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Titolo	Handbook of Formal Optimization / / edited by Anand J. Kulkarni, Amir H. Gandomi
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ISBN	9789819738205 9819738202
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Descrizione fisica	1 online resource (1406 pages)
Collana	Intelligent Technologies and Robotics Series
Disciplina	519.3
Soggetti	Computational intelligence Mathematical optimization Artificial intelligence Operations research Computational Intelligence Optimization Artificial Intelligence Operations Research and Decision Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Robust Optimization of Discontinuous Loss Functions -- Robust Conjugate Gradient Methods for Non-smooth Convex Optimization and Image Processing Problems -- Solving Cropping Pattern Optimization Problems Using Robust Positive Mathematical Programming -- Optimal Allocation of Groundwater Resources in the Agricultural Sector Under Restrictive Policies on Groundwater Extraction -- Incorporating Nelder-Mead Simplex as an Accelerating Operator to Improve the Performance of Metaheuristics in Nonlinear System Identification -- A Discrete Cuckoo Search Algorithm for the Cumulative Capacitated Vehicle Routing Problem -- Commonly Used Static and Dynamic Single-Objective Optimization Benchmark Problems -- Evolutionary Multi-objective Optimization of Hyperparameters for Decision Support in Healthcare -- Combination of Cooperative Grouper Fish -- Octopus Algorithm and DBSCAN to Automatic Clustering -- Multi-population Evolutionary and Swarm Intelligence Dynamic Optimization Algorithms:

A Survey -- Solving Vehicle Routing Problem Using a Hybridization of Gain-Based Ant Colony Optimization and Firefly Algorithms -- Impact of Local Search in the Memetic Particle Swarm Optimization -- Salp Swarm Algorithm for Optimization of Shallow Foundations -- Boosting the Efficiency of Metaheuristics Through Opposition-Based Learning in Optimum Locating of Control Systems in Tall Buildings -- Memory-Driven Metaheuristics: Improving Optimization Performance -- Synergistic Collaboration of Motion-Based Metaheuristics for the Strength Prediction of Cement-Based Mortar Materials Using TSK Model -- Positron-Enabled Atomic Orbital Search Algorithm for Improved Reliability-Based Design Optimization -- Steganography Based on Fuzzy Edge Detection, Cohort Intelligence and Thresholding -- Classification of Emotions in Ambient Assisted Living Environment using Machine Learning Approaches -- Optimization and Machine Learning Algorithms for Intelligent Microwave Sensing: A Review -- Machine Learning Algorithms for Autonomous Vehicles -- High-Resolution Remote Sensing Image Classification with Kernel Linear Discriminant Analysis -- Neural Networks and Deep Learning -- Deep Learning in Stock Market: Techniques, Purpose, and Challenges -- DNN Approach to Obtain BER vs SNR for Spatial Modulation System -- Steel Plate Fault Detection Using the Fitness-Dependent Optimizer and Neural Networks -- Dynamic Intelligence of Self-Organized Map in the Frequency-Based Optimum Design of Structures -- Combination of Bagging and Neural Network for Improving Precipitation Estimates Using Remote Sensing Data -- Robust Optimization of PTO Settings for Point Absorber Wave Energy Converter -- T-adaptive an Online Tuning Technique Coupled to MOEA/D Algorithm: A Comparative Analysis with Offline Parameter Tuning Techniques -- Cohort Intelligence-based Multi-objective Optimizer -- Deep Learning for Solving Loading, Packing, Routing, and Scheduling Problems -- Solving the Pallet Loading Problem with Deep Reinforcement Learning -- A Variant of Parallel-Hybrid Genetic Algorithm for Large-Scale Traveling Salesman Problem -- Variable Neighborhood Search for Cost Function Networks -- Competitive Game Table and the Optimization Algorithm -- A Comprehensive Review of Goal Programming Problems and Constraint Handling Approaches -- A Comprehensive Review of Patient Scheduling Techniques with Uncertainty -- Solving the 0-1 Knapsack Problem using LAB Algorithm -- Genetic Algorithms and Applications -- Multi-objective Genetic Algorithms -- Bilinear Fuzzy Genetic Algorithm and Its Application on the Optimum Design of Steel Structures with Semi-rigid Connections -- Variants of the Genetic Algorithm on Load Frequency Control Application -- Explaining Optimisation of Offshore Wind Farms Using Metaheuristics -- Optimization of Concrete Chimneys Considering Random Underground Blast and Temperature Effects -- Gear Material Selection Using an Integrated PSI-MOORA Method -- Heuristics: An Overview -- A Brief Review of Bilevel Optimization Techniques and Their Applications -- Mastering the Cosmos: Leveraging Optimization Methods for Advances in Space Exploration -- Solving the Total Weighted Earliness Tardiness Blocking Flowshop Scheduling Problem -- Solving Multiple Traveling Salesmen Problem Using Prim's and Dijkstra's Algorithms: A Case Study on Emergency Medical Supplies -- Mechanical Machining Process Optimization -- Energy-Efficient Manufacturing Scheduling: A Systematic Literature Review -- A Socio-Physics-Based Hybrid Metaheuristic for Solving Complex Non-convex Constrained Optimization Problems -- Overcoming Constraints: The Critical Role of Penalty Functions as Constraint-Handling Methods in Structural Optimization.

The formal optimization handbook is a comprehensive guide that covers a wide range of subjects. It includes a literature review, a mathematical formulation of optimization methods, flowcharts and pseudocodes, illustrations, problems and applications, results and critical discussions, and much more. The book covers a vast array of formal optimization fields, including mathematical and Bayesian optimization, neural networks and deep learning, genetic algorithms and their applications, hybrid optimization methods, combinatorial optimization, constraint handling in optimization methods, and swarm-based optimization. This handbook is an excellent reference for experts and non-specialists alike, as it provides stimulating material. The book also covers research trends, challenges, and prospective topics, making it a valuable resource for those looking to expand their knowledge in this field.
