1. Record Nr. UNINA9910986136103321

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Titolo	Optimization Strategies: A Decade of Metaheuristic Algorithm Development / / by Erik Cuevas, Angel Chavarin-Fajardo, Cesar Ascencio-Piña, Sonia Garcia-De-Lira
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031810138 3031810139
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (804 pages)
Collana	Intelligent Systems Reference Library, , 1868-4408 ; ; 266
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Disciplina	006.3
Soggetti	Computational intelligence Artificial intelligence Engineering - Data processing Computational Intelligence Artificial Intelligence Data Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1.Introductory concepts of metaheuristic techniques -- 2.An algorithm for global optimization inspired by collective animal behavior -- 3.A swarm optimization algorithm inspired in the behavior of the social-spider -- 4.An optimization algorithm inspired by the States of Matter that improves the balance between exploration and exploitation -- 5. Harnessing Locust Swarm Dynamics for Optimization Algorithms -- 6. Improving Function Evaluation Efficiency with an Enhanced Evolutionary Algorithm -- 7.A Fuzzy Logic-Inspired Metaheuristic Method for Enhanced Optimization -- 8.Modeling Optimization Techniques Inspired by Yellow Saddle Goatfish Behavior -- 9.An optimization algorithm guided by a machine learning approach -- 10.An improved Simulated Annealing algorithm based on ancient metallurgy techniques -- 11.Agent-based modeling approaches as metaheuristic methods -- 12.Evolutionary-Mean shift algorithm for dynamic multimodal function

optimization.

Sommario/riassunto

This book is to explore the development of metaheuristic algorithms over the past decade, focusing on key advancements in their components and structural features, which have driven progress in search techniques. This analysis aims to provide readers with a thorough understanding of the fundamental aspects of these methods, which are essential for their practical application. To offer a broad perspective on the evolution of metaheuristic algorithms, this book reviews 11 specific algorithms developed by the evolutionary computation group at the University of Guadalajara over the past 10 years. These algorithms illustrate the most significant mechanisms and structures discussed in the academic and research communities during their development. By studying these examples, readers will gain valuable insights into the innovative methods and strategic improvements that have shaped the field. The book is designed from a teaching standpoint, making it suitable for undergraduate and postgraduate students in science, electrical engineering, or computational mathematics. Moreover, engineering practitioners unfamiliar with metaheuristic computation will appreciate how these techniques have been adapted to address complex real-world engineering problems, moving beyond theoretical constructs.