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   Autore   Razmjooy Navid

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   Altri autori (Persone)   GhadimiNoradin
   RajinikanthVenkatesan

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   Nota di contenuto   Preface -- Contents -- A Comprehensive Survey of Meta-heuristic Algorithms -- 1 Introduction -- 2 Conception of the Optimization -- 3 Optimization Methods -- 3.1 Exact Optimization Methods -- 3.2 Intelligent (No Exact) Optimization Methods -- 4 The Concept of the Cost Function and Its Types -- 4.1 Single-Dimensional and Multi-dimensional Cost Functions -- 4.2 Dynamic and Static Cost Functions -- 4.3 Constrained and Un-constrained Cost Functions -- 4.4 Continuous and Discrete Cost Functions -- 4.5 Single Objective and Multi-objective Cost Functions -- 5 Meta-heuristic Algorithms -- 5.1 Particle Swarm Optimization Algorithm -- 5.2 Imperialist Competitive Algorithm -- 5.3 Invasive Weed Optimization Algorithm -- 5.4 Quantum Invasive Weed Optimization Algorithm -- 5.5 Firefly Algorithm -- 5.6 Artificial Bee Colony Algorithm -- 5.7 World Cup Optimization Algorithm -- 6 Benchmark Functions -- 7 Simulation Results for the Analyzed Algorithms -- 8 Discussions -- 9 Conclusions -- References -- Order Reduction of the Time-Independent Linear Systems Using the Firefly Algorithm with Neighbourhood Attraction -- 1 Introduction -- 2 Reducing the Order of the Model

   Sommario/riassunto   This volume in the Lecture Notes in Electrical Engineering series

explores advanced optimization techniques in computer and electrical engineering. It emphasizes hybrid and improved algorithms to solve complex engineering problems such as embedded systems, circuit design, robotics, and energy management. The book integrates concepts from artificial intelligence, control theory, and machine learning to develop efficient solutions. It covers evolutionary computation, swarm intelligence, and ant colony optimization, with applications in robotics, machine learning, and autonomous systems. Designed for researchers, engineers, and students, it provides a comprehensive overview of metaheuristic methods through examples and case studies.