Healthcare Staff Scheduling Emerging Fuzzy Optimization Approaches

Advances in Emerging Trends and TechnologiesOperations Research Applications in Health Care ManagementFuzzy Logic with Engineering ApplicationsDecision-making in a Fuzzy EnvironmentBusiness Innovation and Development in Emerging EconomiesJAMAFuzzy Cognitive Maps and Neutrosophic Cognitive MapsControlling Design VariantsFuzzy Stochastic OptimizationCustomer Oriented Product DesignResultsPrinciples and Practice of Constraint Programming - CP 2003Emerging Trends in Electrical, Electronic and Communications EngineeringUnifying Themes in Complex SystemsSoft Computing and Its ApplicationsComputers in Railway OperationsPlanning and Scheduling in Manufacturing and ServicesHospital Management and Emergency Medicine: Breakthroughs in Research and PracticeHuman Interaction and Emerging TechnologiesThe Fuzzy and the TechieContemporary Issues and Research in Operations ManagementCreative Problem Solving for ManagersFoundations of Neural Networks, Fuzzy Systems, and Knowledge EngineeringGrouping Genetic AlgorithmsEncyclopedia of Healthcare Information SystemsHandbook of Healthcare System SchedulingINFORMS Conference ProgramDocumentation AbstractsPatient FlowHealthcare Staff SchedulingIndustrial Engineering in the Big Data EraHealth Care Information SystemsPrinciples and Practice of Constraint

ProgrammingMEDICAL IMAGE PROCESSINGFusion of Neural Networks, Fuzzy Systems and Genetic AlgorithmsDissertation Abstracts InternationalIntelligent and Fuzzy Techniques in Big Data Analytics and Decision MakingModern Fuzzy Control Systems and Its ApplicationsA Century of InnovationAlgorithms for Scheduling Problems

Advances in Emerging Trends and Technologies

Operations Research Applications in Health Care Management

This book is a printed edition of the Special Issue " Algorithms for Scheduling Problems" that was published in Algorithms

Fuzzy Logic with Engineering Applications

The concept of soft computing is still in its initial stages of crystallization. Presently available books on soft computing are merely collections of chapters or articles about different aspects of the field. This book is the first to provide a systematic account of the major concepts and methodologies of soft computing, presenting a unified framework that makes the subject more accessible to students and

practitioners. Particularly worthy of note is the inclusion of a wealth of information about neuro-fuzzy, neuro-genetic, fuzzy-genetic and neuro-fuzzy-genetic systems, with many illuminating applications and examples.

Decision-making in a Fuzzy Environment

Business Innovation driven by the advancement of technology has dramatically changed the business landscape over recent years, not only in advanced countries but also in emerging markets. It is expected that business innovation could help achieve economic inclusion, which has been a global initiative over the last decade, creating opportunities for all people to benefit from the economic development. These proceedings provide an outlet for discussing the importance of business innovation, especially in emerging countries in helping to reach inclusive economies. The papers cover the subject areas management, accounting, finance, economics and social sciences.

Business Innovation and Development in Emerging Economies

This edited volume captures and communicates the best thinking on how to improve healthcare by improving the delivery of services -- providing care when and where it is needed most -- through application of state-of-the-art scheduling

systems. Over 12 chapters, the authors cover aspects of setting appointments, allocating healthcare resources, and planning to ensure that capacity matches needs for care. A central theme of the book is increasing healthcare efficiency so that both the cost of care is reduced and more patients have access to care. This can be accomplished through reduction of idle time, lessening the time needed to provide services and matching resources to the needs where they can have the greatest possible impact on health. Within their chapters, authors address: (1) Use of scheduling to improve healthcare efficiency. (2) Objectives, constraints and mathematical formulations. (3) Key methods and techniques for creating schedules. (4) Recent developments that improve the available problem solving methods. (5) Actual applications, demonstrating how the methods can be used. (6) Future directions in which the field of research is heading. Collectively, the chapters provide a comprehensive state-of-the-art review of models and methods for scheduling the delivery of patient care for all parts of the healthcare system. Chapter topics include setting appointments for ambulatory care and outpatient procedures, surgical scheduling, nurse scheduling, bed management and allocation, medical supply logistics and routing and scheduling for home healthcare.

JAMA

Every company has a personality. Does yours help or hinder your results? Does it

make you fit for growth? Find out by taking the quiz that's helped 50,000 people better understand their organizations at OrgDNA.com and to learn more about Organizational DNA. Just as you can understand an individual's personality, so too can you understand a company's type—what makes it tick, what's good and bad about it. Results explains why some organizations bob and weave and roll with the punches to consistently deliver on commitments and produce great results, while others can't leave their corner of the ring without tripping on their own shoelaces. Gary Neilson and Bruce Pasternack help you identify which of the seven company types you work for—and how to keep what's good and fix what's wrong. You'll feel the shock of recognition ("That's me, that's my company") as you find out whether your organization is: • Passive-Aggressive ("everyone agrees, smiles, and nods, but nothing changes"): entrenched underground resistance makes getting anything done like trying to nail Jell-O to the wall • Fits-and-Starts ("let 1,000 flowers bloom"): filled with smart people pulling in different directions • Outgrown ("the good old days meet a brave new world"): reacts slowly to market developments, since it's too hard to run new ideas up the flagpole • Overmanaged ("we're from corporate and we're here to help"): more reporting than working, as managers check on their subordinates' work so they can in turn report to their bosses • Just-in-Time ("succeeding, but by the skin of our teeth"): can turn on a dime and create real breakthroughs but also tends to burn out its best and brightest • Military Precision ("flying in formation"): executes brilliant strategies but usually does not deal well with events not in the playbook • Resilient ("as good

as it gets"): flexible, forward-looking, and fun; bounces back when it hits a bump in the road and never, ever rests on its laurels For anyone who's ever said, "Wow, that's a great idea, but it'll never happen here" or "Whew, we pulled it off again, but I'm tired of all this sprinting," Results provides robust, practical ideas for becoming and remaining a resilient business. Also available as an eBook From the Hardcover edition.

Fuzzy Cognitive Maps and Neutrosophic Cognitive Maps

Pinedo is a major figure in the scheduling area (well versed in both stochastics and combinatorics) , and knows both the academic and practitioner side of the discipline. This book includes the integration of case studies into the text. It will appeal to engineering and business students interested in operations research.

Controlling Design Variants

Fuzzy Stochastic Optimization

Healthcare, a vital industry that touches most of us in our lives, faces major challenges in demographics, technology, and finance. Longer life expectancy and

an aging population, technological advancements that keep people younger and healthier, and financial issues area constant strain on healthcare organizations' resources and management. Focusing on the organization's ability to improve access, quality, and value of care to the patient may present possible solutions to these challenges. The Encyclopedia of Healthcare Information Systems provides an extensive and rich compilation of international research, discussing the use, adoption, design, and diffusion of information communication technologies (ICTs) in healthcare, including the role of ICTs in the future of healthcare delivery; access, quality, and value of healthcare; nature and evaluation of medical technologies; ethics and social implications; and medical information management.

Customer Oriented Product Design

In a world of chaotic alignments, traditional logic with its strict boundaries of truth and falsity has not imbued itself with the capability of reflecting the reality. Despite various attempts to reorient logic, there has remained an essential need for an alternative system that could infuse into itself a representation of the real world. Out of this need arose the system of Neutrosophy (the philosophy of neutralities, introduced by FLORENTIN SMARANDACHE), and its connected logic Neutrosophic Logic, which is a further generalization of the theory of Fuzzy Logic. In this book we study the concepts of Fuzzy Cognitive Maps (FCMs) and their Neutrosophic analogue, the Neutrosophic Cognitive Maps (NCMs). Fuzzy Cognitive Maps are

fuzzy structures that strongly resemble neural networks, and they have powerful and far-reaching consequences as a mathematical tool for modeling complex systems. Neutrosophic Cognitive Maps are generalizations of FCMs, and their unique feature is the ability to handle indeterminacy in relations between two concepts thereby bringing greater sensitivity into the results. Some of the varied applications of FCMs and NCMs which has been explained by us, in this book, include: modeling of supervisory systems; design of hybrid models for complex systems; mobile robots and in intimate technology such as office plants; analysis of business performance assessment; formalism debate and legal rules; creating metabolic and regulatory network models; traffic and transportation problems; medical diagnostics; simulation of strategic planning process in intelligent systems; specific language impairment; web-mining inference application; child labor problem; industrial relations: between employer and employee, maximizing production and profit; decision support in intelligent intrusion detection system; hyper-knowledge representation in strategy formation; female infanticide; depression in terminally ill patients and finally, in the theory of community mobilization and women empowerment relative to the AIDS epidemic.

Results

This accessible text provides a lively introduction to the essential skills of creative problem solving. Using extensive case-studies and examples from a range of

business situations, it explores various problem-solving theories and techniques, illustrating how these can be used to solve a range of management problems. Thoroughly revised and redesigned, this new edition retains the accessible and imaginative approach to problem-solving skills of the first edition. Contents include: * blocks to creativity and how to overcome them * key techniques including lateral thinking, morphological analysis and synectics * computer-assisted problem solving * increased coverage of group problem-solving techniques and paradigm shift. As creativity is increasingly recognized as a key skill for successful managers, this book will be welcomed as a comprehensive introduction for students and practising managers alike.

Principles and Practice of Constraint Programming - CP 2003

Emerging Trends in Electrical, Electronic and Communications Engineering

Artificial neural networks can mimic the biological information-processing mechanism in - a very limited sense. Fuzzy logic provides a basis for representing uncertain and imprecise knowledge and forms a basis for human reasoning. Neural networks display genuine promise in solving problems, but a definitive theoretical

basis does not yet exist for their design. Fusion of Neural Networks, Fuzzy Systems and Genetic Algorithms integrates neural net, fuzzy system, and evolutionary computing in system design that enables its readers to handle complexity - offsetting the demerits of one paradigm by the merits of another. This book presents specific projects where fusion techniques have been applied. The chapters start with the design of a new fuzzy-neural controller. Remaining chapters discuss the application of expert systems, neural networks, fuzzy control, and evolutionary computing techniques in modern engineering systems. These specific applications include: direct frequency converters electro-hydraulic systems motor control toaster control speech recognition vehicle routing fault diagnosis Asynchronous Transfer Mode (ATM) communications networks telephones for hard-of-hearing people control of gas turbine aero-engines telecommunications systems design Fusion of Neural Networks, Fuzzy Systems and Genetic Algorithms covers the spectrum of applications - comprehensively demonstrating the advantages of fusion techniques in industrial applications.

Unifying Themes in Complex Systems

Soft Computing and Its Applications

This book is dedicated to improving healthcare through reducing delays experienced by patients. With an interdisciplinary approach, this new edition, divided into five sections, begins by examining healthcare as an integrated system. Chapter 1 provides a hierarchical model of healthcare, rising from departments, to centers, regions and the "macro system." A new chapter demonstrates how to use simulation to assess the interaction of system components to achieve performance goals, and Chapter 3 provides hands-on methods for developing process models to identify and remove bottlenecks, and for developing facility plans. Section 2 addresses crowding and the consequences of delay. Two new chapters (4 and 5) focus on delays in emergency departments, and Chapter 6 then examines medical outcomes that result from waits for surgeries. Section 3 concentrates on management of demand. Chapter 7 presents breakthrough strategies that use real-time monitoring systems for continuous improvement. Chapter 8 looks at the patient appointment system, particularly through the approach of advanced access. Chapter 9 concentrates on managing waiting lists for surgeries, and Chapter 10 examines triage outside of emergency departments, with a focus on allied health programs Section 4 offers analytical tools and models to support analysis of patient flows. Chapter 11 offers techniques for scheduling staff to match patterns in patient demand. Chapter 12 surveys the literature on simulation modeling, which is widely used for both healthcare design and process improvement. Chapter 13 is new and demonstrates the use of process mapping to represent a complex regional trauma system. Chapter 14 provides methods for

forecasting demand for healthcare on a region-wide basis. Chapter 15 presents queueing theory as a method for modeling waits in healthcare, and Chapter 16 focuses on rapid delivery of medication in the event of a catastrophic event. Section 5 focuses on achieving change. Chapter 17 provides a diagnostic for assessing the state of a hospital and using the state assessment to select improvement strategies. Chapter 18 demonstrates the importance of optimizing care as patients transition from one care setting to the next. Chapter 19 is new and shows how to implement programs that improve patient satisfaction while also improving flow. Chapter 20 illustrates how to evaluate the overall portfolio of patient diagnostic groups to guide system changes, and Chapter 21 provides project management tools to guide the execution of patient flow projects.

Computers in Railway Operations

This volume contains the proceedings of the Ninth International Conference on Principles and Practice of Constraint Programming (CP 2003), held in Kinsale, Ireland, from September 29 to October 3, 2003. Detailed information about the CP 2003 conference can be found at the URL http://www.cs.ucc.ie/cp2003/ The CP conferences are held annually and provide an international forum for the latest results on all aspects of constraint programming. Previous CP conferences were held in Cassis (France) in 1995, in Cambridge (USA) in 1996, in Schloss Hagenberg (Austria) in 1997, in Pisa (Italy) in 1998, in Alexandria (USA) in 1999, in Singapore

in 2000, in Paphos (Cyprus) in 2001, and in Ithaca (USA) in 2002. Like previous CP conferences, CP 2003 again showed the interdisciplinary nature of computing with constraints, and also its usefulness in many problem domains and applications. Constraint programming, with its solvers, languages, theoretical results, and applications, has become a widely recognized paradigm to model and solve successfully many real-life problems, and to reason about problems in many research areas.

Planning and Scheduling in Manufacturing and Services

This book presents advances and innovations in grouping genetic algorithms, enriched with new and unique heuristic optimization techniques. These algorithms are specially designed for solving industrial grouping problems where system entities are to be partitioned or clustered into efficient groups according to a set of guiding decision criteria. Examples of such problems are: vehicle routing problems, team formation problems, timetabling problems, assembly line balancing, group maintenance planning, modular design, and task assignment. A wide range of industrial grouping problems, drawn from diverse fields such as logistics, supply chain management, project management, manufacturing systems, engineering design and healthcare, are presented. Typical complex industrial grouping problems, with multiple decision criteria and constraints, are clearly described using illustrative diagrams and formulations. The problems are mapped into a

common group structure that can conveniently be used as an input scheme to specific variants of grouping genetic algorithms. Unique heuristic grouping techniques are developed to handle grouping problems efficiently and effectively. Illustrative examples and computational results are presented in tables and graphs to demonstrate the efficiency and effectiveness of the algorithms. Researchers, decision analysts, software developers, and graduate students from various disciplines will find this in-depth reader-friendly exposition of advances and applications of grouping genetic algorithms an interesting, informative and valuable resource.

Hospital Management and Emergency Medicine: Breakthroughs in Research and Practice

Healthcare operations, in hospitals and home healthcare settings, are inundated with complex fuzzy features that impose difficulties in the creation of work schedules. As healthcare workers call for schedules that accommodate their individual preferences and patients continue to call for more personalized healthcare, further research into multi-cri

Human Interaction and Emerging Technologies

Control systems play an important role in engineering. Fuzzy logic is the natural choice for designing control applications and is the most popular and appropriate for the control of home and industrial appliances. Academic and industrial experts are constantly researching and proposing innovative and effective fuzzy control systems. This book is an edited volume and has 21 innovative chapters arranged into five sections covering applications of fuzzy control systems in energy and power systems, navigation systems, imaging, and industrial engineering. Overall, this book provides a rich set of modern fuzzy control systems and their applications and will be a useful resource for the graduate students, researchers, and practicing engineers in the field of electrical engineering.

The Fuzzy and the Techie

A compilation of 3M voices, memories, facts and experiences from the company's first 100 years.

Contemporary Issues and Research in Operations Management

This book reports on research and developments in human-technology interaction. A special emphasis is given to human-computer interaction, and its implementation for a wide range of purposes such as healthcare, aerospace,

telecommunication, and education, among others. The human aspects are analyzed in detail. Timely studies on human-centered design, wearable technologies, social and affective computing, augmented, virtual and mixed reality simulation, human rehabilitation and biomechanics represent the core of the book. Emerging technology applications in business, security, and infrastructure are also critically examined, thus offering a timely, scientifically-grounded, but also professionally-oriented snapshot of the current state of the field. The book is based on contributions presented at the 1st International Conference on Human Interaction and Emerging Technologies, IHIET 2019, held on August 22-24, in Nice, France. It offers a timely survey and a practice-oriented reference guide to systems engineers, psychologists, sport scientists, physical therapists, as well as decision-makers, designing or dealing with the new generation of service systems. User Experience of a Social Media Based Knowledge Sharing System in Industry Work, Chapter of this book is available open access under a CC BY 4.0 license at link.springer.com

Creative Problem Solving for Managers

"Introduces the concept of modular design within the product platform approach, intended to increase company efficiency while reducing costs and time to market. Companies can achieve significant advantages by separating parts that should vary to satisfy customer needs from parts that should be kept as common units.

The terminology and a five-step method for creating modular product platforms are developed."--Back cover.

Foundations of Neural Networks, Fuzzy Systems, and Knowledge Engineering

This book offers a comprehensive reference guide to customer-oriented product design and intelligence. It provides readers with the necessary intelligent tools for designing customer-oriented products in contexts characterized by incomplete information or insufficient data, where classical product design approaches cannot be applied. The respective chapters, written by prominent researchers, explain a wealth of both basic and advanced concepts including fuzzy QFD, fuzzy FMEA, the fuzzy Kano model, fuzzy axiomatic design, fuzzy heuristics-based design, conjoint analysis-based design, and many others. To foster reader comprehension, all chapters include relevant numerical examples or case studies. Taken together, they form an excellent reference guide for researchers, lecturers, and postgraduate students pursuing research on customer-oriented product design. Moreover, by extending all the main aspects of classical customer-oriented product design to its intelligent and fuzzy counterparts, the book presents a dynamic snapshot of the field that is expected to stimulate new directions, ideas, and developments.

Grouping Genetic Algorithms

BESTSELLING GUIDE, UPDATED WITH A NEW INFORMATION FOR TODAY'S HEALTH CARE ENVIRONMENT Health Care Information Systems is the newest version of the acclaimed text that offers the fundamental knowledge and tools needed to manage information and information resources effectively within a wide variety of health care organizations. It reviews the major environmental forces that shape the national health information landscape and offers guidance on the implementation, evaluation, and management of health care information systems. It also reviews relevant laws, regulations, and standards and explores the most pressing issues pertinent to senior level managers. It covers: Proven strategies for successfully acquiring and implementing health information systems. Efficient methods for assessing the value of a system. Changes in payment reform initiatives. New information on the role of information systems in managing in population health. A wealth of updated case studies of organizations experiencing management-related system challenges.

Encyclopedia of Healthcare Information Systems

This book gathers extended versions of the best papers presented at the Global Joint Conference on Industrial Engineering and Its Application Areas (GJCIE), held in

Nevsehir, Turkey, on June 21-22, 2018. They reports on industrial engineering methods and applications, with a special focus on the advantages and challenges posed by Big data in this field. The book covers a wide range of topics, including decision making, optimization, supply chain management and quality control.

Handbook of Healthcare System Scheduling

In 2014, winner of "Outstanding Book Award" by The Japan Society for Fuzzy Theory and Intelligent Informatics. Covering in detail both theoretical and practical perspectives, this book is a self-contained and systematic depiction of current fuzzy stochastic optimization that deploys the fuzzy random variable as a core mathematical tool to model the integrated fuzzy random uncertainty. It proceeds in an orderly fashion from the requisite theoretical aspects of the fuzzy random variable to fuzzy stochastic optimization models and their real-life case studies. The volume reflects the fact that randomness and fuzziness (or vagueness) are two major sources of uncertainty in the real world, with significant implications in a number of settings. In industrial engineering, management and economics, the chances are high that decision makers will be confronted with information that is simultaneously probabilistically uncertain and fuzzily imprecise, and optimization in the form of a decision must be made in an environment that is doubly uncertain, characterized by a co-occurrence of randomness and fuzziness. This book begins by outlining the history and development of the fuzzy random variable before

detailing numerous optimization models and applications that include the design of system controls for a dam.

INFORMS Conference Program

Documentation Abstracts

Neural networks and fuzzy systems are different approaches to introducing human-like reasoning into expert systems. This text is the first to combine the study of these two subjects, their basics and their use, along with symbolic AI methods to build comprehensive artificial intelligence systems. In a clear and accessible style, Kasabov describes rule- based and connectionist techniques and then their combinations, with fuzzy logic included, showing the application of the different techniques to a set of simple prototype problems, which makes comparisons possible. A particularly strong feature of the text is that it is filled with applications in engineering, business, and finance. AI problems that cover most of the application-oriented research in the field (pattern recognition, speech and image processing, classification, planning, optimization, prediction, control, decision making, and game simulations) are discussed and illustrated with concrete examples. Intended both as a text for advanced undergraduate and postgraduate

students as well as a reference for researchers in the field of knowledge engineering, Foundations of Neural Networks, Fuzzy Systems, and Knowledge Engineering has chapters structured for various levels of teaching and includes original work by the author along with the classic material. Data sets for the examples in the book as well as an integrated software environment that can be used to solve the problems and do the exercises at the end of each chapter are available free through anonymous ftp.

Patient Flow

In recent years, scientists have applied the principles of complex systems science to increasingly diverse fields. The results have been nothing short of remarkable. The Third International Conference on Complex Systems attracted over 400 researchers from around the world. The conference aimed to encourage cross-fertilization between the many disciplines represented and to deepen our understanding of the properties common to all complex systems.

Healthcare Staff Scheduling

"Scott Hartley artfully explains why it is time for us to get over the false division between the human and the technical." —Tim Brown, CEO of IDEO and author of

Change by Design Scott Hartley first heard the terms fuzzy and techie while studying political science at Stanford University. If you majored in humanities or social sciences, you were a fuzzy. If you majored in computer or hard sciences, you were a techie. While Silicon Valley is generally considered a techie stronghold, the founders of companies like Airbnb, Pinterest, Slack, LinkedIn, PayPal, Stitch Fix, Reddit, and others are all fuzzies—in other words, people with backgrounds in the liberal arts. In this brilliantly counterintuitive book, Hartley shatters assumptions about business and education today: learning to code is not enough. The soft skills—curiosity, communication, and collaboration, along with an understanding of psychology and society's gravest problems—are central to why technology has value. Fuzzies are the instrumental stewards of robots, artificial intelligence, and machine learning. They offer a human touch that is of equal—if not greater—importance in our technology-led world than what most techies can provide. For anyone doubting whether a well-rounded liberal arts education is practical in today's world, Hartley's work will come as an inspiring revelation. Finalist for the 2016 Financial Times/McKinsey Bracken Bower Prize A Financial Times Business Book of the Month

Industrial Engineering in the Big Data Era

This book offers a comprehensive reference guide to operations research theory and applications in health care systems. It provides readers with all the necessary

tools for solving health care problems. The respective chapters, written by prominent researchers, explain a wealth of both basic and advanced concepts of operations research for the management of operating rooms, intensive care units, supply chain, emergency medical service, human resources, lean health care, and procurement. To foster a better understanding, the chapters include relevant examples or case studies. Taken together, they form an excellent reference guide for researchers, lecturers and postgraduate students pursuing research on health care management problems. The book presents a dynamic snapshot on the field that is expected to stimulate new directions and stimulate new ideas and developments.

Health Care Information Systems

This book includes the proceedings of the Intelligent and Fuzzy Techniques INFUS 2019 Conference, held in Istanbul, Turkey, on July 23–25, 2019. Big data analytics refers to the strategy of analyzing large volumes of data, or big data, gathered from a wide variety of sources, including social networks, videos, digital images, sensors, and sales transaction records. Big data analytics allows data scientists and various other users to evaluate large volumes of transaction data and other data sources that traditional business systems would be unable to tackle. Data-driven and knowledge-driven approaches and techniques have been widely used in intelligent decision-making, and they are increasingly attracting attention due to

their importance and effectiveness in addressing uncertainty and incompleteness. INFUS 2019 focused on intelligent and fuzzy systems with applications in big data analytics and decision-making, providing an international forum that brought together those actively involved in areas of interest to data science and knowledge engineering. These proceeding feature about 150 peer-reviewed papers from countries such as China, Iran, Turkey, Malaysia, India, USA, Spain, France, Poland, Mexico, Bulgaria, Algeria, Pakistan, Australia, Lebanon, and Czech Republic.

Principles and Practice of Constraint Programming

This book constitutes the proceedings of the 1st International Conference on Advances in Emerging Trends and Technologies (ICAETT 2019), held in Quito, Ecuador, on 29–31 May 2019, jointly organized by Universidad Tecnológica Israel, Universidad Técnica del Norte, and Instituto Tecnológico Superior Rumiñahui, and supported by SNOTRA. ICAETT 2019 brought together top researchers and practitioners working in different domains of computer science to share their expertise and to discuss future developments and potential collaborations. Presenting high-quality, peer-reviewed papers, the book discusses the following topics: Technology Trends Electronics Intelligent Systems Machine Vision Communication Security e-Learning e-Business e-Government and e-Participation

MEDICAL IMAGE PROCESSING

The book reports on advanced theories and methods in two related engineering fields: electrical and electronic engineering, and communications engineering and computing. It highlights areas of global and growing importance, such as renewable energy, power systems, mobile communications, security and the Internet of Things (IoT). The contributions cover a number of current research issues, including smart grids, photovoltaic systems, wireless power transfer, signal processing, 4G and 5G technologies, IoT applications, mobile cloud computing and many more. Based on the proceedings of the first International Conference on Emerging Trends in Electrical, Electronic and Communications Engineering (ELECOM 2016), held in Voila Bagatelle, Mauritius from November 25 to 27, 2016, the book provides graduate students, researchers and professionals with a snapshot of the state-of-the-art and a source of new ideas for future research and collaborations.

Fusion of Neural Networks, Fuzzy Systems and Genetic Algorithms

Improvements in hospital management and emergency medical and critical care services require continual attention and dedication to ensure efficient and proper

care for citizens. To support this endeavor, professionals rely more and more on the application of information systems and technologies to promote the overall quality of modern healthcare. Implementing effective technologies and strategies ensures proper quality and instruction for both the patient and medical practitioners. Hospital Management and Emergency Medicine: Breakthroughs in Research and Practice examines the latest scholarly material on emerging strategies and methods for delivering optimal emergency medical care and examines the latest technologies and tools that support the development of efficient emergency departments and hospital staff. While highlighting the challenges medical practitioners and healthcare professionals face when treating patients and striving to optimize their processes, the book shows how revolutionary technologies and methods are vastly improving how healthcare is implemented globally. Highlighting a range of topics such as overcrowding, decision support systems, and patient safety, this publication is an ideal reference source for hospital directors, hospital staff, emergency medical services, paramedics, medical administrators, managers and employees of health units, physicians, medical students, academicians, and researchers seeking current research on providing optimal care in emergency medicine.

Dissertation Abstracts International

Medical Image Processing: Concepts and Applications presents an overview of

image processing for various applications in the field of medical science. Inclusion of several topics like noise reduction filters, feature extraction, image restoration, segmentation, soft computing techniques and context-based medical image retrieval, etc. makes this book a single-source information meeting the requirements of the readers. Besides, the coverage of digital image processing, human visual perception and CAD system to be used in automated diagnosis system, medical imaging modalities, various application areas of medical field, detection and classification of various disease, etc. is highly emphasised in the book. The book, divided into eight chapters, presents the topics in a clear, simple, practical and cogent fashion that provides the students with the insight into theory as well as applications to the practical problems. The research orientation of the book greatly supports the concepts of image processing to be applied for segmentation, classification and detection of affected areas in X-ray, MRI and mammographic and all other medical images. Throughout the book, an attempt has been made to address the challenges faced by radiologists, physicians and doctors in scanning, interpretation and diagnosis process. The book uses an abundance of colour images to impart a high level of comprehension of concepts and helps in mastering the process of medical image processing. Special attention is made on the review of algorithms or methods of medical image formation, processing and analysis, medical imaging applications, and emerging medical imaging modality. This is purely a text dedicated for the undergraduate and postgraduate students of biomedical engineering. The book is also of immense use

to the students of computer science engineering and IT who offer a course on digital image processing. Key Points • Chapter-end review questions test the students' knowledge of the funda-mental concepts. • Course outcomes help the students in capturing the key points. • Several images and information regarding morphological operations given in appendices help in getting additional knowledge in the field of medical image processing.

Intelligent and Fuzzy Techniques in Big Data Analytics and Decision Making

Modern Fuzzy Control Systems and Its Applications

Transmission and traction: Rail traction energy management model - Microprocessor control on traction motors - CSD Techniques for power studies - Advanced control system: computer on rail vehicles - Train operations: train and engine crew management - Timetable and Headway control.

A Century of Innovation

Algorithms for Scheduling Problems

Operations management (OM) is the function concerned with the planning, design, implementation, and control of business operations in the production of goods and services. OM has expanded from its original factory-centric orientation to encompass the service industry and the respective, accompanying supply chains, with a broad, global range of applications, increasing reliance on quantitative analysis, and the development and the use of supporting computer-based information systems and technology. This book highlights some critical aspects and advances in the field of operations management. Topics covered include investigations in the area of sustainable supply chain management; the application of OM principles to the deployment of field laboratories to address epidemics; and novel approaches to applying operations management in response to increasingly diverse requirements, circumstances, and performance criteria.

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION