1. Record Nr. UNINA9910768177503321

Titolo	Optimization in artificial intelligence and data sciences : ODS, first hybrid conference, Rome, Italy, September 14-17, 2021 / / edited by Lavinia Amorosi, Paolo Dell'Olmo, Isabella Lari
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	3-030-95380-7
Descrizione fisica	1 online resource (268 pages)
Collana	AIRO Springer ; ; v.8
Disciplina	519.6
Soggetti	Artificial intelligence Optimització matemàtica Intel·ligència artificial Congressos Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Intro -- Preface -- Contents -- Editors and Contributors -- About the Editors -- Contributors -- A Variational Inequality Approach to a Class of Network Games with Local Complementarities and Global Congestion -- 1 Introduction -- 2 Network Games -- 2.1 Game Formulation and Variational Inequality Approach -- 2.2 The Linear-Quadratic Model with Local Complementarities and Global Congestion -- 3 A Katz-Bonacich Representation Formula -- 4 A Social Welfare Centrality Measure -- 5 Conclusions and Further Research Perspectives -- References -- A Two-Stage Variational Inequality Formulation for a Game Theory Network Model for Hospitalization in Critic Scenarios -- 1 Introduction -- 2 The Mathematical Model -- 3 An Illustrative Numerical Example -- 4 Conclusion -- References -- On Nested Affine Variational Inequalities: The Case of Multi-Portfolio Selection -- 1 Introduction: Context and Motivation for the Nested Affine Variational Inequalities Model -- 2 The Tikhonov Approach -- References -- Hyper-Parameter Optimization in Support Vector Machine on Unbalanced Datasets Using Genetic Algorithms -- 1 Introduction -- 2 SVM, Hyper-Parameters

Optimization and Issues of Imbalanced Datasets -- 2.1 Imbalanced Dataset and Cost-Sensitive Approach -- 3 A Genetic Algorithm-Based Approach for SVM Hyper-Parameters Optimization -- 3.1 Hyper-Parameter Optimization via NSGA-II -- 4 Experimental Results and Discussion -- 4.1 NSGA-II Parameter Setting -- 4.2 CS-SVM Hyper-Parameter Optimization -- 5 Conclusion -- References -- An Improvement of the Pivoting Strategy in the Bunch and Kaufman Decomposition, Within Truncated Newton Methods -- 1 Introduction -- 2 Preliminary Results -- 2.1 Matrix Tridiagonalization Using the Lanczos Process -- 3 Our Proposal of Possible Generalizations -- 3.1 Gradient-Related Directions Using SYMMBK -- 4 Conclusions -- References.
Mixed Integer Linear Programming for a Real-World Parallel Machine Scheduling Problem with Workforce and Precedence Constraints -- 1 Introduction -- 2 Concise Literature Review -- 3 Problem and Method -- 3.1 Problem Description -- 3.2 Mathematical Model -- 4 Computational Experiments -- 4.1 Results on the Real-World Instance -- 4.2 Random Instance Generation -- 4.3 Results on Randomly Generated Instances -- 5 Conclusions -- References -- Scheduling K-mers Counting in a Distributed Environment -- 1 Introduction -- 2 Alignment-Free Algorithms -- 3 Related Works -- 4 Methods -- 4.1 Distributed Counting of k-mers -- 4.2 Scheduling Models -- 5 Experimental Evaluation -- 5.1 Experimental Setup -- 5.2 Preliminary Analysis: The Role of k in Determining the k-mers Distributions -- 5.3 Experimental Results -- 5.3.1 Comparison of the Overall Performance -- 5.3.2 Performance of Our Methods with Respect to k and to the Dataset Size -- 6 Conclusion and Future Directions -- References -- Workload Balancing at Cross-Docking Platforms -- 1 Introduction -- 2 Model -- 2.1 Considered Sets, Parameters and Variables -- 2.2 Presentation of the MILP -- 3 Experiments -- 3.1 Presentation of the Instances -- 3.2 CPLEX Performances -- 3.3 Benefit of the Integrated Approach -- 4 Conclusions and Future Works -- References -- Knowledge Before Solutions: Some Reflections on a Successful O.R. Case Study -- 1 Introduction -- 2 The Problem -- 2.1 The Solution Process -- 3 Discussion and Conclusions -- References -- A Genetic Algorithm to Optimize Dynamics of Supply Chains -- 1 Introduction -- 2 Model and Numerics for Supply Chains -- 3 Optimization -- 4 Simulations -- 5 Conclusions -- References -- Closed-Loop Supply Chain Network Equilibrium with Online Second-Hand Trading -- 1 Introduction -- 2 The Closed-Loop Supply Chain Network -- 2.1 The Optimal Behavior of the Manufacturers.
2.2 The Optimal Behavior of Retailers -- 2.3 The Optimal Behavior of the Consumers -- 2.3.1 The Consumers in the Forward Logistics -- 2.3.2 The Consumers in the Reverse Logistics -- 2.3.3 The Consumers' Equilibrium Conditions -- 2.4 The Behavior of the Online Platform -- 3 The Equilibrium Conditions of the CLSC Network -- 4 Conclusions -- References -- Design and Optimization of a Regional Buffalo Milk Supply Chain: A Case Study -- 1 A New Regional Supply Chain -- 2 Strategic Level: Location and Allocation -- 3 Tactical Level: Optimal Pick-Up Frequencies -- 4 Routing -- 5 Extensions and Conclusions -- References -- Truck-and-Drone Parcel Delivery in the Alps -- 1 Introduction -- 2 Models -- 2.1 Considered Sets, Parameters and Variables -- 2.2 MILP Model for the DPDE Configuration -- 2.3 Models for the TTD and the DPDC Configurations -- 3 Experiments -- 3.1 Instances -- 3.2 Performance of CPLEX -- 3.3 Results and Managerial Implications -- 4 Conclusions and Future Works -- References -- A Fast Heuristic Approach for the Assignment and Sequencing Storage Location Problem Under a Two Level Storage Policy -- 1 Introduction --

2 Problem Statement -- 3 A Successive Constrained Shortest Path Method -- 3.1 The Auxiliary Graph -- 3.2 The Constrained Shortest Path Problem -- 3.3 The Overall Heuristic Method -- 4 Numerical Experiments -- 4.1 The Instances -- 4.2 Efficacy and Efficiency of the Heuristic Approach -- 4.3 Comparison with a Matheuristic Approach -- 5 Conclusions -- References -- Local Search for Aircraft-Landing Planning -- 1 Introduction -- 2 Literature Review -- 3 Considered Problem -- 4 Optimization Method -- 5 Results -- 6 Conclusion -- References -- An Emission Pollution Permit System for Time-Dependent Transportation Networks Based on Origin-Destination Pairs -- 1 Introduction.
2 The Dynamic Traffic Equilibrium Problem with the O/D Pair-Based Permit System -- 3 Existence and Continuity Results -- References -- Power Network Design with Line Activity -- 1 Introduction -- 2 The ACOPF Formulation -- 2.1 The Network Design ACOPF -- 3 Linearizing Relaxations -- 3.1 (S,V,X)-Relaxation -- 3.2 (S,V,X)-SDP -- 3.3 (S,V,X) -12DDP -- 3.4 Jabr Relaxation -- 3.5 ACOPFL Relaxations -- 4 Computational Experiments -- References -- Risk Assessment in Transactions Under Threat as Partially Observable Markov Decision Process -- 1 Introduction -- 2 Brief Review of the Relevant Research -- 3 Controlling Transactions and Decision Making -- 4 Transactions Under Threat as POMDP -- 5 Optimal Strategy for Counteracting and Its Cost -- 6 Analysis of the Results -- 7 Conclusion and Future Plans -- References -- A Decomposition Approach to the Clinical Pathway Deployment for Chronic Outpatients with Comorbidities -- 1 Introduction -- 2 A Decomposition Approach for the NCDs Agenda Problem -- 3 Related Papers -- 4 An ASP Based Approach -- 5 Computational Results and Conclusions -- Appendix: Table of Predicates -- References -- Optimal Sample Size for Evidence and Consensus in Phase III Clinical Trials -- 1 Introduction -- 2 Methodology -- 3 Bayesian Analysis with Normal Distributions -- 4 Example -- 5 Conclusions -- References -- Novel Applications of the Team Orienteering Problem in Health Care Logistics -- 1 Introduction -- 2 The Daily Swab Test Collection Problem -- 3 Ambulance Routing Problem -- 4 A New Variant of the Team Orienteering Problem -- 4.1 Fairness -- 5 Conclusions -- References -- Optimizing a Dynamic Outpatient Facility System with MultipleServers -- 1 Introduction -- 2 Problem Description -- 3 Proposed Heuristic -- 4 Computational Results -- 5 Concluding Remarks -- References.
Global Optimization of a Turbine Design via Neural Networks and an Evolutionary Algorithm -- 1 Introduction -- 2 Finite Element Model -- 3 Elaboration of the Training Dataset -- 4 Neural Network -- 5 Global Optimization Results -- 6 Conclusions -- References.