Rsm And Nsga Ii Based Multiple Performance

 High Performance Computing and Communications Simulated Evolution and Learning Evolutionary Multi-Criterion Optimization Artificial Life and Computational Intelligence *Rescheduling Under Disruptions in Manufacturing Systems* Multi-Objective Optimization Intelligent Systems Simulated Evolution and Learning Design of Intelligent Systems Based on Fuzzy Logic, Neural Networks and Nature-Inspired Optimization Evolutionary Computation in Combinatorial Optimization *Parallel Problem Solving from Nature — PPSN XIV* Evolutionary Multi-Criterion Optimization *Shortest Path Solvers. From Software to Wetware* Evolutionary Multi-Criterion Optimization Evolutionary Multi-Criterion Optimization Optimization and Learning Evolutionary Scheduling Parallel Problem Solving from Nature - PPSN IX Multi-Objective Optimization in Chemical Engineering *Intelligent Computing Technology* Access Nets Advances in Neural Networks — ISNN 2019 Archiving Strategies for Evolutionary Multi-objective Optimization Algorithms Advances in Production Management Systems. Artificial Intelligence for Sustainable and Resilient Production Systems *Multi-objective Optimization* Multi-Objective Optimization using Evolutionary Algorithms *Adaptive and Natural Computing Algorithms* Evolutionary Multi-Criterion Optimization Over 40 Publications / Studies Combined: UAS / UAV / Drone Swarm Technology Research Statistical Machine Learning for Human Behaviour Analysis Advances in Evolutionary Algorithms Advances in Evolutionary and Deterministic Methods for Design, Optimization and Control in Engineering and Sciences Simulation Tools and Techniques Innovations in Computer Science and Engineering Smart Device Recognition Parallel Problem Solving from Nature, PPSN XI Control and Optimisation of Process Systems Neural Information Processing Multi-Objective Optimization Evolutionary Algorithms for Solving Multi-Objective Problems

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Adaptive and Natural Computing Algorithms Aug 09 2020 This two volume set constitutes the refereed proceedings of the 8th International Conference on Adaptive and Natural Computing Algorithms, ICANNGA 2007, held in Warsaw, Poland, in April 2007. Coverage in the first volume includes evolutionary computation, genetic algorithms, and particle swarm optimization. The second volume covers neural networks, support vector machines, biomedical signal and image processing, biometrics, computer vision.
 Evolutionary Multi-Criterion Optimization Sep 02 2022 This book constitutes the refereed proceedings of the 4th International Conference on Evolutionary Multi-Criterion Optimization, EMO 2007, held in Matsushima, Japan in March 2007. The 65 revised full papers presented together with 4 invited papers are organized in topical sections on algorithm design, algorithm improvements, alternative methods, applications, engineering design, many objectives, objective handling, and performance assessments.
 Multi-Objective Optimization using Evolutionary Algorithms Sep 09 2020 Evolutionary algorithms are relatively new, but very powerful techniques used to find solutions to many real-world search and optimization problems. Many of these problems have multiple objectives, which leads to the need to obtain a set of optimal solutions, known as effective solutions. It has been found that using evolutionary algorithms is a highly effective way of finding multiple effective solutions in a single simulation run. Comprehensive coverage of this growing area of research Carefully introduces each algorithm with examples and in-depth discussion Includes many applications to real-world problems, including engineering design and scheduling Includes discussion of advanced topics and future research Can be used as a course text or for self-study Accessible to those with limited knowledge of classical multi-objective optimization and evolutionary algorithms The integrated presentation of theory, algorithms and examples will benefit those working and researching in the areas of optimization, optimal design and evolutionary computing. This text provides an excellent introduction to the use of evolutionary algorithms in multi-objective optimization, allowing use as a graduate course text or for self-study.
 Parallel Problem Solving from Nature, PPSN XI Oct 30 2019 We are very pleased to present to you this LNCS volume, the proceedings of the 11th International Conference on Parallel Problem Solving from Nature (PPSN 2010). PPSN is one of the most respected and highly regarded c- ference series in evolutionary computation, and indeed in natural computation aswell.Thisbiennialeventwas?rstheldinDortmundin1990, andtheninBr- sels (1992), Jerusalem (1994), Berlin (1996), Amsterdam (1998), Paris (2000), Granada (2002), Birmingham (2004), Reykjavik (2006) and again in Dortmund in 2008. PPSN 2010 received 232 submissions. After an extensive peer review p- cess involving more than 180 reviewers, the program committee chairs went through all the review reports and ranked the papers according to the revi- ers'comments. Each paper wasevaluated by at least three reviewers.Additional reviewers from the appropriate branches of science were invoked to review into disciplinary papers. The top 128 papers were ?nally selected for inclusion in the proceedings and presentation at the conference. This represents an acceptance rate of 55%, which guarantees that PPSN will continue to be one of the c- ferences of choice for bio-inspired computing and metaheuristics researchers all over the world who value the quality over the size of a conference. The papers included in the proceedingsvolumes covera wide range of topics, fromevolutionarycomputationto swarmintelligence, frombio-inspiredcomp- ing to real-world applications. Machine learning and mathematical games s- portedbyevolutionaryalgorithmsaswellasmemetic, agent-orientedsystemsare also represented. They all are the latest and best in natural computation. The proceedings are composed of two volumes divided into nine thematic sections.
 Design of Intelligent Systems Based on Fuzzy Logic, Neural Networks and Nature-Inspired Optimization Feb 24 2022 This book presents recent advances on the design of intelligent systems based on fuzzy logic, neural networks and nature-inspired optimization and their application in areas such as, intelligent control and robotics, pattern recognition, time series prediction and optimization of complex problems. The book is organized in eight main parts, which contain a group of papers around a similar subject. The first part consists of papers with the main theme of theoretical aspects of fuzzy logic, which basically consists of papers that propose new concepts and algorithms based on fuzzy systems. The second part contains papers with the main theme of neural networks theory, which are basically papers dealing with new concepts and algorithms in neural networks. The third part contains papers describing applications of neural networks in diverse areas, such as time series prediction and pattern recognition. The fourth part contains papers describing new nature-inspired optimization algorithms. The fifth part presents diverse applications of nature-inspired optimization algorithms. The sixth part contains papers describing new optimization algorithms. The seventh part contains papers describing applications of fuzzy logic in diverse areas, such as time series prediction and pattern recognition. Finally, the eighth part contains papers that present enhancements to meta-heuristics based on fuzzy logic techniques.
 Neural Information Processing Aug 28 2019 The two-volume set CCIS 1142 and 1143 constitutes thoroughly refereed contributions presented at the 26th International Conference on Neural Information Processing, ICONIP 2019, held in Sydney, Australia, in December 2019. For ICONIP 2019 a total of 345 papers was carefully reviewed and selected for publication out of 645 submissions. The 168 papers included in this volume set were organized in topical sections as follows: adversarial networks and learning; convolutional neural networks; deep neural networks; embeddings and feature fusion; human centred computing; human centred computing and medicine; human centred computing for emotion; hybrid models; image processing by neural techniques; learning from incomplete data; model compression and optimization; neural network applications; neural network models; semantic and graph based approaches; social network computing; spiking neuron and related models; text computing using neural techniques; time-series and related models; and unsupervised neural models.
 Evolutionary Multi-Criterion Optimization Jul 08 2020 This book constitutes the refereed proceedings of the 9th International Conference on Evolutionary Multi-Criterion Optimization, EMO 2017 held in Münster, Germany in March 2017. The 33 revised full papers presented together with 13 poster presentations were carefully reviewed and selected from 72 submissions. The EMO 2017 aims to discuss all aspects of EMO development and deployment, including theoretical foundations; constraint handling techniques; preference handling techniques; handling of continuous, combinatorial or mixed-integer problems; local search techniques; hybrid approaches; stopping criteria; parallel EMO models; performance evaluation; test functions and benchmark problems; algorithm selection approaches; many-objective optimization; large scale optimization; real-world applications; EMO algorithm implementations.
 Archiving Strategies for Evolutionary Multi-objective Optimization Algorithms Dec 13 2020 This book presents an overview of archiving strategies developed over the last years by the authors that deal with suitable approximations of the sets of optimal and nearly optimal solutions of multi-objective optimization problems by means of stochastic search algorithms. All presented archivers are analyzed with

respect to the approximation qualities of the limit archives that they generate and the upper bounds of the archive sizes. The convergence analysis will be done using a very broad framework that involves all existing stochastic search algorithms and that will only use minimal assumptions on the process to generate new candidate solutions. All of the presented archivers can effortlessly be coupled with any set-based multi-objective search algorithm such as multi-objective evolutionary algorithms, and the resulting hybrid method takes over the convergence properties of the chosen archiver. This book hence targets at all algorithm designers and practitioners in the field of multi-objective optimization.

<u>Optimization and Learning</u> Jul 20 2021 This volume constitutes the refereed proceedings of the Third International Conference on Optimization and Learning, OLA 2020, held in Cádiz, Spain, in February 2020. The 23 full papers were carefully reviewed and selected from 55 submissions. The papers presented in the volume focus on the future challenges of optimization and learning methods, identifying and exploiting their synergies,and analyzing their applications in different fields, such as health, industry 4.0, games, logistics, etc.

<u>Simulated Evolution and Learning</u> Mar 28 2022 This volume constitutes the proceedings of the 7th International Conference on Simulated Evolution and Learning, SEAL 2008, held in Melbourne, Australia, during December 7-10, 2008. The 65 papers presented were carefully reviewed and selected from 140 submissions. The topics covered are evolutionary learning; evolutionary optimisation; hybrid learning; adaptive systems; theoretical issues in evolutionary computation; and real-world applications of evolutionary computation techniques.

Shortest Path Solvers. From Software to Wetware Oct 23 2021 This book offers advanced parallel and distributed algorithms and experimental laboratory prototypes of unconventional shortest path solvers. In addition, it presents novel and unique algorithms of solving shortest problems in massively parallel cellular automaton machines. The shortest path problem is a fundamental and classical problem in graph theory and computer science and is frequently applied in the contexts of transport and logistics, telecommunication networks, virtual reality and gaming, geometry, and social networks analysis. Software implementations include distance-vector algorithms for distributed path computation in dynamics networks, parallel solutions of the constrained shortest path problem, and application of the shortest path solutions in gathering robotic swarms. Massively parallel algorithms utilise cellular automata, where a shortest path is computed either via matrix multiplication in automaton arrays, or via the representation of data graphs in automaton lattices and using the propagation of wave-like patterns. Unconventional shortest path solvers are presented in computer models of foraging behaviour and protoplasmic network optimisation by the slime mould Physarum polycephalum and fluidic devices, while experimental laboratory prototypes of path solvers using chemical media, flows and droplets, and electrical current are also highlighted. The book will be a pleasure to explore for readers from all walks of life, from undergraduate students to university professors, from mathematicians, computers scientists and engineers to chemists and biologists.

Control and Optimisation of Process Systems Sep 29 2019 Advances in Chemical Engineering was established in 1960 and is the definitive serial in the area. It is one of great importance to organic chemists, polymer chemists, and many biological scientists. Written by established authorities in the field, the comprehensive reviews combine descriptive chemistry and mechanistic insight and yield an understanding of how the chemistry drives the properties. This volume focuses on control and optimisation of process systems. Advances in Chemical Engineering was established in 1960 and is the definitive serial in the area. It is one of great importance to organic chemists, polymer chemists, and many biological scientists Written by established authorities in the field, the comprehensive reviews combine descriptive chemistry and mechanistic insight and yield an understanding of how the chemistry drives the properties Focuses on control and optimization of process systems

Rescheduling Under Disruptions in Manufacturing Systems Jun 30 2022 This book provides an introduction to the models, methods, and results of some rescheduling problems in the presence of unexpected disruption events, including job unavailability, arrival of new jobs, and machine breakdown. The occurrence of these unexpected disruptions may cause a change in the planned schedule, which may render the originally feasible schedule infeasible. Rescheduling, which involves adjusting the original schedule to account for a disruption, is necessary in order to minimize the effects of the disruption on the performance of the system. This involves a trade-off between finding a cost-effective new schedule and avoiding excessive changes to the original schedule. This book views scheduling theory as practical theory, and it has made sure to emphasize the practical aspects of its topic coverage. Thus, this book considers some scenarios existing in most real-world environments, such as preventive machine maintenance, and deteriorating effect where the actual processing time of a job gets longer along with machine's usage and age. To alleviate the effect of disruption events, some flexible strategies are adopted, including allocation extra resources to reduce job processing times or rejection the production of some jobs. For each considered scenario, depending on the model settings and on the disruption events, this book addresses the complexity, and the design of efficient exact or approximated algorithms. Especially when optimization methods and analytic tools fall short, this book stresses metaheuristics including improved elitist non-dominated sorting genetic algorithm and differential evolution algorithm. This book also provides extensive numerical studies to evaluate the performance of the proposed algorithms. The problem of rescheduling in the presence of unexpected disruption events is of great importance for the successful implementation of real-world scheduling systems. There is now an astounding body of knowledge in this field. This book is the first monograph on rescheduling. It aims at introducing the author's research achievements in rescheduling. It is written for researchers and Ph.D. students working in scheduling theory and other members of scientific community who are interested in recent scheduling models. Our goal is to enable the reader to know about some new achievements on this topic.

<u>Over 40 Publications / Studies Combined: UAS / UAV / Drone Swarm Technology Research</u> Jun 06 2020 Over 3,800 total pages ... Just a sample of the studies / publications included: Drone Swarms Terrorist and Insurgent Unmanned Aerial Vehicles: Use, Potentials, and Military Implications Countering A2/AD with Swarming Stunning Swarms: An Airpower Alternative to Collateral Damage Ideal Directed-Energy System To Defeat Small Unmanned Aircraft System Swarms Break the Kill Chain, not the Budget: How to Avoid U.S. Strategic Retrenchment Gyges Effect: An Ethical Critique of Lethal Remotely Piloted Aircraft Human Robotic Swarm Interaction Using an Artificial Physics Approach Swarming UAS II Swarming Unmanned Aircraft Systems Communication Free Robot Swarming UAV Swarm Attack: Protection System Alternatives for Destroyers Confidential and Authenticated Communications in a Large Fixed-Wing UAV Swarm UAV Swarm Behavior Modeling for Early Exposure of Failure Modes Optimized Landing of Autonomous Unmanned Aerial Vehicle Swarms Mini, Micro, and Swarming Unmanned Aerial Vehicles: A Baseline Study UAV Swarm Operational Risk Assessment System SmartSwarms: Distributed UAVs that Think Command and Control Autonomous UxV's UAV Swarm Tactics: An Agent-Based Simulation and Markov Process Analysis A Novel Communications Protocol Using Geographic Routing for Swarming UAVs Performing a Search Mission Accelerating the Kill Chain via Future Unmanned Aircraft Evolution of Control Programs for a Swarm of Autonomous Unmanned Aerial Vehicles AFIT UAV Swarm Mission Planning and Simulation System A Genetic Algorithm for UAV Routing Integrated with a Parallel Swarm Simulation Applying Cooperative Localization to Swarm UAVS Using an Extended Kalman Filter A Secure Group Communication Architecture for a Swarm of Autonomous Unmanned Aerial Vehicles Braving the Swarm: Lowering Anticipated Group Bias in Integrated Fire/Police Units Facing Paramilitary Terrorism Distributed Beamforming in a Swarm UAV Network Integrating UAS Flocking Operations with Formation Drag Reduction Tracking with a Cooperatively Controlled Swarm of GMTI Equipped UAVS Using Agent-Based Modeling to Evaluate UAS Behaviors in a Target-Rich Environment Experimental Analysis of Integration of Tactical Unmanned Aerial Vehicles and Naval Special Warfare Operations Forces Target Acquisition Involving Multiple Unmanned Air Vehicles: Interfaces for Small Unmanned Air Systems (ISUS) Program Tools for the Conceptual Design and Engineering Analysis of Micro Air Vehicles Architectural Considerations for Single Operator Management of Multiple Unmanned Aerial Vehicles

Evolutionary Algorithms for Solving Multi-Objective Problems Jun 26 2019 This textbook is a second edition of Evolutionary Algorithms for Solving Multi-Objective Problems, significantly expanded and adapted for the classroom. The various features of multi-objective evolutionary algorithms are presented here in an innovative and student-friendly fashion, incorporating state-of-the-art research. The book disseminates the application of evolutionary algorithm techniques to a variety of practical problems. It contains exhaustive appendices, index and bibliography and links to a complete set of teaching tutorials, exercises and solutions.

Artificial Life and Computational Intelligence Aug 01 2022 This book constitutes the refereed proceedings of the Third Australasian Conference on Artificial Life and Computational Intelligence, ACALCI 2017, held in Geelong, VIC, Australia, in January/February 2017. The 32 papers presented in this volume were carefully reviewed and selected from 47 submissions. They were organized in topical sections named: artificial life and computational intelligence and optimization algorithms and applications.

Evolutionary Multi-Criterion Optimization Sep 21 2021 Multi-criterionoptimizationreferstooptimizationproblemswithtwoormore- jectives expressing con?icting goals that are formulated within a mathematical programming framework. The problems addressed may involve linear or nonl- ear objective functions and/or constraints, continuous or discrete variables, and may or may not be a?ected by uncertainty in the data. This branch of multiple criteria decision making (MCDM) ?nds application in numerous domains: en- neering design, health, transportation,telecommunications, bioinformatics, etc. The concept of a unique optimal solution does not apply as soon as multiple objectives are optimized simultaneously. The models and methods introduced in multi-criterion optimization deal with the concept of a set of e?cient (also called Pareto optimal) solutions. E?cient solutions imply trade-o?s between the di?erentcriteria. Thecomputationofthee?cientsolutionsetmaybehardwhen the size of the problem is large, when the problem is computationally complex, when the data are not crisp. It is then often impossible to guarantee the com- tation of exact solutions. In that case, approximate solutions, i. e. , sub-optimal solutionscomputedwithlimitedandcontrolledresources,suchasavailabletime, are of interest. This is the domain of multi-

objective metaheuristics, of which evolutionary multi-criterion optimization (EMO) is de?nitely the most pro- nent representative. The success of EMO is due to the simplicity of its concepts and the generality of its methods, and is clearly expressed by the many impr- sive success stories reported in the literature. Research activities in EMO have boomed since the mid-1990s. Three g- erations of work are identi?able throughout the years.

Advances in Production Management Systems. Artificial Intelligence for Sustainable and Resilient Production Systems Nov 11 2020 The five-volume set IFIP AICT 630, 631, 632, 633, and 634 constitutes the refereed proceedings of the International IFIP WG 5.7 Conference on Advances in Production Management Systems, APMS 2021, held in Nantes, France, in September 2021.* The 378 papers presented were carefully reviewed and selected from 529 submissions. They discuss artificial intelligence techniques, decision aid and new and renewed paradigms for sustainable and resilient production systems at four-wall factory and value chain levels. The papers are organized in the following topical sections: Part I: artificial intelligence based optimization techniques for demand-driven manufacturing; hybrid approaches for production planning and scheduling; intelligent systems for manufacturing planning and control in the industry 4.0; learning and robust decision support systems for agile manufacturing environments; low-code and model-driven engineering for production system; meta-heuristics and optimization techniques for energy-oriented manufacturing systems; metaheuristics for production systems; modern analytics and new AI-based smart techniques for replenishment and production planning under uncertainty; system identification for manufacturing control applications; and the future of lean thinking and practice Part II: digital transformation of SME manufacturers: the crucial role of standard; digital transformations towards supply chain resiliency; engineering of smart-product-service-systems of the future; lean and Six Sigma in services healthcare; new trends and challenges in reconfigurable, flexible or agile production system; production management in food supply chains; and sustainability in production planning and lot-sizing Part III: autonomous robots in delivery logistics; digital transformation approaches in production management; finance-driven supply chain; gastronomic service system design; modern scheduling and applications in industry 4.0; recent advances in sustainable manufacturing; regular session: green production and circularity concepts; regular session: improvement models and methods for green and innovative systems; regular session: supply chain and routing management; regular session: robotics and human aspects; regular session: classification and data management methods; smart supply chain and production in society 5.0 era; and supply chain risk management under coronavirus Part IV: AI for resilience in global supply chain networks in the context of pandemic disruptions; blockchain in the operations and supply chain management; data-based services as key enablers for smart products, manufacturing and assembly; data-driven methods for supply chain optimization; digital twins based on systems engineering and semantic modeling; digital twins in companies first developments and future challenges; human-centered artificial intelligence in smart manufacturing for the operator 4.0; operations management in engineer-to-order manufacturing; product and asset life cycle management for smart and sustainable manufacturing systems; robotics technologies for control, smart manufacturing and logistics; serious games analytics: improving games and learning support; smart and sustainable production and supply chains; smart methods and techniques for sustainable supply chain management; the new digital lean manufacturing paradigm; and the role of emerging technologies in disaster relief operations: lessons from COVID-19 Part V: data-driven platforms and applications in production and logistics: digital twins and AI for sustainability; regular session: new approaches for routing problem solving; regular session: improvement of design and operation of manufacturing systems; regular session: crossdock and transportation issues; regular session: maintenance improvement and lifecycle management; regular session: additive manufacturing and mass customization; regular session: frameworks and conceptual modelling for systems and services efficiency; regular session: optimization of production and transportation systems; regular session: optimization of supply chain agility and reconfigurability; regular session: advanced modelling approaches; regular session: simulation and optimization of systems performances; regular session: AI-based approaches for quality and performance improvement of production systems; and regular session: risk and performance management of supply chains *The conference was held online.

Evolutionary Multi-Criterion Optimization Aug 21 2021 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.

Multi-Objective Optimization Jul 28 2019 This book brings together the latest findings on efficient solutions of multi/many-objective optimization problems from the leading researchers in the field. The focus is on solving real-world optimization problems using strategies ranging from evolutionary to hybrid frameworks, and involving various computation platforms. The topics covered include solution frameworks using evolutionary to hybrid models in application areas like Analytics, Cancer Research, Traffic Management, Networks and Communications, E-Governance, Quantum Technology, Image Processing, etc. As such, the book offers a valuable resource for all postgraduate students and researchers interested in exploring solution frameworks for multi/many-objective optimization problems.

Intelligent Computing Technology Mar 16 2021 This book constitutes the first of 3 volumes of refereed conference proceedings of the 8th International Conference on Intelligent Computing, ICIC 2012, held in Huangshan, China, in July 2012. The 242 revised full papers presented were carefully reviewed and selected from 753 submissions. The 84 papers included in this volume are organized in topical sections on evolutionary learning and genetic algorithms, fuzzy theory and models, swarm intelligence and optimization, kernel methods and supporting vector machines, nature inspired computing and optimization, systems biology and computational biology, knowledge discovery and data mining, graph theory and algorithms, machine learning theory and methods, biomedical informatics theory and methods, complex systems theory and methods, pervasive/ubiquitous computing theory and methods, intelligent computing in bioinformatics, intelligent computing in pattern recognition, intelligent computing in image processing, intelligent computing in robotics, intelligent computing in computer vision, intelligent computing in Petri nets/transportation systems, intelligent data fusion and information security, intelligent sensor networks, knowledge representation/reasoning and expert systems, hybrid optimization, and bio-inspired computing and application.

Intelligent Systems Apr 28 2022 The two-volume set LNAI 13073 and 13074 constitutes the proceedings of the 10th Brazilian Conference on Intelligent Systems, BRACIS 2021, held in São Paolo, Brazil, in November-December 2021. The total of 77 papers presented in these two volumes was carefully reviewed and selected from 192 submissions.The contributions are organized in the following topical sections: Part I: Agent and Multi-Agent Systems, Planning and Reinforcement Learning; Evolutionary Computation, Metaheuristics, Constrains and Search, Combinatorial and Numerical Optimization, Knowledge Representation, Logic and Fuzzy Systems; Machine Learning and Data Mining. Part II: Multidisciplinary Artificial and Computational Intelligence and Applications; Neural Networks, Deep Learning and Computer Vision; Text Mining and Natural Language Processing. Due to the COVID-2019 pandemic, BRACIS 2021 was held as a virtual event.

High Performance Computing and Communications Nov 04 2022 This book constitutes the refereed proceedings of the Third International Conference on High Performance Computing and Communications, HPCC 2007, held in Houston, USA, September 26-28, 2007. The 75 revised full papers presented were carefully reviewed and selected from 272 submissions. The papers address all current issues of parallel and distributed systems and high performance computing and communication as there are: networking protocols, routing, and algorithms, languages and compilers for HPC, parallel and distributed architectures and algorithms, embedded systems, wireless, mobile and pervasive computing, Web services and internet computing, peer-to-peer computing, grid and cluster computing, reliability, fault-tolerance, and security, performance evaluation and measurement, tools and environments for software development, distributed systems and applications, database applications and data mining, biological/molecular computing, collaborative and cooperative environments, and programming interfaces for parallel systems.

Evolutionary Scheduling Jun 18 2021 Evolutionary scheduling is a vital research domain at the interface of artificial intelligence and operational research. This edited book gives an overview of many of the current developments in the large and growing field of evolutionary scheduling. It demonstrates the applicability of evolutionary computational techniques to solve scheduling problems, not only to small-scale test problems, but also fully-fledged real-world problems.

Multi-Objective Optimization in Chemical Engineering Apr 16 2021 For reasons both financial and environmental, there is a perpetual need to optimize the design and operating conditions of industrial process systems in order to improve their performance, energy efficiency, profitability, safety and reliability. However, with most chemical engineering application problems having many variables with complex inter-relationships, meeting these optimization objectives can be challenging. This is where Multi-Objective Optimization (MOO) is useful to find the optimal trade-offs among two or more conflicting objectives. This book provides an overview of the recent developments and applications of MOO for modeling, design and operation of chemical, petrochemical, pharmaceutical, energy and related processes. It then covers important theoretical and computational developments as well as specific applications such as metabolic reaction networks, chromatographic systems, CO2 emissions targeting for petroleum refining units, ecodesign of chemical processes, ethanol purification and cumene process design. Multi-Objective Optimization in Chemical Engineering: Developments and Applications is an invaluable resource for researchers and graduate students in chemical engineering as well as industrial practitioners and engineers involved in process design, modeling and optimization.

Multi-objective Optimization Oct 11 2020 Following a brief introduction and general review on the development of multi-objective optimization applications in chemical engineering since 2000, the book gives a description of selected multi-objective techniques and then

goes on to discuss chemical engineering applications. These applications are from diverse areas within chemical engineering, and are presented in detail. Several exercises are included at the end of many chapters.

Advances in Evolutionary and Deterministic Methods for Design, Optimization and Control in Engineering and Sciences Mar 04 2020 This book presents improved and extended versions of selected papers from EUROGEN 2019, a conference with interest on developing or applying evolutionary and deterministic methods in optimization of design and emphasizing on industrial and societal applications.

Simulation Tools and Techniques Feb 01 2020 This volume constitutes the refereed post-conference proceedings of the 11th International Conference on Simulation Tools and Techniques, SIMUTools 2019, held in Chengdu, China, in August 2019. The 97 revised full papers were carefully selected from 156 submissions. The papers focus on simulation methods, simulation techniques, simulation software, simulation performance, modeling formalisms, simulation verification and widely used frameworks.

Evolutionary Multi-Criterion Optimization Nov 23 2021 This book constitutes the refereed proceedings of the 10th International Conference on Evolutionary Multi-Criterion Optimization, EMO 2019 held in East Lansing, MI, USA, in March 2019. The 59 revised full papers were carefully reviewed and selected from 76 submissions. The papers are divided into 8 categories, each representing a key area of current interest in the EMO field today. They include theoretical developments, algorithmic developments, issues in many-objective optimization, performance metrics, knowledge extraction and surrogate-based EMO, multi-objective combinatorial problem solving, MCDM and interactive EMO methods, and applications.

Advances in Evolutionary Algorithms Apr 04 2020 Genetic and evolutionary algorithms (GEAs) have often achieved an enviable success in solving optimization problems in a wide range of disciplines. This book provides effective optimization algorithms for solving a broad class of problems quickly, accurately, and reliably by employing evolutionary mechanisms.

Smart Device Recognition Dec 01 2019 The book is the first international reference on the field of smart device recognition and Ubiquitous Electric Internet of Things (UEIOT). It presents a range of state-of-the-art key methods and applications for smart device recognition. In future smart environments, obtaining energy consumption information for identifying every device is an effective approach to guarantee the energy efficiency of smart industrial systems. Such as, the Ubiquitous Electric Internet of Things (UEIOT) technology represents one of the most effective measures for electricity and energy management and has attracted considerable attention from scientists and engineers around the world. The realization of smart device recognition in the UEIOT framework has become the core and basis of UEIOT's success. The device smart recognition can help governments and managers to distribute energy and power better, and help device manufacturers to improve their products regarding smart energy conservation. Accordingly, in the future smart industry, implementing smart device recognition is desired and very important. In the book, several methods, strategies, and experiments for achieving smart device recognition are presented in details. As the first monograph in the field of smart device recognition, the book can provide beneficial reference for students, engineers, scientists, and managers in the fields of power, energy, electromechanical devices, smart cities, artificial intelligence, etc.

Advances in Neural Networks – ISNN 2019 Jan 14 2021 This two-volume set LNCS 11554 and 11555 constitutes the refereed proceedings of the 16th International Symposium on Neural Networks, ISNN 2019, held in Moscow, Russia, in July 2019. The 111 papers presented in the two volumes were carefully reviewed and selected from numerous submissions. The papers were organized in topical sections named: Learning System, Graph Model, and Adversarial Learning; Time Series Analysis, Dynamic Prediction, and Uncertain Estimation; Model Optimization, Bayesian Learning, and Clustering; Game Theory, Stability Analysis, and Control Method; Signal Processing, Industrial Application, and Data Generation; Image Recognition, Scene Understanding, and Video Analysis; Bio-signal, Biomedical Engineering, and Hardware.

Parallel Problem Solving from Nature – PPSN XIV Dec 25 2021 This book constitutes the refereed proceedings of the 14th International Conference on Parallel Problem Solving from Nature, PPSN 2016, held in Edinburgh, UK, in September 2016. The total of 93 revised full papers were carefully reviewed and selected from 224 submissions. The meeting began with four workshops which offered an ideal opportunity to explore specific topics in intelligent transportation Workshop, landscape-aware heuristic search, natural computing in scheduling and timetabling, and advances in multi-modal optimization. PPSN XIV also included sixteen free tutorials to give us all the opportunity to learn about new aspects: gray box optimization in theory; theory of evolutionary computation; graph-based and cartesian genetic programming; theory of parallel evolutionary algorithms; promoting diversity in evolutionary optimization: why and how; evolutionary multi-objective optimization; intelligent systems for smart cities; advances on multi-modal optimization; evolutionary computation in cryptography; evolutionary robotics - a practical guide to experiment with real hardware; evolutionary algorithms and hyper-heuristics; a bridge between optimization over manifolds and evolutionary computation; implementing evolutionary algorithms in the cloud; the attainment function approach to performance evaluation in EMO; runtime analysis of evolutionary algorithms: basic introduction; meta-model assisted (evolutionary) optimization. The papers are organized in topical sections on adaption, self-adaption and parameter tuning; differential evolution and swarm intelligence; dynamic, uncertain and constrained environments; genetic programming; multi-objective, many-objective and multi-level optimization; parallel algorithms and hardware issues; real-word applications and modeling; theory; diversity and landscape analysis.

Innovations in Computer Science and Engineering Jan 02 2020 The book is a collection of high-quality peer-reviewed research papers presented at the third International Conference on Innovations in Computer Science and Engineering (ICICSE 2015) held at Guru Nanak Institutions, Hyderabad, India during 7 – 8 August 2015. The book discusses a wide variety of industrial, engineering and scientific applications of the emerging techniques. Researchers from academic and industry present their original work and exchange ideas, information, techniques and applications in the field of Communication, Computing, and Data Science and Analytics.

Statistical Machine Learning for Human Behaviour Analysis May 06 2020 This Special Issue focused on novel vision-based approaches, mainly related to computer vision and machine learning, for the automatic analysis of human behaviour. We solicited submissions on the following topics: information theory-based pattern classification, biometric recognition, multimodal human analysis, low resolution human activity analysis, face analysis, abnormal behaviour analysis, unsupervised human analysis scenarios, 3D/4D human pose and shape estimation, human analysis in virtual/augmented reality, affective computing, social signal processing, personality computing, activity recognition, human tracking in the wild, and application of information-theoretic concepts for human behaviour analysis. In the end, 15 papers were accepted for this special issue. These papers, that are reviewed in this editorial, analyse human behaviour from the aforementioned perspectives, defining in most of the cases the state of the art in their corresponding field.

Evolutionary Computation in Combinatorial Optimization Jan 26 2022 This book constitutes the refereed proceedings of the 6th European Conference on Evolutionary Computation in Combinatorial Optimization, EvoCOP 2006, held in Budapest, Hungary in April 2006. The 24 revised full papers presented were carefully reviewed and selected from 77 submissions. The papers include coverage of evolutionary algorithms as well as various other metaheuristics, like scatter search, tabu search, and memetic algorithms.

Access Nets Feb 12 2021 The annual International Conference on Access Networks (AccessNets) aims to provide a forum that brings together researchers and scientists from academia as well as man- ers and engineers from industry to meet and exchange ideas and recent work on all aspects of access networks. AccessNets 2008 was the third edition of this event, which was successfully held in Las Vegas, Nevada, USA, during October 15–17, 2008. The conference consisted of two keynote addresses, five invited talks, seven technical sessions, and two panel sessions. Leonid Kazovsky from Stanford University and Kevin Schneider, Chief Technology Officer of ADTRAN, delivered their exciting keynote - dresses on "Future Evolution of Broadband Access," and "Carrier Ethernet and the Evo- ing Access Networks," respectively. Maurice Gagnaire, Martin Reisslein, Martin Maier, Paolo Giacomazzi, and John M. Cioffi gave interesting invited talks on different research topics on access networks. The technical papers presented original and fundamental - search advances in the area of access networks, while the panels focused on the interesting topics of "Fiber Assisted Wireless for Broadband Access Networks and Dynamic Spectrum Management (DSM) Successes. " These conference proceedings include all the technical papers that were presented at AccessNets 2008. We hope that it will become a useful reference for researchers and practitioners working in the area of access networks.

Parallel Problem Solving from Nature - PPSN IX May 18 2021 This book constitutes the refereed proceedings of the 9th International Conference on Parallel Problem Solving from Nature, PPSN 2006. The book presents 106 revised full papers covering a wide range of topics, from evolutionary computation to swarm intelligence and bio-inspired computing to real-world applications. These are organized in topical sections on theory, new algorithms, applications, multi-objective optimization, evolutionary learning, as well as representations, operators, and empirical evaluation.

Multi-Objective Optimization May 30 2022 Optimization has been playing a key role in the design, planning and operation of chemical and related processes for nearly half a century. Although process optimization for multiple objectives was studied by several researchers back in the 1970s and 1980s, it has attracted active research in the last 10 years, spurred by the new and effective techniques for multi-objective optimization. In order to capture this renewed interest, this monograph presents the recent and ongoing research in multi-optimization techniques and their applications in chemical engineering. Following a brief introduction and general review on the development of multi-objective optimization applications in chemical engineering since 2000, the book gives a description of selected multi-objective techniques and then goes on to discuss chemical engineering applications. These applications are from diverse areas within chemical engineering, and are presented in detail. All chapters will be of interest to researchers in multi-objective optimization and/or chemical engineering; they can be read individually and used in one''s learning and research. Several exercises are included at the end of

many chapters, for use by both practicing engineers and students.
 Simulated Evolution and Learning Oct 03 2022 This volume constitutes the proceedings of the 9th International Conference on Simulated Evolution and Learning, SEAL 2012, held in Hanoi, Vietnam, in December 2012. The 50 full papers presented were carefully reviewed and selected from 91 submissions. The papers are organized in topical sections on evolutionary algorithms, theoretical developments, swarm intelligence, data mining, learning methodologies, and real-world applications.

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