

Orienteering Problems Models And Algorithms For V

This book constitutes the thoroughly refereed conference proceedings of the 5th International Conference on Computational Collective Intelligence, ICCCI 2013, held in Craiova, Romania, in September 2013. The 72 revised full papers presented were carefully selected from numerous submissions. Conference papers are organized in 16 technical sessions, covering the following topics: intelligent e-learning, classification and clustering methods, web intelligence and interaction, agents and multi-agent systems, social networks, intelligent knowledge management, language processing systems, modeling and optimization techniques, evolutionary computation, intelligent and group decision making, swarm intelligence, data mining techniques and applications, cooperative problem solving, collective intelligence for text mining and innovation, collective intelligence for social understanding and mining, and soft methods in collective intelligence.

The fields of integer programming and combinatorial optimization continue to be areas of great vitality, with an ever increasing number of publications and journals appearing. A classified bibliography thus continues to be necessary and useful today, even more so than it did when the project, of which this is the fifth volume, was started in 1970 in the Institut für Okonometrie und Operations Research of the University of Bonn. The pioneering first volume was compiled by Claus Kastning during the years 1970 - 1975 and appeared in 1976 as Volume 128 of the series Lecture Notes in Economics and Mathematical Systems published by the Springer Verlag. Work on the project was continued by Dirk Hausmann, Reinhardt Euler, and Rabe von Randow, and resulted in the publication of the second, third, and fourth volumes in 1978, 1982, and 1985 (Volumes 160, 197, and 243 of the above series). The present book constitutes the fifth volume of the bibliography and covers the period from autumn 1984 to the end of 1987. It contains 5864 new publications by 4480 authors and was compiled by Rabe von Randow. Its form is practically identical to that of the first four volumes, some additions having been made to the subject list.

This tutorial introduces readers to several variants of routing problems with profits. In these routing problems each node has a certain profit, and not all nodes need to be visited. Since the orienteering problem (OP) is by far the most frequently studied problem in this category of routing problems, the book mainly focuses on the OP. In turn, other problems are presented as variants of the OP, focusing on the similarities and differences. The goal of the OP is to determine a subset of nodes to visit and in which order, so that the total collected profit is maximized and a given time budget is not exceeded. The book provides a comprehensive review of variants of the OP, such as the team OP, the team OP with time windows, the profitable tour problem, and the prize-collecting travelling salesperson problem. In addition, it presents mathematical models and techniques for solving these OP variants and discusses their complexity. Several simple examples and benchmark instances, together with their best-known results, are also included. Finally, the book reviews the latest applications of these problems in the fields of logistics, tourism and others.

The 5th International Conference on Civil Engineering and Urban Planning (CEUP2016) was held in Xi'an, China on August 23 - 26, 2016. CEUP2016 gathered outstanding scientists and researchers worldwide to exchange and discuss new findings in civil engineering and urban planning associated with transportation and environmental topics. The conference program committee is also greatly honored to have four renowned experts for taking time off to present their keynotes to the conference. The conference had received a total of 410 submissions, which after peer review by the Technical Program Committee, only 108 were selected to be included in this conference proceedings, which covers Architecture and Urban Planning; Civil Engineering and Transportation Engineering.

Computational Collective Intelligence. Technologies and Applications
Stochastic Local Search Algorithms for Multiobjective Combinatorial Optimization
First International Conference, ICNC 2005, Changsha, China, August 27-29, 2005, Proceedings, Part III
Basic Concepts, Optimization Models and Advanced Memetic Algorithms
Approximation, Randomization and Combinatorial Optimization. Algorithms and Techniques
Applied Computer Sciences in Engineering
Web and Wireless Geographical Information Systems

" Multiobjective Combinatorial Optimization Problems (MCOPs) arise in many real-life applications and they are among the hardest optimization problems. Therefore, high-quality approximations that can be obtained in reasonable time are, in practice, preferable to the often infeasible long computation times required for finding the optimum. Stochastic Local Search (SLS) algorithms were shown to give state-of-the-art results for many other problems, but little is known on how to design and analyse them for MCOPs. The main purpose of this book is to fill this gap. We start by defining two search models that correspond to two distinct ways of tackling MCOPs by SLS algorithms. Notions of local optima for MCOPs are formally introduced and related to the typical outcome of SLS algorithms. Moreover, we present a systematic approach for the design of these algorithms based on the notion of SLS components and a general guideline to empirically analyse algorithm performance. Finally, several SLS algorithms and SLS components are tested on the Multiobjective Traveling Salesman Problem and the Multiobjective Quadratic Assignment Problem. The effect of instance features and SLS components on the performance of the SLS algorithms are identified by experimental design techniques. The results obtained clearly indicate that the best performing variants are new state-of-the-art algorithms. "

The study of operations research arose during World War II to enhance the effectiveness of weapons and equipment used on the battlefield. Since then, operations research techniques have also been used to solve several sophisticated and complex defense-related problems. Operations Research for Military Organizations is a critical scholarly resource that examines the issues that have an impact on aspects of contemporary quantitative applications of operations research methods in the military. It also addresses innovative applications, techniques, and methodologies to assist in solving defense and military-related problems. Featuring coverage on a broad range of topics such as combat planning, tactical decision aids, and weapon system simulations, this book is geared towards defense contractors, military consultants, military personnel, policy makers, and government departments seeking current research on defense methodologies.

This volume constitutes the papers presented at the 15th International Conference on Computer Aided Systems Theory, EUROCAST 2015, held in February 2015 in Las Palmas de Gran Canaria, Spain. The total of 107 papers presented were carefully reviewed and selected for inclusion in the book. The contributions are organized in topical sections on Systems Theory and Applications; Modelling Biological Systems; Intelligent Information Processing; Theory and Applications of Metaheuristic Algorithms; Computer Methods, Virtual Reality and Image Processing for Clinical and Academic Medicine; Signals and Systems in Electronics; Model-Based System Design, Verification, and Simulation; Digital Signal Processing Methods and Applications; Modelling and Control of Robots; Mobile Platforms, Autonomous and Computing Traffic Systems; Cloud and Other Computing Systems; and Marine Sensors and Manipulators.

This book constitutes the refereed conference proceedings of the 12th International Symposium, W2GIS 2013, held in Banff, Canada, in April 2013. The 11 revised full papers and 5 short papers presented were carefully selected from 28 submissions. The program covers a wide range of topics including Spatial Semantics and Databases, Location-based Services and Applications, Trajectory Representation and Sensor Web, Spatial Analysis and Systems and Map Generation and Modeling.

Special Event, SEA2 2019, Kalamata, Greece, June 24-29, 2019, Revised Selected Papers

Automated Design of Machine Learning and Search Algorithms

Operations Research for Military Organizations

5th Workshop on Engineering Applications, WEA 2018, Medellín, Colombia, October 17-19, 2018, Proceedings, Part II

Personalized Human-Computer Interaction

Models and Algorithms for Vehicle Routing Problems with Profits

Approximation Algorithms for Combinatorial Optimization

This book provides a thorough and up-to-date discussion of arc routing by world-renowned researchers. Organized by problem type, the book offers a rigorous treatment of complexity issues, models, algorithms, and applications. Arc Routing: Problems, Methods, and Applications opens with a historical perspective of the field and is followed by three sections that cover complexity and the Chinese Postman and the Rural Postman problems; the Capacitated Arc Routing Problem and routing problems with min-max and profit maximization objectives; and important applications, including meter reading, snow removal, and waste collection.

Search algorithms aim to find solutions or objects with specified properties and constraints in a large solution search space or among a collection of objects. A solution can be a set of value assignments to variables that will satisfy the constraints or a sub-structure of a given discrete structure. In addition, there are search algorithms, mostly probabilistic, that are designed for the prospective quantum computer. This book demonstrates the wide applicability of search algorithms for the purpose of developing useful and practical solutions to problems that arise in a variety of problem domains. Although it is targeted to a wide group of readers: researchers, graduate students, and practitioners, it does not offer an exhaustive coverage of search algorithms and applications. The chapters are organized into three parts: Population-based and quantum search algorithms, Search algorithms for image and video processing, and Search algorithms for engineering applications.

This book constitutes the proceedings of the 15th International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming for Combinatorial Optimization Problems, CPAIOR 2018, held in Delft, The Netherlands, in June 2018. The 47 full papers presented together with 3 abstracts of invited talks and 3 abstracts of fast-track journal papers were carefully reviewed and selected from 111 submissions. The conference brings together interested researchers from constraint programming, artificial intelligence, and operations research to present new techniques or applications in the intersection of these fields and provides an opportunity for researchers in one area to learn about techniques in the others, and to show how the integration of techniques from different fields can lead to interesting results on large and complex problems.

This book offers a timely snapshot of current soft-computing research and solutions to decision-making and optimization problems, which are ubiquitous in the current social and technological context, addressing fields including logistics, transportation and data analysis. Written by leading international experts from the United States, Brazil and Cuba, as well as the United Kingdom, France, Finland and Spain, it discusses theoretical developments in and practical applications of soft computing in fields where these methods are crucial to obtaining better models, including: intelligent transportation systems, maritime logistics, portfolio selection, decision-making, fuzzy cognitive maps, and fault detection. The book is dedicated to Professor José L. Verdegay, a pioneer who has been actively pursuing research in fuzzy sets theory and soft computing since 1982, in honor of his 65th birthday.

Selected Papers of the Annual International Conference of the German Operations Research Society (GOR) - Jointly Organized with the Netherlands Society for Operations Research (NGB), Tilburg, September 1-3, 2004

Soft Computing Based Optimization and Decision Models

Interfaces in Computer Science and Operations Research

Dynamics of Disasters—Key Concepts, Models, Algorithms, and Insights

Methods and Analysis

12th International Symposium, W2GIS 2013, Banff, Canada, April 4-5, 2013, Proceedings

Civil Engineering And Urban Planning - Proceedings Of The 5th International Conference On Civil Engineering And Urban Planning (Ceup2016)

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.

This book constitutes the thoroughly refereed post-conference proceedings of the 7th International Conference on Bio-Inspired Models of Network, Information and Computing Systems (Bionetics 2012), held in Lugano, Switzerland, in December 2012. The 23 revised full papers presented were carefully reviewed and selected from 40 submissions. They cover topics such as networking, robotics and neural networks, molecular scale and bioinformatics, optimization and bio-inspired modeling in various fields.

This book constitutes the refereed post-conference proceedings of the Special Event on the Analysis of Experimental Algorithms, SEA2 2019, held in Kalamata, Greece, in June 2019. The 35 revised full papers presented were carefully reviewed and selected from 45 submissions. The papers cover a wide range of topics in both computer science and operations research/mathematical programming. They focus on the role of experimentation and engineering techniques in the design and evaluation of algorithms, data structures, and computational optimization methods.

This book presents recent advances in automated machine learning (AutoML) and automated algorithm design and indicates the future directions in this fast-developing area. Methods have been developed to automate the design of neural networks, heuristics and metaheuristics using techniques such as metaheuristics, statistical techniques, machine learning and hyper-heuristics. The book first defines the field of automated design, distinguishing it from the similar but different topics of automated algorithm configuration and automated algorithm selection. The chapters report on the current state of the art by experts in the field and include reviews of AutoML and automated design of search, theoretical analyses of automated algorithm design, automated design of control software for robot swarms, and overfitting as a benchmark and design tool. Also covered are automated generation of constructive and perturbative low-level heuristics, selection hyper-heuristics for automated design, automated design of deep-learning approaches using hyper-heuristics, genetic programming hyper-heuristics with transfer knowledge and automated design of classification algorithms. The book concludes by examining future research directions of this rapidly evolving field. The information presented here will especially interest researchers and practitioners in the fields of artificial intelligence, computational intelligence, evolutionary computation and optimisation.

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

8th International Conference, EMO 2015, Guimarães, Portugal, March 29 --April 1, 2015. Proceedings, Part II

The Vehicle Routing Problem: Latest Advances and New Challenges

Search Algorithms and Applications

Orienteering Problems

Experiment and Evaluation in Information Retrieval Models

18th European Conference, EUMAS 2021, Virtual Event, June 28-29, 2021, Revised Selected Papers

This book constitutes the proceedings of the 20th International Conference on Mathematical Optimization Theory and Operations Research, MOTOR 2021, held in Irkutsk, Russia, in July 2021.

The 29 full papers and 1 short paper presented in this volume were carefully reviewed and selected from 102 submissions. Additionally, 2 full invited papers are presented in the volume. The

papers are grouped in the following topical sections: ?combinatorial optimization; mathematical programming; bilevel optimization; scheduling problems; game theory and optimal control;

operational research and mathematical economics; data analysis.

Computing Tools for Modeling, Optimization and Simulation reflects the need for preserving the marriage between operations research and computing in order to create more efficient and powerful software tools in the years ahead. The 17 papers included in this volume were carefully selected to cover a wide range of topics related to the interface between operations research and computer science. The volume includes the now perennial applications of rmetaheuristics (such as genetic algorithms, scatter search, and tabu search) as well as research on global optimization, knowledge management, software rnaintainability and object-oriented modeling. These topics reflect the complexity and variety of the problems that current and future software tools must be capable of tackling. The OR/CS interface is frequently at the core of successful applications and the development of new methodologies, making the research in this book a relevant reference in the future. The editors' goal for this book has been to increase the interest in the interface of computer science and operations research. Both researchers and practitioners will benefit from this book. The tutorial papers may spark the interest of practitioners for developing and applying new techniques to complex problems. In addition, the book includes papers that explore new angles of well-established methods for problems in the area of nonlinear optimization and mixed integer programming, which seasoned researchers in these fields may find fascinating.

This book constitutes the thoroughly refereed post-conference proceedings of the 10th International Conference on Learning and Optimization, LION 10, which was held on Ischia, Italy, in May/June 2016. The 14 full papers presented together with 9 short papers and 2 GENOPT papers were carefully reviewed and selected from 47 submissions. The papers address all fields between machine learning, artificial intelligence, mathematical programming and algorithms for hard optimization problems. Special focus is given to new ideas and methods: challenges and opportunities in various application areas; general trends, and specific developments.

"This book offers the latest research within the field of HAIS, surveying the broad topics and collecting case studies, future directions, and cutting edge analyses, investigating

biologically inspired algorithms such as ant colony optimization and particle swarm optimization"--

7th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, APPROX 2004 and 8th International Workshop on Randomization and Computation, RANDOM 2004, Cambridge, MA, USA August 22-24, 2004 , Proceedings

International Workshop, APPROX ... : Proceedings

Problems, Methods, and Applications

Issues in Transportation Research and Application: 2013 Edition

Integer Programming and Related Areas

Arc Routing

Computing Tools for Modeling, Optimization and Simulation

In a unified and carefully developed presentation, this book systematically examines recent developments in VRP. The book focuses on a portfolio of significant technical advances that have evolved over the past few years for modeling and solving vehicle routing problems and VRP variations. Reflecting the most recent scholarship, this book is written by one of the top research scholars in Vehicle Routing and is one of the most important books in VRP to be published in recent times.

This book presents the proceedings of the XXII International Conference on Industrial Engineering and Operations Management, International IIE Conference 2016, and International AIM Conference 2016. This joint conference is a result of an agreement between ADINGOR (Asociación para el Desarrollo de la Ingeniería de Organización), ABEPRO (Associação Brasileira de Engenharia de Produção), AIM (European Academy for Industrial Management) and the IIE (Institute of Industrial

Engineers), and took place at TECNUN-School of Engineering (San Sebastián, Spain) from July 13th to 15th, 2016. The book includes the latest research advances and cutting-edge analyses of real case studies in Industrial Engineering and Operations Management from diverse international contexts, while also identifying concrete business applications for the latest findings and innovations in operations management and the decisions sciences.

This volume results from the “ Second International Conference on Dynamics of Disasters ” held in Kalamata, Greece, June 29-July 2, 2015. The conference covered particular topics involved in natural and man-made disasters such as war, chemical spills, and wildfires. Papers in this volume examine the finer points of disasters through: Critical infrastructure protection Resiliency Humanitarian logistic Relief supply chains Cooperative game theory Dynamical systems Decision making under risk and uncertainty Spread of diseases Contagion Funding for disaster relief Tools for emergency preparedness Response, and risk mitigation Multi-disciplinary theories, tools, techniques and methodologies are linked with disasters from mitigation and preparedness to response and recovery. The interdisciplinary approach to problems in economics, optimization, government, management, business, humanities, engineering, medicine, mathematics, computer science, behavioral studies, emergency services, and environmental studies will engage readers from a wide variety of fields and backgrounds.

This book constitutes the refereed proceedings of the 8th International Conference on Evolutionary Multi-Criterion Optimization, EMO 2015 held in Guimarães, Portugal in March/April 2015. The 68 revised full papers presented together with 4 plenary talks were carefully reviewed and selected from 90 submissions. The EMO 2015 aims to continue these type of developments, being the papers presented focused in: theoretical aspects, algorithms development, many-objectives optimization, robustness and optimization under uncertainty, performance indicators, multiple criteria decision making and real-world applications.

Mathematical Optimization Theory and Operations Research

Bio-Inspired Models of Network, Information, and Computing Systems

Uncertainty Management with Fuzzy and Rough Sets

Learning and Intelligent Optimization

Freight Transportation

Operational Freight Carrier Planning

7th International ICST Conference, BIONETICS 2012, Lugano, Switzerland, December 10--11, 2012, Revised Selected Papers

These proceedings provide information on the most recent advances in operations research and related areas in economics, mathematics, and computer science, contributed by academics and practitioners from around the world.

This book constitutes the revised post-conference proceedings of the 18th European Conference on Multi-Agent Systems, EUMAS 2021. The conference was held online in June, 2021. 16 full papers are presented in this volume, each of which carefully reviewed and selected from a total of 51 submissions. The papers report on both early and mature research and cover a wide range of topics in the field of multi-agent systems.

Personalized and adaptive systems employ user models to adapt content, services, interaction or navigation to individual users' needs. User models can be inferred from implicitly observed information, such as the user's interaction history or current location, or from explicitly entered information, such as user profile data or ratings. Applications of personalization include item recommendation, location-based services, learning assistance and the tailored selection of interaction modalities. With the transition from desktop computers to mobile devices and ubiquitous environments, the need for adapting to changing contexts is even more important. However, this also poses new challenges concerning privacy issues, user control, transparency, and explainability. In addition, user experience and other human factors are becoming increasingly important. This book describes foundations of user modeling, discusses user interaction as a basis for adaptivity, and showcases several personalization approaches in a variety of domains, including music recommendation, tourism, and accessible user interfaces.

Issues in Transportation Research and Application: 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Transport Geography. The editors have built Issues in Transportation Research and Application: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Transport Geography 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 Transportation Research and Application: 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/>.

15th International Conference, Las Palmas de Gran Canaria, Spain, February 8-13, 2015, Revised Selected Papers

Logistics Management and Optimization through Hybrid Artificial Intelligence Systems

A Classified Bibliography 1984–1987 Compiled at the Institut für Ökonometrie and Operations Research, University of Bonn

Kalamata, Greece, June–July 2015

10th International Conference, LION 10, Ischia, Italy, May 29 -- June 1, 2016, Revised Selected Papers

Green, Pervasive, and Cloud Computing

Proceedings of the Fourteenth Annual ACM-SIAM Symposium on Discrete Algorithms

From the January 2003 symposium come just over 100 papers addressing a range of topics related to discrete algorithms. Examples of topics covered include packing Steiner trees, counting inversions in lists, directed scale-free graphs, quantum property testing, and improved results for directed multicut. The papers were not formally refereed, but attempts were made to verify major results. Annotation (c)2003 Book News, Inc., Portland, OR (booknews.com)

This book represents the compilation of several research approaches on operational freight carrier planning carried out at the Chair of Logistics, University of Bremen. It took nearly three years from the first ideas to the final version, now in your hands. During this time, several persons helped me all the time to keep on going and to re-start when I got stuck in a dead end or when I could not see the wood for the trees. I am deeply indebted to them for their encouragement and comments. Prof. Dr. Herbert Kopfer, holder of the Chair of Logistics, introduced me into the field of operational transport planning. He motivated and supervised me. Furthermore, he supported me constantly and allowed me to be as free as possible in my research and encouraged me to be as creative as necessary. In addition, I have to thank Prof. Dr. Hans-Dietrich Haasis, Prof. Dr. Martin G. Mohrle and Prof. Dr. Thorsten Poddig. On behalf of all my colleagues, who supported me in numerous ways, I have to say thank you to Prof. Dr. Dirk C. Mattfeld, Prof. Dr. Christian Bierwirth, Henner Gratz, Prof. Dr. Elmar Erkens, Nadja Shigo and Katrin Dorow. They all helped me even with my most obscure and dubious problems. My family supported me all the time. They always showed me their trust and encouraged me continuously. Special thanks are dedicated to my parents Monika and Heinz-Jiirgen.

Experiment and Evaluation in Information Retrieval Models explores different algorithms for the application of evolutionary computation to the field of information retrieval (IR). As well as examining existing approaches to resolving some of the problems in this field, results obtained by researchers are critically evaluated in order to give readers a clear view of the topic. In addition, this book covers Algorithmic Solutions to the Problems in Advanced IR Concepts, including Feature Selection for Document Ranking, web page classification and recommendation, Facet Generation for Document Retrieval, Duplication Detection and seeker satisfaction in question answering community Portals. Written with students and researchers in the field on information retrieval in mind, this book is also a useful tool for researchers in the natural and social sciences interested in the latest developments in the fast-moving subject area. Key features: Focusing on recent topics in Information Retrieval research, Experiment and Evaluation in Information Retrieval Models explores the following topics in detail: Searching in social media Using semantic annotations Ranking documents based on Facets Evaluating IR systems offline and online The role of evolutionary computation in IR Document and term clustering, Image retrieval Design of user profiles for IR Web page classification and recommendation Relevance feedback approach for Document and image retrieval

Delineating the tremendous growth in this area, the Handbook of Approximation Algorithms and Metaheuristics covers fundamental, theoretical topics as well as advanced, practical applications. It is the first book to comprehensively study both approximation algorithms and metaheuristics. Starting with basic approaches, the handbook presents the methodologies to design and analyze efficient approximation algorithms for a large class of problems, and to establish inapproximability results for another class of problems. It also discusses local search, neural networks, and metaheuristics, as well as multiobjective problems, sensitivity analysis, and stability. After laying this foundation, the book applies the methodologies to classical problems in combinatorial optimization, computational geometry, and graph problems. In addition, it explores large-scale and emerging applications in networks, bioinformatics, VLSI, game theory, and data analysis. Undoubtedly sparking further developments in the field, this handbook provides the essential techniques to apply approximation algorithms and metaheuristics to a wide range of problems in computer science, operations research, computer engineering, and economics. Armed with this information, researchers can design and analyze efficient algorithms to generate near-optimal solutions for a wide range of computational intractable problems.

15th International Conference, CPAIOR 2018, Delft, The Netherlands, June 26 – 29, 2018, Proceedings

Evolutionary Multi-Criterion Optimization

Operations Research Proceedings 2004

12th International Conference, GPC 2017, Cetara, Italy, May 11-14, 2017, Proceedings

Multi-Agent Systems

To Commemorate the 65th Birthday of Professor José Luis "Curro" Verdegay

20th International Conference, MOTOR 2021, Irkutsk, Russia, July 5 – 10, 2021, Proceedings

This two-volume set (CCIS 915 and CCIS 916) constitutes the refereed proceedings of the 5th Workshop on Engineering Applications, WEA 2018, held in Medellín, Colombia, in October 2018. The 41 revised full papers presented in this volume were carefully reviewed and selected from 101 submissions. The papers are organized in topical sections such as green logistics and optimization, Internet of Things (IoT), digital signal processing (DSP), network applications, miscellaneous applications.

This book offers a timely overview of fuzzy and rough set theories and methods. Based on selected contributions presented at the International Symposium on Fuzzy and Rough Sets, ISFUROS 2017, held in Varadero, Cuba, on October 24-26, 2017, the book also covers related approaches, such as hybrid rough-fuzzy sets and hybrid fuzzy-rough sets and granular computing, as well as a number of applications, from big data analytics, to business intelligence, security, robotics, logistics, wireless sensor networks and many more. It is intended as a source of inspiration for PhD students and researchers in the field, fostering not only new ideas but also collaboration between young researchers and institutions and established ones.

This book constitutes the proceedings of the 12th International Conference on Green, Pervasive, and Cloud Computing, GPC 2017, held in Cetara, Italy, in May 2017 and the following colocated workshops: First International Workshop on Digital Knowledge Ecosystems 2017; and First Workshop on Cloud Security Modeling, Monitoring and Management, CS3M 2017. The 58 full papers included in this volume were carefully reviewed and selected from 169 initial submissions. They deal with cryptography, security and biometric techniques; advances network services, algorithms and optimization; mobile and pervasive computing; cybersecurity; parallel and distributed computing; ontologies and smart applications; and healthcare support systems.

This tutorial introduces readers to several variants of routing problems with profits. In these routing problems each node has a certain profit, and not all nodes need to be visited. Since the orienteering problem (OP) is by far the most frequently studied problem in this category of routing problems, the book mainly focuses on the OP. In turn, other problems are presented as variants of the OP, focusing on the similarities and differences. The goal of the OP is to determine a subset of nodes to visit and in which order, so that the total collected profit is maximized and a given time budget is not exceeded. The book provides a comprehensive review of variants of the OP, such as the team OP, the team OP with time windows, the profitable tour problem, and the prize-collecting travelling salesperson problem. In addition, it presents mathematical models and techniques for solving these OP variants and discusses their complexity. Several simple examples and benchmark instances, together with their best-known results, are also included. Finally, the book reviews the latest applications of these problems in the fields of logistics, tourism and others.

Integration of Constraint Programming, Artificial Intelligence, and Operations Research

Computer Aided Systems Theory II EUROCAST 2015

Recent Advances and Applications

5th International Conference, ICCCI 2013, Craiova, Romania, September 11-13, 2013, Proceedings

Advances in Natural Computation

Analysis of Experimental Algorithms

Handbook of Approximation Algorithms and Metaheuristics

This book constitutes the joint refereed proceedings of the 7th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, APPROX 2004 and the 8th International Workshop on Randomization and Computation, RANDOM 2004, held in Cambridge, MA, USA in August 2004. The 37 revised full papers presented were carefully reviewed and selected from 87 submissions. Among the issues addressed are design and analysis of approximation algorithms, inapproximability results, approximation classes, online problems, graph algorithms, cuts, geometric computations, network design and routing, packing and covering, scheduling, game theory, design and analysis of randomised algorithms, randomized complexity theory, pseudorandomness, derandomization, probabilistic proof systems, error-correcting codes, and other applications of approximation and randomness.

This book and its sister volumes, i.e., LNCS vols. 3610, 3611, and 3612, are the proceedings of the 1st International Conference on Natural Computation (ICNC 2005), jointly held with the 2nd International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2005, LNAI vols. 3613 and 3614) from 27 to 29 August 2005 in Changsha, Hunan, China.

Closing the Gap Between Practice and Research in Industrial Engineering