1. Record Nr. UNINA9910483689303321 Autore Cuevas Erik Titolo Recent Metaheuristic Computation Schemes in Engineering // by Erik Cuevas, Alma Rodríguez, Avelina Alejo-Reyes, Carolina Del-Valle-Soto Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2021 **ISBN** 3-030-66007-9 Edizione [1st ed. 2021.] Descrizione fisica 1 online resource (xi, 277 pages) Collana Studies in Computational Intelligence, , 1860-9503;; 948 519.6 Disciplina Soggetti Computational intelligence Artificial intelligence Cooperating objects (Computer systems) Computational Intelligence Artificial Intelligence Cyber-Physical Systems Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introductory Concepts of Metaheuristic Computation -- A Metaheuristic Nota di contenuto Scheme Based on the Hunting Model of Yellow Saddle Goatfish --Metaheuristic Algorithm Based on Hybridization of Invasive Weed Optimization and Estimation Distribution Methods -- Corner Detection Algorithm Based on Cellular Neural Networks (CNN) and Differential Evolution (DE) -- Blood Vessel Segmentation Using Differential Evolution Algorithm -- Clustering Model Based on the Human Visual System -- Metaheuristic Algorithms for Wireless Sensor Networks --Metaheuristic Algorithms Applied to the Inventory Problem. Sommario/riassunto This book includes two objectives. The first goal is to present advances and developments which have proved to be effective in their application to several complex problems. The second objective is to present the performance comparison of various metaheuristic techniques when they face complex optimization problems. The material has been compiled from a teaching perspective. Most of the problems in science, engineering, economics, and other areas can be translated as an

optimization or a search problem. According to their characteristics,

some problems can be simple that can be solved by traditional optimization methods based on mathematical analysis. However, most of the problems of practical importance in engineering represent complex scenarios so that they are very hard to be solved by using traditional approaches. Under such circumstances, metaheuristic has emerged as the best alternative to solve this kind of complex formulations. This book is primarily intended for undergraduate and postgraduate students. Engineers and application developers can also benefit from the book contents since it has been structured so that each chapter can be read independently from the others, and therefore, only potential interesting information can be quickly available for solving an industrial problem at hand.