1. Record Nr. UNINA9910629280803321 Autore Cuevas Erik Titolo Analysis and Comparison of Metaheuristics / / by Erik Cuevas, Omar Avalos, Jorge Gálvez Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2023 **ISBN** 9783031201059 3031201051 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (230 pages) Collana Studies in Computational Intelligence, , 1860-9503 : : 1063 Disciplina 005.1 Computational intelligence Soggetti Artificial intelligence Computational Intelligence Artificial Intelligence Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Fundamentals of Metaheuristic Computation -- A Comparative Approach for Two-Dimensional Digital IIR Filter Design Applying Different Evolutionary Computational Techniques -- Comparison of Metaheuristics for Chaotic Systems Estimation -- Comparison Study of Novel Evolutionary Algorithms for Elliptical Shapes in Images -- IIR System Identification using Several Optimization Techniques: A Review Analysis -- Fractional-order Estimation using Locust Search Algorithm -- Comparison of Optimization Techniques for Solar Cells Parameter Identification -- Comparison of Metaheuristics Techniques and Agent-Based Approaches. Sommario/riassunto This book presents a comparative perspective of current metaheuristic developments, which have proved to be effective in their application to several complex problems. The study of biological and social entities such as animals, humans, or insects that manifest a cooperative behavior has produced several computational models in metaheuristic

methods. Although these schemes emulate very different processes or systems, the rules used to model individual behavior are very similar.

Under such conditions, it is not clear to identify which are the

advantages or disadvantages of each metaheuristic technique. The book is compiled from a teaching perspective. For this reason, the book is primarily intended for undergraduate and postgraduate students of Science, Electrical Engineering, or Computational Mathematics. It is appropriate for courses such as Artificial Intelligence, Electrical Engineering, Evolutionary Computation. The book is also useful for researchers from the evolutionary and engineering communities. Likewise, engineer practitioners, who are not familiar with metaheuristic computation concepts, will appreciate that the techniques discussed are beyond simple theoretical tools since they have been adapted to solve significant problems that commonly arise in engineering areas.