Automatic Guided Vehicle Simulation In Matlab By Using

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17th International Conference on Soft Computing Models in Industrial and Environmental Applications (SOCO 2022) - Pablo García Bringas 2022-11-12
This book contains accepted papers presented at

SOCO 2022 conference held in the beautiful and historic city of Salamanca (Spain), in September 2022. Soft computing represents a collection or set of computational techniques in machine learning, computer science, and some

engineering disciplines, which investigate, simulate, and analyze very complex issues and phenomena. After a thorough peer-review process, the 17th SOCO 2022 International Program Committee selected 64 papers which are published in these conference proceedings and represent an acceptance rate of 60%. In this relevant edition, a particular emphasis was put on the organization of special sessions. Seven special sessions were organized related to relevant topics such as machine learning and computer vision in Industry 4.0; time series forecasting in industrial and environmental applications; optimization, modeling, and control by soft computing techniques; soft computing applied to renewable energy systems; preprocessing big data in machine learning; tackling real-world problems with artificial intelligence. The selection of papers was extremely rigorous to maintain the high quality of the conference. We want to thank the members of the program committees for their hard work during the reviewing process. This is a crucial process for creating a high-standard conference; the SOCO conference would not exist without their help.

Multi-Agent-Based Simulation-IX Nuno David 2009-04-30

This book constitutes the thoroughly refereed postproceedings of the 9th International Workshop on Multi-Agent-based Simulation, MABS 2008, held in Estoril, Portugal, in May 2008. The 16 revised full papers presented have gone through two rounds of reviewing, selection, and improvement and were selected from 44 submissions; they present state-of-the-art research results in agent-based simulation and modeling. The papers are organized in topical sections on simulation of economic behaviour; modelling and simulation of social behaviou; applications; techniques, infrastructure and technologies as well as methods and methodologies.

Recent Trends in Mechanical Engineering -

G. S. V. L. Narasimham 2020-01-11
This book comprises select peer-reviewed proceedings from the International Conference on Innovations in Mechanical Engineering (ICIME 2019). The volume covers current research in almost all major areas of mechanical engineering, and is divided into six parts: (i) automobile and thermal engineering, (ii) design and optimization, (iii) production and industrial engineering, (iv) material science and metallurgy, (v) nanoscience and nanotechnology, and (vi) renewable energy sources and CAD/CAM/CFD. The topics provide insights into different aspects of designing, modeling, manufacturing, optimizing, and processing with wide ranging applications. The contents of this book can be of interest to researchers and professionals alike.

Implementing Industry 4.0 in SMEs Dominik T. Matt 2021-05-08
This open access book addresses the practical challenges that Industry 4.0 presents for SMEs. While large companies are already responding to the changes resulting from the fourth industrial revolution , small businesses are in danger of falling behind due to the lack of examples, best practices and established methods and tools. Following on from the publication of the previous book 'Industry 4.0 for SMEs: Challenges, Opportunities and Requirements', the authors offer in this new book innovative results from research on smart manufacturing, smart logistics and managerial models for SMEs. Based on a large scale EU-funded research project involving seven academic institutions from three continents and a network of over fifty small and medium sized enterprises, the book reveals the methods and tools required to support the successful implementation of Industry 4.0 along with practical examples.

International Journal of Manufacturing Technology and Management - 2006

PID Control System Design and Automatic

Tuning using MATLAB/Simulink - Liuping Wang 2020-04-20
Covers PID control systems from the very basics to the advanced topics This book covers the design, implementation and automatic tuning of PID control systems with operational constraints. It provides students, researchers, and industrial practitioners with everything they need to know about PID control systems—from classical tuning rules and model-based design to constraints, automatic tuning, cascade control, and gain scheduled control. PID Control System Design and Automatic Tuning using MATLAB/Simulink introduces PID control system structures, sensitivity analysis, PID control design, implementation with constraints, disturbance observer-based PID control, gain scheduled PID control systems, cascade PID control systems, PID control design for complex systems, automatic tuning and applications of PID control to unmanned aerial vehicles. It also presents resonant control systems relevant to many engineering applications. The implementation of PID control and resonant control highlights how to deal with operational constraints. Provides unique coverage of PID Control of unmanned aerial vehicles (UAVs), including mathematical models of multi-rotor UAVs, control strategies of UAVs, and automatic tuning of PID controllers for UAVs Provides detailed descriptions of automatic tuning of PID control systems, including relay feedback control systems, frequency response estimation, Monte-Carlo simulation studies, PID controller design using frequency domain information, and MATLAB/Simulink simulation and implementation programs for automatic tuning Includes 15 MATLAB/Simulink tutorials, in a step-by-step manner, to illustrate the design, simulation, implementation and automatic tuning of PID control systems Assists lecturers, teaching assistants, students, and other readers to learn PID control with constraints and apply the control theory to various areas.

Accompanying website includes lecture slides and MATLAB/ Simulink programs PID Control System Design and Automatic Tuning using MATLAB/Simulink is intended for undergraduate electrical, chemical, mechanical, and aerospace engineering students, and will greatly benefit postgraduate students, researchers, and industrial personnel who work with control systems and their applications.

Intelligent Robots and Computer Vision XVI - David Paul Casasent 1997

Advances in Interdisciplinary Engineering - Niraj Kumar 2021-04-12
This book comprises the select proceedings of the International Conference on Future Learning Aspects of Mechanical Engineering (FLAME) 2020. This volume focuses on several emerging interdisciplinary areas involving mechanical engineering. Some of the topics covered include automobile engineering, mechatronics, applied mechanics, structural mechanics, hydraulic mechanics, human vibration, biomechanics, biomedical Instrumentation, ergonomics, biodynamic modeling, nuclear engineering, and agriculture engineering. The contents of this book will be useful for students, researchers as well as professionals interested in interdisciplinary topics of mechanical engineering.

MATLAB for Engineers - Karel Perutka 2011-10-13
The book presents several approaches in the key areas of practice for which the MATLAB software package was used. Topics covered include applications for: -Motors -Power systems -Robots -Vehicles The rapid development of technology impacts all areas. Authors of the book chapters, who are experts in their field, present interesting solutions of their work. The book will familiarize the readers with the solutions and enable the readers to enlarge them by their own research. It will be of great interest to control and electrical engineers and students

in the fields of research the book covers.

Bio-inspired Computing: Theories and Applications - Linqiang Pan 2020-04-01
This two-volume set (CCIS 1159 and CCIS 1160) constitutes the proceedings of the 14th International Conference on Bio-inspired Computing: Theories and Applications, BIC-TA 2019, held in Zhengzhou, China, in November 2019. The 121 full papers presented in both volumes were selected from 197 submissions. The papers are organized according to the topical headings: evolutionary computation and swarm intelligence; bioinformatics and systems biology; complex networks; DNA and molecular computing; neural networks and articial intelligence.

Robotic Welding, Intelligence and Automation - Tzyh-Jong Tarn 2007-09-11
Robotic welding systems have been used in different types of manufacturing. They can provide several benefits in welding applications. The most prominent advantages of robotic welding are precision and productivity. Another benefit is that labor costs can be reduced. Robotic welding also reduces risk by moving the human welder/operator away from hazardous fumes and molten metal close to the welding arc. The robotic welding system usually involves measuring and identifying the component to be welded, we- ing it in position, controlling the welding parameters and documenting the produced welds. However, traditional robotic welding systems rely heavily upon human interv- tion. It does not seem that the traditional robotic welding techniques by themselves can cope well with uncertainties in the welding surroundings and conditions, e. g. variation of weld pool dynamics, fluxion, solid, weld torch, and etc. On the other hand, the advent of intelligent techniques provides us with a powerful tool for solving demanding re- world problems with uncertain and unpredictable environments. Therefore, it is intere- ing to gather current trends and to provide a high quality forum for

engineers and researchers working in the filed of intelligent techniques for robotic welding systems. This volume brings together a broad range of invited and contributed papers that describe recent progress in this field.

Automatic Control of Atmospheric and Space Flight Vehicles Ashish Tewari 2011-08-04 Automatic Control of Atmospheric and Space Flight Vehicles is perhaps the first book on the market to present a unified and straightforward study of the design and analysis of automatic control systems for both atmospheric and space flight vehicles. Covering basic control theory and design concepts, it is meant as a textbook for senior undergraduate and graduate students in modern courses on flight control systems. In addition to the basics of flight control, this book covers a number of upper-level topics and will therefore be of interest not only to advanced students, but also to researchers and practitioners in aeronautical engineering, applied mathematics, and systems/control theory.

Proceedings of First International Conference on Information and Communication Technology for Intelligent Systems: Volume 2 - Suresh Chandra Satapathy 2016-05-03 This volume contains 60 papers presented at ICTIS 2015: International Conference on Information and Communication Technology for Intelligent Systems. The conference was held during 28th and 29th November, 2015, Ahmedabad, India and organized communally by Venus International College of Technology, Association of Computer Machinery, Ahmedabad Chapter and Supported by Computer Society of India Division IV – Communication and Division V – Education and Research. This volume contains papers mainly focused on ICT and its application for Intelligent Computing, Cloud Storage, Data Mining, Image Processing and Software Analysis etc.

Handbook of Engineering Hydrology (Three-

Volume Set) - Saeid Eslamian 2018-10-03 While most books examine only the classical aspects of hydrology, this three-volume set covers multiple aspects of hydrology, and includes contributions from experts from more than 30 countries. It examines new approaches, addresses growing concerns about hydrological and ecological connectivity, and considers the worldwide impact of climate change

Advanced Building Materials and Structural Engineering - B. Xu 2012-02-10 Volume is indexed by Thomson Reuters CPCI-S (WoS). These 188 papers, presented at the 2012 International Conference on Building Materials and Structural Engineering (BMSE2012), are divided into chapters devoted to: 1: Advanced Materials Engineering and Dynamic Systems, 2: Building Materials, Mechanical Engineering and the Environment, 3: Materials Processing Technology and Mining Engineering, 4: New Materials, Applications and Processes, 5: Biotechnology, Chemical and Materials

Engineering and 6: Materials Science, Mechanics and its Application.

An Introduction to Reservoir Simulation Using MATLAB/GNU Octave - Knut-Andreas Lie 2019-06-30 This book provides a self-contained introduction to the simulation of flow and transport in porous media, written by a developer of numerical methods. The reader will learn how to implement reservoir simulation models and computational algorithms in a robust and efficient manner. The book contains a large number of numerical examples, all fully equipped with online code and data, allowing the reader to reproduce results, and use them as a starting point for their own work. All of the examples in the book are based on the MATLAB Reservoir Simulation Toolbox (MRST), an open-source toolbox popular popularity in both academic institutions and the petroleum industry. The book can also be seen as a user guide to the MRST software. It will prove

invaluable for researchers, professionals and advanced students using reservoir simulation methods. This title is also available as Open Access on Cambridge Core.

Facilities Planning - James A. Tompkins 1996-02-14
This revision incorporates all the significant advances that have occurred in the past decade; including advances in facilities planning, material handling, and computing technologies, as well as engineering and management philosophies. It focuses on the determination of the requirements for people, equipment, space, and material in the facility. It presents concepts and techniques to facilitate the generation of alternative facilities plans and continues to focus on generating alternative facilities plans. It also presents a variety of quantitative approaches that can be used to model specific aspects of facilities planning problems and discusses the treatment of facilities planning.

Numerical Computing with MATLAB - Cleve B. Moler 2010-08-12
A revised textbook for introductory courses in numerical methods, MATLAB and technical computing, which emphasises the use of mathematical software.

2020 4th CAA International Conference on Vehicular Control and Intelligence (CVCI) - IEEE Staff 2020-12-18
Vehicle Control and Intelligence

Conference Record of the 1991 IEEE Industry Applications Society Annual Meeting - IEEE Industry Applications Society. Meeting 1991

Cyber Warfare and Terrorism: Concepts, Methodologies, Tools, and Applications - Management Association, Information Resources 2020-03-06
Through the rise of big data and the internet of things, terrorist organizations have been freed from geographic and logistical confines and now have more power than ever before to strike the average citizen directly at home. This, coupled

with the inherently asymmetrical nature of cyberwarfare, which grants great advantage to the attacker, has created an unprecedented national security risk that both governments and their citizens are woefully ill-prepared to face. Examining cyber warfare and terrorism through a critical and academic perspective can lead to a better understanding of its foundations and implications. Cyber Warfare and Terrorism: Concepts, Methodologies, Tools, and Applications is an essential reference for the latest research on the utilization of online tools by terrorist organizations to communicate with and recruit potential extremists and examines effective countermeasures employed by law enforcement agencies to defend against such threats. Highlighting a range of topics such as cyber threats, digital intelligence, and counterterrorism, this multi-volume book is ideally designed for law enforcement, government officials, lawmakers, security analysts, IT specialists, software developers, intelligence and security practitioners, students, educators, and researchers.

Simulation-Based Optimization - Abhijit Gosavi 2003-06-30
Simulation-Based Optimization: Parametric Optimization Techniques and Reinforcement Learning introduces the evolving area of simulation-based optimization. The book's objective is two-fold: (1) It examines the mathematical governing principles of simulation-based optimization, thereby providing the reader with the ability to model relevant real-life problems using these techniques. (2) It outlines the computational technology underlying these methods. Taken together these two aspects demonstrate that the mathematical and computational methods discussed in this book do work. Broadly speaking, the book has two parts: (1) parametric (static) optimization and (2) control (dynamic) optimization. Some of the book's special features are: *An accessible introduction to reinforcement learning and

parametric-optimization techniques. *A step-by-step description of several algorithms of simulation-based optimization. *A clear and simple introduction to the methodology of neural networks. *A gentle introduction to convergence analysis of some of the methods enumerated above. *Computer programs for many algorithms of simulation-based optimization.

Advances in Automation and Robotics Research - Alexánder Martínez 2020-01-29
This book gathers the proceedings of the 2nd Latin American Congress on Automation and Robotics, held at Pontificia Universidad Javeriana de Cali, Colombia, on October 30th–November 1st, 2019. It presents papers from researchers, scientists, and engineers from academia and industry, and explores current exciting research applications and future challenges, mainly in Latin American countries. The book covers a wide range of research fields associated with automation and robotics encountered in engineering, scientific research, and practice, including: autonomous systems, multi-robot and multi-agent systems, industrial automation and robotics, process control, modeling and optimization, control theory, artificial intelligence, kinematic and dynamic analysis of robotic systems, computer vision, self-localization, mapping and navigation, instruments, sensing and sensor fusion, evolutionary, bio-inspired, micro/nano, and soft robotics, novel robot designs, haptics, human–robot interaction and interfaces, simulation procedures, experimental validations, and educational robotics.

IEEE Intelligent Vehicles Symposium - 2005

Design, Analysis and Control of Cable-Suspended Parallel Robots and Its Applications Bin Zi 2017-02-18
This book provides an essential overview of the authors' work in the field of cable-suspended parallel robots, focusing on innovative design, mechanics, control, development and

applications. It presents and analyzes several typical mechanical architectures of cable-suspended parallel robots in practical applications, including the feed cable-suspended structure for super antennae, hybrid-driven-based cable-suspended parallel robots, and cooperative cable parallel manipulators for multiple mobile cranes. It also addresses the fundamental mechanics of cable-suspended parallel robots on the basis of their typical applications, including the kinematics, dynamics and trajectory tracking control of the feed cable-suspended structure for super antennae. In addition it proposes a novel hybrid-driven-based cable-suspended parallel robot that uses integrated mechanism design methods to improve the performance of traditional cable-suspended parallel robots. A comparative study on error and performance indices of hybrid-driven based and traditional cable-suspended parallel robots rounds out the coverage. This book addresses the needs of researchers, engineers and post-graduates in the field of cable-suspended parallel robots and related areas.

Manufacturing Systems: Theory and Practice
George Chryssolouris 2006-02-28
Overviews manufacturing systems from the ground up, following the same concept as in the first edition. Delves into the fundamental building blocks of manufacturing systems: manufacturing processes and equipment. Discusses all topics from the viewpoint of four fundamental manufacturing attributes: cost, rate, flexibility and quality.

MATLAB Applications in Engineering - Constantin Volosencu 2022-02-02
The book presents a comprehensive overview of MATLAB and Simulink programming. Chapters discuss MATLAB programming for practical usages in mesosphere–stratosphere–troposphere (MST) radars, geometric segmentation, Bluetooth applications, and control of electric drives. The published examples highlight the

capabilities of MATLAB programming in the fields of mathematical modeling, algorithmic development, data acquisition, time simulation, and testing.

System Simulation Techniques with MATLAB and Simulink - Dingyü Xue 2013-09-16
System Simulation Techniques with MATLAB and Simulinkcomprehensively explains how to use MATLAB and Simulink to performdynamic systems simulation tasks for engineering andnon-engineering applications. This book begins with covering the fundamentals of MATLABprogramming and applications, and the solutions to differentmathematical problems in simulation. The fundamentals of Simulinkmodelling and simulation are then presented, followed by coverageof intermediate level modelling skills and more advanced techniquesin Simulink modelling and applications. Finally the modelling and simulation of engineering andnon-engineering systems are presented. The areas covered includeelectrical, electronic systems, mechanical systems, pharmacokineticsystems, video and image processing systems and discrete eventsystems. Hardware-in-the-loop simulation and real-timeapplication are also discussed. Key features: Progressive building of simulation skills using Simulink, frombasics through to advanced levels, with illustrations andexamples Wide coverage of simulation topics of applications fromengineering to non-engineering systems Dedicated chapter on hardware-in-the-loop simulation and realtime control End of chapter exercises A companion website hosting a solution manual and powerpointslides System Simulation Techniques with MATLAB and Simulink isa suitable textbook for senior undergraduate/postgraduate coursescovering modelling and simulation, and is also an ideal referencefor researchers and practitioners in industry.

Material Flow Systems in Manufacturing - J.M. Tanchoco 2012-12-06

This book contains a collection of contributions related to the design and control of material flow systems in manufacturing. Material flow systems in manufacturing covers a broad spectrum of topics directly affecting issues related to facilities design, material handling and production planning and control. In selecting the papers to include in this book, the scope was limited to the design and operational control aspects related to the physical move ment of parts, tools, containers and material handling devices. Recent develop ments in this area naturally led to concentration on flow systems involving cellular manufacturing, and automated transport equipment such as automated guided vehicles. However, the concepts discussed have general applicability to a wide range of manufacturing flow problems. The book is organized in five major sections: 1. design integration and justification; 2. cell design and material handling considerations; 3. alternative material flow paths; 4. operational control problems; and 5. tooling requirements and transport equipment.

Intelligent Computing, Networked Control, and Their Engineering Applications - Dong Yue 2017-09-01

The three-volume set CCIS 761, CCIS 762, and CCIS 763 constitutes the thoroughly refereed proceedings of the International Conference on Life System Modeling and Simulation, LSMS 2017, and of the International Conference on Intelligent Computing for Sustainable Energy and Environment, ICSEE 2017, held in Nanjing, China, in September 2017. The 208 revised full papers presented were carefully reviewed and selected from over 625 submissions. The papers of this volume are organized in topical sections on: Biomedical Signal Processing; Computational Methods in Organism Modeling; Medical Apparatus and Clinical Applications; Bionics Control Methods, Algorithms and Apparatus; Modeling and Simulation of Life Systems; Data Driven Analysis; Image and Video Processing;

Advanced Fuzzy and Neural Network Theory and Algorithms; Advanced Evolutionary Methods and Applications; Advanced Machine Learning Methods and Applications; Intelligent Modeling, Monitoring, and Control of Complex Nonlinear Systems; Advanced Methods for Networked Systems; Control and Analysis of Transportation Systems; Advanced Sliding Mode Control and Applications; Advanced Analysis of New Materials and Devices; Computational Intelligence in Utilization of Clean and Renewable Energy Resources; Intelligent Methods for Energy Saving and Pollution Reduction; Intelligent Methods in Developing Electric Vehicles, Engines and Equipment; Intelligent Computing and Control in Power Systems; Modeling, Simulation and Control in Smart Grid and Microgrid; Optimization Methods; Computational Methods for Sustainable Environment.

2018 11th International Congress on Image and Signal Processing, BioMedical

Engineering and Informatics (CISP BMEI) - IEEE Staff 2018-10-13
CISP BMEI is a premier international forum for scientists and researchers to present the state of the art of image and signal processing, biomedical engineering and informatics Specific topics include Biomedical imaging and visualization Biomedical signal processing and analysis Image restoration, Pattern recognition, Remote sensing, filters, Signal modeling, etc
*Introduction to Autonomous Mobile Robots, second edition*Roland Siegwart 2011-02-18
The second edition of a comprehensive introduction to all aspects of mobile robotics, from algorithms to mechanisms. Mobile robots range from the Mars Pathfinder mission's teleoperated Sojourner to the cleaning robots in the Paris Metro. This text offers students and other interested readers an introduction to the fundamentals of mobile robotics, spanning the mechanical, motor, sensory, perceptual, and cognitive layers the field comprises. The text

focuses on mobility itself, offering an overview of the mechanisms that allow a mobile robot to move through a real world environment to perform its tasks, including locomotion, sensing, localization, and motion planning. It synthesizes material from such fields as kinematics, control theory, signal analysis, computer vision, information theory, artificial intelligence, and probability theory. The book presents the techniques and technology that enable mobility in a series of interacting modules. Each chapter treats a different aspect of mobility, as the book moves from low-level to high-level details. It covers all aspects of mobile robotics, including software and hardware design considerations, related technologies, and algorithmic techniques. This second edition has been revised and updated throughout, with 130 pages of new material on such topics as locomotion, perception, localization, and planning and navigation. Problem sets have been added at the end of each chapter. Bringing together all aspects of mobile robotics into one volume, Introduction to Autonomous Mobile Robots can serve as a textbook or a working tool for beginning practitioners. Curriculum developed by Dr. Robert King, Colorado School of Mines, and Dr. James Conrad, University of North Carolina-Charlotte, to accompany the National Instruments LabVIEW Robotics Starter Kit, are available. Included are 13 (6 by Dr. King and 7 by Dr. Conrad) laboratory exercises for using the LabVIEW Robotics Starter Kit to teach mobile robotics concepts.

Robotics, Vision and Control Peter Corke 2011-09-05

The author has maintained two open-source MATLAB Toolboxes for more than 10 years: one for robotics and one for vision. The key strength of the Toolboxes provide a set of tools that allow the user to work with real problems, not trivial examples. For the student the book makes the algorithms accessible, the Toolbox code can be read to gain understanding, and the examples

illustrate how it can be used —instant gratification in just a couple of lines of MATLAB code. The code can also be the starting point for new work, for researchers or students, by writing programs based on Toolbox functions, or modifying the Toolbox code itself. The purpose of this book is to expand on the tutorial material provided with the toolboxes, add many more examples, and to weave this into a narrative that covers robotics and computer vision separately and together. The author shows how complex problems can be decomposed and solved using just a few simple lines of code, and hopefully to inspire up and coming researchers. The topics covered are guided by the real problems observed over many years as a practitioner of both robotics and computer vision. It is written in a light but informative style, it is easy to read and absorb, and includes a lot of Matlab examples and figures. The book is a real walk through the fundamentals of robot kinematics, dynamics and joint level control, then camera models, image processing, feature extraction and epipolar geometry, and bring it all together in a visual servo system. Additional material is provided at http://www.petercorke.com/RVC

The Proceedings of the 9th Frontier Academic Forum of Electrical Engineering - Weiming Ma 2021-04-21
This book includes the original, peer-reviewed research papers from the 9th Frontier Academic Forum of Electrical Engineering (FAFEE 2020), held in Xi'an, China, in August 2020. It gathers the latest research, innovations, and applications in the fields of Electrical Engineering. The topics it covers including electrical materials and equipment, electrical energy storage and device, power electronics and drives, new energy electric power system equipment, IntelliSense and intelligent equipment, biological electromagnetism and its applications, and insulation and discharge computation for power equipment. Given its scope, the book benefits all researchers, engineers, and graduate students

who want to learn about cutting-edge advances in Electrical Engineering.

Modeling and Simulation of Systems Using MATLAB and Simulink - Devendra K. Chaturvedi 2017-12-19
Not only do modeling and simulation help provide a better understanding of how real-world systems function, they also enable us to predict system behavior before a system is actually built and analyze systems accurately under varying operating conditions. Modeling and Simulation of Systems Using MATLAB® and Simulink® provides comprehensive, state-of-the-art coverage of all the important aspects of modeling and simulating both physical and conceptual systems. Various real-life examples show how simulation plays a key role in understanding real-world systems. The author also explains how to effectively use MATLAB and Simulink software to successfully apply the modeling and simulation techniques presented. After introducing the underlying philosophy of

systems, the book offers step-by-step procedures for modeling different types of systems using modeling techniques, such as the graph-theoretic approach, interpretive structural modeling, and system dynamics modeling. It then explores how simulation evolved from pre-computer days into the current science of today. The text also presents modern soft computing techniques, including artificial neural networks, fuzzy systems, and genetic algorithms, for modeling and simulating complex and nonlinear systems. The final chapter addresses discrete systems modeling. Preparing both undergraduate and graduate students for advanced modeling and simulation courses, this text helps them carry out effective simulation studies. In addition, graduate students should be able to comprehend and conduct simulation research after completing this book.

Paper - 1998

Cognitive Systems and Signal Processing -

Fuchun Sun 2017-07-07
This book constitutes the refereed proceedings of the Third International Conference on Cognitive Systems and Signal Processing, ICCSIP2016, held in Beijing, China, in December 2016. The 59 revised full papers presented were carefully reviewed and selected from 171 submissions. The papers are organized in topical sections on Control and Decision; Image and Video; Machine Learning; Robotics; Cognitive System; Cognitive Signal Processing.
Computer Engineering & Apps 2009-04

Agricultural Robots - Jun Zhou 2019-01-03
Over the past few decades, extensive research has been conducted on the applications of agricultural robots and automation to a variety of field and greenhouse operations, and technical fundamentals and their feasibility have also been widely demonstrated. Due to the unstructured environment, adverse interference and complicated and diversified operation process are the key of blocking its commercialization in robotic agricultural operations. Because of the development of automation techniques, smart sensors, and information techniques, some types of agricultural robots have achieved considerable success in recent years. This book intends to provide the reader with a comprehensive overview of the current state of the art in agricultural robots, fundamentals, and applications in robotic agricultural operations.
International Journal of Operations and Quantitative Management 1995