

NATURAL COMPUTING SERIES

Patrick Siarry · Zbigniew Michalewicz (Eds.)

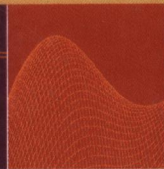
Advances in Metaheuristics for Hard Optimization

Quantum Computing

Neural Networks

Evolutionary Computing

DNA Computing



 Springer

List of Contents

Comparison of Simulated Annealing, Interval Partitioning and Hybrid Algorithms in Constrained Global Optimization <i>C.S. Pedamallu, L. Özdamar</i>	1
Four-bar Mechanism Synthesis for n Desired Path Points Using Simulated Annealing <i>H. Martínez-Alfaro</i>	23
“MOSS-II” Tabu/Scatter Search for Nonlinear Multiobjective Optimization <i>R.P. Beausoleil</i>	39
Feature Selection for Heterogeneous Ensembles of Nearest-neighbour Classifiers Using Hybrid Tabu Search <i>M.A. Tahir, J.E. Smith</i>	69
A Parallel Ant Colony Optimization Algorithm Based on Crossover Operation <i>A. Kalinli, F. Sarikoc</i>	87
An Ant-bidding Algorithm for Multistage Flowshop Scheduling Problem: Optimization and Phase Transitions <i>A.V. Donati, V. Darley, B. Ramachandran</i>	111
Dynamic Load Balancing Using an Ant Colony Approach in Micro-cellular Mobile Communications Systems <i>S.-S. Kim, A.E. Smith, S.-J. Hong</i>	137
New Ways to Calibrate Evolutionary Algorithms <i>A.E. Eiben, M.C. Schut</i>	153
Divide-and-Evolve: a Sequential Hybridization Strategy Using Evolutionary Algorithms <i>M. Schoenauer, P. Savéant, V. Vidal</i>	179

Local Search Based on Genetic Algorithms <i>C. García-Martínez and M. Lozano</i>	199
Designing Efficient Evolutionary Algorithms for Cluster Optimization: A Study on Locality <i>F.B. Pereira, J.M.C. Marques, T. Leitão, J. Tavares</i>	223
Aligning Time Series with Genetically Tuned Dynamic Time Warping Algorithm <i>P. Kumar, A. Gupta, Rajshekhar, V.K. Jayaraman, B.D. Kulkarni</i>	251
Evolutionary Generation of Artificial Creature's Personality for Ubiquitous Services <i>J-H. Kim, C-H. Lee, K-H. Lee, N.S. Kuppuswamy</i>	263
Some Guidelines for Genetic Algorithm Implementation in MINLP Batch Plant Design Problems <i>A. Ponsich, C. Azzaro-Pantel, S. Domenech, L. Pibouleau</i>	293
Coevolutionary Genetic Algorithm to Solve Economic Dispatch <i>M.M.A. Samed, M.A. da S.S. Ravagnani</i>	317
An Evolutionary Approach to Solve a Novel Mechatronic Multiobjective Optimization Problem <i>E. Mezura-Montes, E.A. Portilla-Flores, C.A. Coello Coello, J. Alvarez-Gallegos, C.A. Cruz-Villar</i>	329
Optimizing Stochastic Functions Using a Genetic Algorithm: An Aeronautic Military Application <i>H.V. Junior</i>	353
Learning Structure Illuminates Black Boxes – An Introduction to Estimation of Distribution Algorithms <i>J. Grahl, S. Minner, P.A.N. Bosman</i>	365
Making a Difference to Differential Evolution <i>Z. Yang, J. He, X. Yao</i>	397
Hidden Markov Models Training Using Population-based Metaheuristics <i>S. Aupetit, N. Monmarché, M. Slimane</i>	415
Inequalities and Target Objectives for Metaheuristic Search – Part I: Mixed Binary Optimization <i>F. Glover</i>	439
Index	475

Patrick Siarry
Zbigniew Michalewicz (Eds.)

Advances in Metaheuristics for Hard Optimization

Many advances have been made recently in metaheuristic methods, from theory to applications. The editors, both leading experts in this field, have assembled a team of researchers to contribute 21 chapters organized into parts on simulated annealing, tabu search, ant colony algorithms, general-purpose studies of evolutionary algorithms, applications of evolutionary algorithms, and various metaheuristics.

The book gathers contributions related to the following topics: theoretical developments in metaheuristics; adaptation of discrete metaheuristics to continuous optimization; performance comparisons of metaheuristics; cooperative methods combining different approaches; parallel and distributed metaheuristics for multiobjective optimization; software implementations; and real-world applications.

This book is suitable for practitioners, researchers and graduate students in disciplines such as optimization, heuristics, operations research, and natural computing.

ISBN 978-3-642-09206-0



9 783642 092060

springer.com

