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KEY=HEALTHCARE - HOLMES LOPEZ

Healthcare Staff Scheduling Emerging Fuzzy Optimization Approaches

CRC Press **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-criteria**

Grouping Genetic Algorithms Advances and Applications

Springer **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.

Emerging Trends in Electrical, Electronic and Communications Engineering

Proceedings of the First International Conference on Electrical, Electronic and Communications Engineering (ELECOM 2016), Bagatelle, Mauritius, November 25 -27, 2016

Springer 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.

Exploring Innovative and Successful Applications of Soft Computing

IGI Global The evolution of soft computing applications have offered a multitude of methodologies and techniques that are useful in facilitating new ways to address practical and real scenarios in a variety of fields. **Exploring Innovative and Successful Applications of Soft Computing** highlights the applications and conclusions associated with soft computing in different technological environments. Providing potential results based on new trends in the development of these services, this book aims to be a reference source for researchers, practitioners, and students interested in the most successful soft computing methods applied to recent problems.

Green Transportation and New Advances in Vehicle Routing Problems

Springer Nature This book presents recent work that analyzes general issues of green transportation. The contributed chapters consider environmental objectives in transportation, including topics such as battery swap stations for electric vehicles, efficient home healthcare routing, waste collection, and various vehicle routing problems. The content will be valuable for researchers and postgraduate students in computer science, operations research, and urban planning.

Advances in Evolutionary and Deterministic Methods for Design,

Optimization and Control in Engineering and Sciences

Springer This volume presents up-to-date material on the state of the art in evolutionary and deterministic methods for design, optimization and control with applications to industrial and societal problems from Europe, Asia, and America. EUROGEN 2015 was the 11th of a series of International Conferences devoted to bringing together specialists from universities, research institutions and industries developing or applying evolutionary and deterministic methods in design optimization, with emphasis on solving industrial and societal problems. The conference was organised around a number of parallel symposia, regular sessions, and keynote lectures focused on surrogate-based optimization in aerodynamic design, adjoint methods for steady & unsteady optimization, multi-disciplinary design optimization, holistic optimization in marine design, game strategies combined with evolutionary computation, optimization under uncertainty, topology optimization, optimal planning, shape optimization, and production scheduling.

Knowledge Management Strategies and Applications

BoD - Books on Demand Knowledge management (KM) has become an important business strategy in an era of accelerated globalization, digitalization, and servitization of products and services. Maximizing the use of organizational resources becomes fundamental for continuous growth and prosperity. Organizations of various kinds such as resource-based organizations, product-based organizations, as well as knowledge-intensive service-oriented organizations require specific policies and support services to improve the knowledge management in their respective organizations. Knowledge Management Strategies and Applications focuses on the way organizations can create knowledge, share existing or new knowledge, and disseminate them among the stakeholders, most importantly among the employees, managers, customers, and suppliers. The selected topics are drawn from several fields of studies and give a multidisciplinary outlook. The book will be interesting not only for the researchers and students but also for the managers who want to improve knowledge sharing and innovation capabilities in their organizations.

Fuzzy Logic, Soft Computing and Computational Intelligence

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Applied Simulation and Optimization 2

New Applications in Logistics, Industrial and Aeronautical Practice

Springer Building on the author's earlier **Applied Simulation and Optimization**, this book presents novel methods for solving problems in industry, based on hybrid simulation-optimization approaches that combine the advantages of both paradigms. The book serves as a comprehensive guide to tackling scheduling, routing problems, resource allocations and other issues in industrial environments, the service industry, production processes, or supply chains and aviation. Logistics, manufacturing and operational problems can either be modelled using optimization techniques or approaches based on simulation methodologies. Optimization techniques have the advantage of performing efficiently when the problems are properly defined, but they are often developed through rigid representations that do not include or accurately represent the stochasticity inherent in real systems. Furthermore, important information is lost during the abstraction process to fit each problem into the optimization technique. On the other hand, simulation approaches possess high description levels, but the optimization is generally performed through sampling of all the possible configurations of the system. The methods explored in this book are of use to researchers and practising engineers in fields ranging from supply chains to the aviation industry.

International Joint Conference

SOCO'17-CISIS'17-ICEUTE'17 León,
Spain, September 6–8, 2017,

Proceeding

Springer This volume includes papers presented at SOCO 2017, CISIS 2017, and ICEUTE 2017, all conferences held in the beautiful and historic city of León (Spain) in September 2017. Soft computing represents a collection of computational techniques in machine learning, computer science, and some engineering disciplines, which investigate, simulate, and analyze highly complex issues and phenomena. These proceedings feature 48 papers from the 12th SOCO 2017, covering topics such as artificial intelligence and machine learning applied to health sciences; and soft computing methods in manufacturing and management systems. The book also presents 18 papers from the 10th CISIS 2017, which provided a platform for researchers from the fields of computational intelligence, information security, and data mining to meet and discuss the need for intelligent, flexible behavior by large, complex systems, especially in mission-critical domains. It addresses various topics, like identification, simulation and prevention of security and privacy threats in modern communication networks. Furthermore, the book includes 8 papers from the 8th ICEUTE 2017. The selection of papers for all three conferences was extremely rigorous in order to maintain the high quality and we would like to thank the members of the Program Committees for their hard work in the reviewing process.

Constraint Programming and Large Scale Discrete Optimization

DIMACS Workshop Constraint Programming and Large Scale Discrete Optimization, September 14-17, 1998, DIMACS Center

American Mathematical Soc. Constraint programming has become an important general approach for solving hard combinatorial problems that occur in a number of application domains, such as scheduling and configuration. This volume contains selected papers from the workshop on Constraint Programming and Large Scale Discrete Optimization held at DIMACS. It gives a sense of state-of-the-art research in this field, touching on many of the important issues that are emerging and giving an idea of the major current trends. Topics include new strategies for local search,

multithreaded constraint programming, specialized constraints that enhance consistency processing, fuzzy representations, hybrid approaches involving both constraint programming and integer programming, and applications to scheduling problems in domains such as sports scheduling and satellite scheduling.

INFORMS Conference Program

Innovations in Bio-Inspired
Computing and Applications

Proceedings of the 12th

International Conference on

Innovations in Bio-Inspired

Computing and Applications (IBICA

2021) Held During December

16–18, 2021

Springer Nature **This book highlights recent research on bio-inspired computing and its various innovative applications in information and communication technologies. It presents 80 high-quality papers from the 12th International Conference on Innovations in Bio-Inspired Computing and Applications (IBICA 2021) and 11th World Congress on Information and Communication Technologies (WICT 2021), which was held online during December 16–18, 2021. As a premier conference, IBICA-WICT brings together researchers, engineers and practitioners whose work involves bio-inspired computing, computational intelligence and their applications in information security, real-world contexts, etc. Including contributions by authors from 25 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.**

Journal of Applied Operational

Research

Special Issue on Scheduling in Healthcare Systems

ORLAB Analytics **Many Healthcare providers have suffered a crisis of poor quality and inefficiency with rapidly increasing costs. Healthcare delivery faces complex scheduling needs and stands to gain from advances in scheduling technology and understanding. This special issue presents some new progress in applying scheduling techniques to several real-life problems in healthcare delivery.**

Aplicaciones de investigación de operaciones en sistemas de salud en Colombia

Editorial Pontificia Universidad Javeriana **Sin duda, ver los sistemas de salud desde la perspectiva de la investigación de operaciones impone nuevos retos que no son insalvables. Hay en los sistemas de salud desafíos y dilemas a los que quizás antes no nos veíamos enfrentados al trabajar en otras industrias o servicios. Desde dilemas éticos, causados por la naturaleza del servicio de salud como un derecho fundamental, bien sea porque en las decisiones que se modelan muchas veces están involucradas las vidas y el bienestar de los pacientes, o porque los objetivos de los sistemas de salud van más allá de la rentabilidad o la disminución de costos a los que estamos comúnmente acostumbrados (v. g., mejorar la cobertura o lograr equidad). Por otro lado, entender los sistemas de salud y las decisiones que en ellos se toman (para el tratamiento de los pacientes, para la planeación de las operaciones de los servicios o para la definición de políticas públicas) exige apropiarse de conocimientos que son ajenos a la formación tradicional en investigación de operaciones. Por fortuna, esto último exige la conformación de equipos multidisciplinarios, con personal asistencial (médicos, enfermeras, instrumentadores, terapeutas, etc.), con epidemiólogos, con funcionarios del Estado, con expertos en sistemas de información, calidad y acreditación en salud, entre otros. En estos equipos es también importante la investigación de operaciones, pues los complementa aportando una visión cuantitativa, analítica e ingenieril que algunas veces no tienen.**

Handbook of Healthcare Operations Management

Methods and Applications

Springer Science & Business Media **From the Preface: Collectively, the chapters in this book address application domains including inpatient and outpatient services, public health networks, supply chain management, and resource constrained settings in developing countries. Many of the chapters provide specific examples or case studies illustrating the applications of operations research methods across the globe, including Africa, Australia, Belgium, Canada, the United Kingdom, and the United States. Chapters 1-4 review operations research methods that are most commonly applied to health care operations management including: queuing, simulation, and mathematical programming. Chapters 5-7 address challenges related to inpatient services in hospitals such as surgery, intensive care units, and hospital wards. Chapters 8-10 cover outpatient services, the fastest growing part of many health systems, and describe operations research models for primary and specialty care services, and how to plan for patient no-shows. Chapters 12 - 16 cover topics related to the broader integration of health services in the context of public health, including optimizing the location of emergency vehicles, planning for mass vaccination events, and the coordination among different parts of a health system. Chapters 17-18 address supply chain management within hospitals, with a focus on pharmaceutical supply management, and the challenges of managing inventory for nursing units. Finally, Chapters 19-20 provide examples of important and emerging research in the realm of humanitarian logistics.**

16th International Conference on Information Technology-New Generations (ITNG 2019)

Springer **This 16th International Conference on Information Technology - New Generations (ITNG), continues an annual event focusing on state of the art technologies pertaining to digital information and communications. The applications of advanced information technology to such domains as astronomy, biology, education, geosciences, security and health care are among topics of relevance to ITNG. Visionary ideas, theoretical and experimental results, as well as prototypes, designs, and tools that help**

the information readily flow to the user are of special interest. Machine Learning, Robotics, High Performance Computing, and Innovative Methods of Computing are examples of related topics. The conference features keynote speakers, the best student award, poster award, service award, a technical open panel, and workshops/exhibits from industry, government and academia.

Emerging Methods in Predictive Analytics: Risk Management and Decision-Making

Risk Management and Decision-Making

IGI Global Decision making tools are essential for the successful outcome of any organization. Recent advances in predictive analytics have aided in identifying particular points of leverage where critical decisions can be made. **Emerging Methods in Predictive Analytics: Risk Management and Decision Making** provides an interdisciplinary approach to predictive analytics; bringing together the fields of business, statistics, and information technology for effective decision making. Managers, business professionals, and decision makers in diverse fields will find the applications and cases presented in this text essential in providing new avenues for risk assessment, management, and predicting the future outcomes of their decisions.

Fuzzy Systems Conference (FUZZ), 2000

IEEE International

Institute of Electrical & Electronics Engineers(IEEE)

Limitations and Future Applications of Quantum Cryptography

IGI Global The concept of quantum computing is based on two fundamental principles of quantum mechanics: superposition and entanglement. Instead

of using bits, qubits are used in quantum computing, which is a key indicator in the high level of safety and security this type of cryptography ensures. If interfered with or eavesdropped in, qubits will delete or refuse to send, which keeps the information safe. This is vital in the current era where sensitive and important personal information can be digitally shared online. In computer networks, a large amount of data is transferred worldwide daily, including anything from military plans to a country's sensitive information, and data breaches can be disastrous. This is where quantum cryptography comes into play. By not being dependent on computational power, it can easily replace classical cryptography. **Limitations and Future Applications of Quantum Cryptography** is a critical reference that provides knowledge on the basics of IoT infrastructure using quantum cryptography, the differences between classical and quantum cryptography, and the future aspects and developments in this field. The chapters cover themes that span from the usage of quantum cryptography in healthcare, to forensics, and more. While highlighting topics such as 5G networks, image processing, algorithms, and quantum machine learning, this book is ideally intended for security professionals, IoT developers, computer scientists, practitioners, researchers, academicians, and students interested in the most recent research on quantum computing.

Fuzzy Logic in Its 50th Year

New Developments, Directions and Challenges

Springer This book offers a multifaceted perspective on fuzzy set theory, discussing its developments over the last 50 years. It reports on all types of fuzzy sets, from ordinary to hesitant fuzzy sets, with each one explained by its own developers, authoritative scientists well known for their previous works. Highlighting recent theorems and proofs, the book also explores how fuzzy set theory has come to be extensively used in almost all branches of science, including the health sciences, decision science, earth science and the social sciences alike. It presents a wealth of real-world sample applications, from routing problem to robotics, and from agriculture to engineering. By offering a comprehensive, timely and detailed portrait of the field, the book represents an excellent reference guide for researchers, lecturers and postgraduate students pursuing research on new fuzzy set extensions.

Fuzzy Preference Modelling and

Multicriteria Decision Support

Springer Science & Business Media **This book provides in-depth coverage of the most important results about fuzzy logic including negations, conjunctions, disjunctions, implications and gives the interrelations between those different connectives. The work brings together multiple results about valued binary relations satisfying diverse transitivity-type conditions. The authors propose the first sound introduction to valued preference modelling through the systematic use of fuzzy set theory and functional equations and derive the possible foundations for multicriteria decision aid using aggregation, ranking and choice procedures on the basis of axiomatic results. The text presents a unified view of various multicriteria decision making tools that have been independently derived in the past, dealing with pairwise comparisons. The monograph is mathematically oriented but the results will be of the greatest interest for engineers and economists who design and implement decision support systems in practice. It is also supplied with a sufficient number of examples to make it attractive to nonspecialists.**

Staff Scheduling and Rostering

Theory and Applications

Advances and Trends in Artificial Intelligence. Artificial Intelligence Practices

34th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems, IEA/AIE 2021, Kuala

Lumpur, Malaysia, July 26–29, 2021, Proceedings, Part I

Springer Nature This two-volume set of LNAI 12798 and 12799 constitutes the thoroughly refereed proceedings of the 34th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems, IEA/AIE 2021, held virtually and in Kuala Lumpur, Malaysia, in July 2021. The 87 full papers and 19 short papers presented were carefully reviewed and selected from 145 submissions. The IEA/AIE 2021 conference will continue the tradition of emphasizing on applications of applied intelligent systems to solve real-life problems in all areas. These areas include the following: Part I, Artificial Intelligence Practices: Knowledge discovery and pattern mining; artificial intelligence and machine learning; semantic, topology, and ontology models; medical and health-related applications; graphic and social network analysis; signal and bioinformatics processing; evolutionary computation; attack security; natural language and text processing; fuzzy inference and theory; and sensor and communication networks Part II, From Theory to Practice: Prediction and recommendation; data management, clustering and classification; robotics; knowledge based and decision support systems; multimedia applications; innovative applications of intelligent systems; CPS and industrial applications; defect, anomaly and intrusion detection; financial and supply chain applications; Bayesian networks; BigData and time series processing; and information retrieval and relation extraction

Advances in Manufacturing and Industrial Engineering

Select Proceedings of ICAPIE 2019

Springer Nature This book presents selected peer reviewed papers from the International Conference on Advanced Production and Industrial Engineering (ICAPIE 2019). It covers a wide range of topics and latest research in mechanical systems engineering, materials engineering, micro-machining, renewable energy, industrial and production engineering, and additive manufacturing. Given the range of topics discussed, this book will be useful for students and researchers primarily working in mechanical and industrial engineering, and energy technologies.

Documentation Abstracts

Electrical & Electronics Abstracts

Issues in Artificial Intelligence, Robotics and Machine Learning: 2013 Edition

ScholarlyEditions **Issues in Artificial Intelligence, Robotics and Machine Learning: 2013 Edition** is a **ScholarlyEditions™** book that delivers timely, authoritative, and comprehensive information about Expert Systems. The editors have built **Issues in Artificial Intelligence, Robotics and Machine Learning: 2013 Edition** on the vast information databases of **ScholarlyNews.™** You can expect the information about Expert Systems in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of **Issues in Artificial Intelligence, Robotics and Machine Learning: 2013 Edition** has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at **ScholarlyEditions™** and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Comprehensive Dissertation Index

Proceedings of the 18th Online World Conference on Soft Computing in Industrial Applications (WSC18)

Springer This book gathers the papers presented at the **18th Online World Conference on Soft Computing in Industrial Applications (WSC18)**, which was held on 1-12 December 2014 on the World Wide Web. The conference is open to all academics, students and industrial/commercial parties, and is hosted online between authors and participants over the Internet. The

2014 installment of the Online World Conference on Soft Computing in Industrial Application consisted of a selected keynote speech, invited talks, tutorials, special sessions, and general track papers. The program committee received a total of 51 submissions from 12 countries, reflecting the international nature of the event. Each paper was peer-reviewed (typically by 3 reviewers), culminating in the acceptance of 20 papers for publication.

Fuzzy Techniques for Decision Making

MDPI This book is a printed edition of the Special Issue "Fuzzy Techniques for Decision Making" that was published in *Symmetry*

Current Programs

Introduction to Artificial Intelligence

Springer In the chapters in Part I of this textbook the author introduces the fundamental ideas of artificial intelligence and computational intelligence. In Part II he explains key AI methods such as search, evolutionary computing, logic-based reasoning, knowledge representation, rule-based systems, pattern recognition, neural networks, and cognitive architectures. Finally, in Part III, he expands the context to discuss theories of intelligence in philosophy and psychology, key applications of AI systems, and the likely future of artificial intelligence. A key feature of the author's approach is historical and biographical footnotes, stressing the multidisciplinary character of the field and its pioneers. The book is appropriate for advanced undergraduate and graduate courses in computer science, engineering, and other applied sciences, and the appendices offer short formal, mathematical models and notes to support the reader.

Decision Support and Expert Systems

Management Support Systems

Simon & Schuster Books For Young Readers **Decision support systems; management support systems: an overview; decision making, systems, modeling, and support; data management; modeling and model management; user interface; constructing a decision support system;**

organizational DSS and advanced topics; enterprise support systems; Group decision support systems; executive information and support systems; fundamentals of artificial intelligence and expert systems; applied artificial intelligence: an overview; fundamentals of expert systems; knowledge acquisition and validation; knowledge representation; inferences, explanations, and uncertainty; building expert systems: process and tools; cutting edge decision support technologies; neural computing: the basics; neural computing applications, genetic algorithms, and fuzzy logic; integrating and implementation; integrating decision support technologies; Implementing management support systems; organizational and societal impacts of management support systems; appendix and student project.

Popular Science

Popular Science gives our readers the information and tools to improve their technology and their world. The core belief that Popular Science and our readers share: The future is going to be better, and science and technology are the driving forces that will help make it better.

American Doctoral Dissertations

Sustainable Human Resource Management

MDPI The concept of sustainability is important for companies both in the case of SMEs and worldwide multinational companies. Some key factors to help a company achieve its sustainability objectives are based on human resource management. Sustainable human resource management is a typical cross-functional task that becomes increasingly important at the strategic level of a company. Industry 4.0 technologies, Internet of Things, and competitive demands, as signs of globalization, have led to significant changes across the organizational structures and human resource strategies of companies. The increasing importance of sophisticated human resource strategies in the life of companies and the intention to find optimal design and operation strategies for sustainable human resource management were a motivation for launching this book. This book offers a selection of papers which explain the impact of smart human resource management on economy. Authors from 14 countries published working examples and case studies resulting from their research in this field. The aim of this book is to help students at the level of BSc, MSc, and PhD level, as well as managers and researchers, to understand and appreciate the concept, design, and implementation of sustainable human resource management solutions.

Intelligent and Fuzzy Techniques: Smart and Innovative Solutions

Proceedings of the INFUS 2020 Conference, Istanbul, Turkey, July 21-23, 2020

Springer Nature This book gathers the most recent developments in fuzzy & intelligence systems and real complex systems presented at INFUS 2020, held in Istanbul on July 21-23, 2020. The INFUS conferences are a well-established international research forum to advance the foundations and applications of intelligent and fuzzy systems, computational intelligence, and soft computing, highlighting studies on fuzzy & intelligence systems and real complex systems at universities and international research institutions. Covering a range of topics, including the theory and applications of fuzzy set extensions such as intuitionistic fuzzy sets, hesitant fuzzy sets, spherical fuzzy sets, and fuzzy decision-making; machine learning; risk assessment; heuristics; and clustering, the book is a valuable resource for academics, M.Sc. and Ph.D. students, as well as managers and engineers in industry and the service sectors.

Handbook of Research on Artificial Intelligence Techniques and Algorithms

IGI Global For decades, optimization methods such as Fuzzy Logic, Artificial Neural Networks, Firefly, Simulated annealing, and Tabu search, have been capable of handling and tackling a wide range of real-world application problems in society and nature. Analysts have turned to these problem-solving techniques in the event during natural disasters and chaotic systems research. The Handbook of Research on Artificial Intelligence Techniques and Algorithms highlights the cutting edge developments in this promising research area. This premier reference work applies Meta-heuristics Optimization (MO) Techniques to real world problems in a variety of fields including business, logistics, computer science, engineering, and government. This work is particularly relevant to researchers, scientists, decision-makers, managers, and practitioners.

From Science to Society

New Trends in Environmental Informatics

Springer This book presents the latest findings and ongoing research in connection with green information systems and green information & communication technology (ICT). It provides valuable insights into a broad range of cross-cutting concerns in ICT and the environmental sciences, and showcases how ICT can be used to effectively address environmental and energy efficiency issues. Offering a selection of extended contributions to the 31st International Conference EnviroInfo 2017, it is essential reading for anyone looking to expand their expertise in the area.