer communications and networks; G) IOT, smart cities and people, wireless, sensor and ad-hoc networks; H) organizational models and information systems and technologies; I) human-computer Interaction; J) computers & security, ethics and data-forensic; K) health informatics, and medical informatics security; l) information and knowledge management; m) big data analytics and applications, intelligent data systems, and machine learning; n) artificial intelligence, high performance computing; o) mobile, embedded and ubiquitous systems; p) language and image processing, computer graphics and vision; and q) the interdisciplinary field of fuzzy logic and data mining. Fractional order calculus is finding increasing interest in the control system community. Hardware realizations of fractional order controllers have sparked off a renewed zeal into the investigations of control system design in the light of fractional calculus. As such many notions of integer order LTI systems are being modified and extended to incorporate these new concepts. Computational Intelligence (CI) techniques have been applied to engineering problems to find solutions to many hitherto intractable conundrums and is a useful tool for dealing with problems of higher computational complexity. This book borders on the interface between CI techniques and fractional calculus, and looks at ways in which fractional order control systems may be designed or enhanced using CI based paradigms. To the best of the author's knowledge this is the first book of its kind exclusively dedicated to the application of computational intelligence techniques in fractional order systems and control. The book tries to assimilate various existing concepts in this nascent field of fractional order intelligent control and is aimed at researchers and post graduate students working in this field. The rise of intelligence and computation within technology has created an eruption of potential applications in numerous professional industries. Techniques such as data analysis, cloud computing, machine learning, and others have altered the traditional processes of various disciplines including healthcare, economics, transportation, and politics. Information technology in today's world is beginning to uncover opportunities for experts in these fields that they are not yet aware of. The exposure of specific instances in which these devices are being implemented will assist other specialists in how to successfully utilize these transformative tools with the appropriate amount of discretion, safety, and awareness. Considering the level of diverse uses and practices throughout the globe, the fifth edition of the Encyclopedia of Information Science and Technology series continues the enduring legacy set forth by its predecessors as a premier reference that contributes the most cutting-edge concepts and methodologies to the research community. The Encyclopedia of Information Science and Technology, Fifth Edition is a three-volume set that includes 136 original and previously unpublished research chapters that present multidisciplinary research and expert insights into new methods and processes for understanding modern technological tools and their applications as well as emerging theories and ethical controversies surrounding the field of information science. Highlighting a wide range of topics such as natural language processing, decision support systems, and electronic government, this book offers strategies for implementing smart devices and analytics into various professional disciplines. The techniques discussed in this publication are ideal for IT professionals, developers, computer scientists, practitioners, managers, policymakers, engineers, data analysts, and programmers seeking to understand the latest developments within this field and who are looking to apply new tools and policies in their practice. Additionally, academicians, researchers, and students in fields that include but are not limited to software engineering, cybersecurity, information technology, media and communications, urban planning, computer science, healthcare, economics, environmental science, data management, and political science will benefit from the extensive knowledge compiled within this publication. This book constitutes the thoroughly refereed proceedings of the 19th East European Conference on Advances in Databases and Information Systems, ADBIS 2015, held in Poitiers, France, in September 2015. The 31 full papers and 18 short papers presented were carefully selected and reviewed from 135 submissions. The papers are organized in topical sections such as database theory and access methods; user requirements and database evolution; multidimensional modeling and OLAP; ETL; transformation, extraction and archiving; modeling and ontologies; time series processing; performance and tuning; advanced query processing; approximation and skyline; confidentiality and trust. Qu'il s'agisse de tâches de préhension versatile aux échelles du micromonde ou bien de tâches de manipulation fine ou dextre à une échelle dimensionnelle supérieure, la fonction de manipulation robotique nécessite l'utilisation de systèmes mécatroniques performants et précis. Dans la majorité des cas, ceux-ci mettent en jeu des mécanismes qui sont caractérisés par des phénomènes mécaniques de flexibilité. Ces phénomènes sont induits naturellement par l'emploi de certains composants technologiques constitutifs du système ou par la géométrie de certaines structures élancées. Il peut alors s'agir de micromanipulateurs à base de matériaux actifs, de bras manipulateurs légers, d'organes terminaux de préhension très intégrés sur le plan fonctionnel, voire de manipulateurs d'inspiration anthropomorphe. Aperçu des dernières avancées scientifiques et technologiques en la matière, cet ouvrage est destiné à toute personne intéressée par le champ de la robotique flexible et plus particulièrement par la manipulation. This book includes a selection of papers from the 2018 World Conference on Information Systems and Technologies (WorldCIST'18), held in Naples, Italy on March 27-29, 2018. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and the challenges of modern information systems and technologies research together with their technological development and applications. The main topics covered are: A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H)

Big Data Analytics and Applications; I) Human-Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; N) Technologies for Biomedical Applications. Sensor networks are meant to create awareness in space and time. They may be measuring the presence of an object or a condition, characterizing an object stream or a situational pattern, or even detect abnormalities that are to occur. This book provides new theory on the design of wireless sensor networks, based on concepts developed for large-scale, distributed computing environments known as “cloud computing.” It provides a single-source entry into the world of intelligent sensory networks, with a step-by-step discussion of building case studies that capture the requirements, taking into account practical limitations of creating ambient intelligence. The reader will not only achieve a better understanding of sensory clouds, swarms and flocks but is also guided by examples of how to design such networks taking the typical characteristics of diverse application areas into account. Fuzzy control methods are critical for meeting the demands of complex nonlinear systems. They bestow robust, adaptive, and self-correcting character to complex systems that demand high stability and functionality beyond the capabilities of traditional methods. A thorough treatise on the theory of fuzzy logic control is out of place on the design bench. That is why Fuzzy Controller Design: Theory and Applications offers laboratory- and industry-tested algorithms, techniques, and formulations of real-world problems for immediate implementation. With surgical precision, the authors carefully select the fundamental elements of fuzzy logic control theory necessary to formulate effective and efficient designs. The book supplies a springboard of knowledge, punctuated with examples worked out in MATLAB®/SIMULINK®, from which newcomers to the field can dive directly into applications. It systematically covers the design of hybrid, adaptive, and self-learning fuzzy control structures along with strategies for fuzzy controller design suitable for on-line and off-line operation. Examples occupy an entire chapter, with a section devoted to the simulation of an electro-hydraulic servo system. The final chapter explores industrial applications with emphasis on techniques for fuzzy controller implementation and different implementation platforms for various applications. With proven methods based on more than a decade of experience, Fuzzy Controller Design: Theory and Applications is a concise guide to the methodology, design steps, and formulations for effective control solutions. Using a practical approach that includes only necessary theoretical background, this book focuses on applied problems that motivate readers and help them understand the concepts of automatic control. The text covers servomechanisms, hydraulics, thermal control, mechanical systems, and electric circuits. It explains the modeling process, introduces the problem solution, and discusses derived results. Presented solutions are based directly on math formulas, which are provided in extensive tables throughout the text. This enables readers to develop the ability to quickly solve practical problems on control systems. This book sheds light on the emerging research trends in intelligent systems and their applications. It mainly focuses on four different themes, including Artificial Intelligence and Soft Computing, Information Security and Networking, Medical Informatics, and Advances in Information Systems. Each chapter contributes to the aforementioned themes by discussing the recent design, developments, and modifications of intelligent systems and their applications. This two-volume book presents an unusually diverse selection of research papers, covering all major topics in the fields of information and communication technologies and related sciences. It provides a wide-angle snapshot of current themes in information and power engineering, pursuing a cross-disciplinary approach to do so. The book gathers revised contributions that were presented at the 2018 International Conference: Sciences of Electronics, Technologies of Information and Telecommunication (SETIT'18), held on 20-22 December 2018 in Hammamet, Tunisia. This eighth installment of the event attracted a wealth of submissions, and the papers presented here were selected by a committee of experts and underwent additional, painstaking revision. Topics covered include: · Information Processing · Human-Machine Interaction · Computer Science · Telecommunications and Networks · Signal Processing · Electronics · Image and Video This broad-scoped approach is becoming increasingly popular in scientific publishing. Its aim is to encourage scholars and professionals to overcome disciplinary barriers, as demanded by current trends in the industry and in the consumer market, which are rapidly leading toward a convergence of data-driven applications, computation, telecommunication, and energy awareness. Given its coverage, the book will benefit graduate students, researchers and practitioners who need to keep up with the latest technological advances. The objective of this book is to provide a collection of solved problems on control systems, with an emphasis on practical problems. System functionality is described, the modeling process is explained, the problem solution is introduced, and the derived results are discussed. Each chapter ends with a discussion on applying MATLAB®, LabVIEW, and/or Comprehensive Control to the previously introduced concepts. The aim of the book is to help an average reader understand the concepts of control systems through problems and applications. The solutions are based directly on math formulas given in extensive tables throughout the text. This book presents the latest research on computer recognition systems. Over the last few years, computer scientists, engineers and users have been confronted with rapid changes in computer interfaces and in the abilities of the machines and the services available. And this is just the beginning: based on recent research findings, we can expect more significant advances and challenges in the next decade. Achievements in the area of artificial intelligence have made an important major contribution to these developments: Machine learning, natural language processing, speech recognition, image and video processing are just some of the major research and engineering directions that have made autonomous driving, language assistants, automatic translation and answering systems as well as other innovative applications such as more human-oriented interfaces possible. Those developments also reflect economic changes in the world, which are increasingly dominated by the needs of enhanced globalization, international cooperation (including its competitive aspects) and emerging global problems. The effectiveness of proportional-integral-derivative (PID) controllers for a large class of process systems has ensured their continued and widespread use in industry. Similarly there has been a continued interest from academia in devising new ways of approaching the PID tuning problem. To the industrial engineer and many control academics this work has previously appeared fragmented; but a key determinant of this literature is the type of process model information used in the PID tuning methods. PID Control presents a set of coordinated contributions illustrating methods, old and new, that cover the range of process model assumptions systematically. After a review of PID technology, these contributions begin with model-free methods, progress through non-parametric model methods (relay experiment and phase-locked-loop procedures), visit fuzzy-logic- and genetic-algorithm-based methods; introduce a novel subspace identification method before closing with an interesting set of parametric model techniques including a chapter on predictive PID controllers. Highlights of PID Control include: an introduction to PID control technology features and typical industrial implementations; chapter contributions ordered by the increasing quality of the model information used; novel PID control concepts for multivariable processes. PID Control will be useful to industry-based engineers wanting a better understanding of what is involved in the steps to a new generation of PID controller techniques. Academics wishing to have a broader perspective of PID control research and development will find useful pedagogical material and research ideas in this text. As robotic systems make their way into standard practice, they have opened the door to a wide spectrum of complex applications. Such applications usually demand that the robots be highly intelligent. Future robots are likely to have greater sensory capabilities, more intelligence, higher levels of manual dexterity, and adequate mobility, compared to humans. In order to ensure high-quality control and performance in robotics, new intelligent control techniques must be developed, which are capable of coping with task complexity, multi-objective decision making, large volumes of perception data and substantial amounts of heuristic information. Hence, the pursuit of intelligent autonomous robotic systems has been a topic of much fascinating research in recent years. On the other hand, as emerging technologies, Soft Computing paradigms consisting of complementary elements of Fuzzy Logic, Neural Computing and Evolutionary Computation are viewed as the most promising methods towards intelligent robotic systems. Due to their strong learning and cognitive ability and good tolerance of uncertainty and imprecision, Soft Computing techniques have found wide application in the area of intelligent control of robotic systems. This volume contains the proceedings of the Third KES Symposium on Agent and Multi-agent Systems - Technologies and Applications (KES-AMSTA 2009)--held at Uppsala University in Sweden during June 3-5, 2009. The symposium was organized by Uppsala University, KES International and its Focus Group on Agent and Multi-agent Systems. The KES-AMSTA Symposium series is a sub-series of the KES Conference series. Following the successes of the First KES Symposium on Agent and Multi-agent Systems - Technologies and Applications (KES-AMSTA 2007), held in Wroclaw, Poland, from May 31 to 1 June 2007--and the Second KES Symposium on Agent and Multi-agent Systems - Technologies and Applications (KES-AMSTA 2008) held in Incheon, Korea, March 26-28, 2008--KES-AMSTA 2009 featured keynote talks, oral and poster presentations, and a number of workshops and invited sessions, closely aligned to the themes of the

conference. The aim of the symposium was to provide an international forum for scientific - search into the technologies and applications of agent and multi-agent systems. Agent and multi-agent systems are an innovative type of modern software system and have long been recognized as a promising technology for constructing autonomous, c- plex and intelligent systems. A key development in the field of agent and multi-agent systems has been the specification of agent communication languages and formal- tion of ontologies. Agent communication languages are intended to provide standard declarative mechanisms for agents to communicate knowledge and make requests of each other, whereas ontologies are intended for conceptualization of the knowledge domain. This book presents All of the major topics in modern analog and digital control systems, along with the practical, applications oriented knowledge and skills needed by technicians. It contains user-friendly conceptual explanations and clearly written mathematical developments. Examples of both Mathcad and MATLAB illustrate computer problem solving—but this book emphasizes the ability to use any suitable software to achieve successful results in solving problems and performing design. Chapter topics include Measurement; Laplace Transforms; Control System Models; Static and Dynamic Response; Stability; Frequency Response Analysis; Root Locus; State Variable Analysis; Introduction to Discrete Control Systems; Z-Transforms and Discrete State-Space Analysis; Digital Signal Representations; Discrete Time Control Systems; Stability of Discrete Control Systems; and Advanced Topics in Control Systems. For engineers and technicians working for companies that integrate control systems with the use of programmable logic controllers. This book contains revised papers from the 17th International Conference on Enterprise Information Systems, ICEIS 2015, held in Barcelona, Spain, in April 2015. The 31 papers presented in this volume were carefully reviewed and selected from a total of 327 submissions. The book also contains one full-paper invited talk. The selected papers reflect state-of-the-art research that is oriented toward real-world applications and highlight the benefits of information systems and technology for industry and services. They are organized in topical sections on databases and information systems integration, artificial intelligence and decision support systems, information systems analysis and specification, software agents and Internet computing, human-computer interaction, and enterprise architecture. This book reports on advanced methods and theories in two related fields of research, Information Technology and Communication Systems. It provides professors, scientists, PhD students and engineers with a readily available guide to various approaches in Engineering Science. The book is divided into two major sections, the first of which covers Information Technology topics, including E-Learning, E-Government (egov), Data Mining, Text Mining, Ontologies, Semantic Similarity Databases, Multimedia Information Processing, and Applications. The second section addresses Communication Systems topics, including: Systems, Wireless and Network Computing, Software Security and Monitoring, Modern Antennas, and Smart Grids. The book gathers contributions presented at the International Conference on Information Technology and Communication Systems (ITCS 2017) held at the National School of Applied Sciences of Khouribga, Hassan 1st University, Morocco on March 28-29, 2017. This event was organized with the objective of bringing together researchers, developers, and practitioners from academia and industry working in all areas of Information Technology and Communication Systems. It not only highlights new methods, but also promotes collaborations between different communities working on related topics. Fuzzy systems and soft computing are new computing techniques that are tolerant to imprecision, uncertainty and partial truths. Applications of these techniques in nuclear engineering present a tremendous challenge due to its strict nuclear safety regulation. The fields of nuclear engineering, fuzzy systems and soft computing have nevertheless matured considerably during the last decade. This book presents new application potentials for Fuzzy Systems and Soft Computing in Nuclear Engineering. The root of this book can be traced back to the series of the first, second and third international workshops on Fuzzy Logic and Intelligent Technologies in Nuclear Science (FUNS), which were successfully held in Mol, September 14-16, 1994 (FLINS'94), in Mol, September 25-27, 1996 (FLINS'96), and in Antwerp, September 14-16, 1998 (FLINS'98). The conferences were organised by the Belgian Nuclear Research Centre (SCKeCEN) and aimed at bringing together scientists, researchers, and engineers from academia and industry, at introducing the principles of fuzzy logic, neural networks, genetic algorithms and other soft computing methodologies, to the field of nuclear engineering, and at applying these techniques to complex problem solving within nuclear industry and related research fields. This book, as its title suggests, consists of nuclear engineering applications of fuzzy systems (Chapters 1-10) and soft computing (Chapters 11-21). Nine pertinent chapters are based on the extended version of papers at FLINS'98 and the other 12 chapters are original contributions with up-to-date coverage of fuzzy and soft computing applications by leading researchers written exclusively for this book. This book describes the latest research accomplishments, innovations, and visions in the field of robotics as presented at the 13th International Conference on Intelligent Autonomous Systems (IAS), held in Padua in July 2014, by leading researchers, engineers, and practitioners from across the world. The contents amply confirm that robots, machines, and systems are rapidly achieving intelligence and autonomy, mastering more and more capabilities such as mobility and manipulation, sensing and perception, reasoning, and decision making. A wide range of research results and applications are covered, and particular attention is paid to the emerging role of autonomous robots and intelligent systems in industrial production, which reflects their maturity and robustness. The contributions have been selected through a rigorous peer-review process and contain many exciting and visionary ideas that will further galvanize the research community, spurring novel research directions. The series of biennial IAS conferences commenced in 1986 and represents a premiere event in robotics. This volume contains technical papers and panel position papers selected from the proceedings of the International Symposium on Information Systems and Technologies for Network Society, held together with the IPSJ (information processing society of Japan) National Convention, in September 1997. Papers were submitted from all over the world, especially from Japan, Korea and China. Since these countries are believed to form one of the major computer manufacturing centers in the world, a panel on “Computer Science Education for the 21st Century” was set up. A special session on the Japanese project on Software Engineering invited representative researchers from the project, which is supported by the Ministry of Education, Japan. This book contains a selection of refereed and revised papers from three special tracks: Ad-hoc and Wireless Sensor Networks, Intelligent Distributed Computing and, Business Intelligence and Big Data Analytics originally presented at the International Symposium on Intelligent Systems Technologies and Applications (ISTA), August 10-13, 2015, Kochi, India. This two-volume set LNCS 3760/3761 constitutes the refereed proceedings of the three confederated conferences CoopIS 2005, DOA 2005, and ODBASE 2005 held as OTM 2005 in Agia Napa, Cyprus in October/November 2005. The 89 revised full and 7 short papers presented together with 3 keynote speeches were carefully reviewed and selected from a total of 360 submissions. Corresponding with the three OTM 2005 main conferences CoopIS, DOA, and ODBASE, the papers are organized in topical sections on workflow, workflow and business processes, mining and filtering, petri nets and process management, information access and integrity, heterogeneity, semantics, querying and content delivery, Web services, agents, security, integrity and consistency, chain and collaboration management, Web services and service-oriented architectures, multicast and fault tolerance, communication services, techniques for application hosting, mobility, security and data persistence, component middleware, java environments, peer-to-peer computing architectures, aspect oriented middleware, information integration and modeling, query processing, ontology construction, metadata, information retrieval and classification, system verification and evaluation, and active rules and Web services. Discusses in a concise but through manner fundamental statement of the theory, principles and methods for the analysis and design of control systems and their applications to real life practical control systems problems. This book includes concepts and review of classical matrix analysis, Laplace transforms, modeling of mechanical, and electrical.