

2023 IEEE Congress on Evolutionary Computation (CEC 2023)

**Chicago, Illinois, USA
1-5 July 2023**

Pages 1-503



**IEEE Catalog Number: CFP23ICE-POD
ISBN: 979-8-3503-1459-5**

**Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP23ICE-POD
ISBN (Print-On-Demand):	979-8-3503-1459-5
ISBN (Online):	979-8-3503-1458-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Multi-Objective Wrapper Differential Evolution with Guided Initial Population for Feature Selection	1
<i>Gabriel Dominico, Juliana S. Bernardes, Leonardo L. Dorneles, Márcio Dorn</i>	
Differential Evolution with Clustering-Based Niching and Adaptive Mutation for Global Optimization	9
<i>Hao Yan, Lu Zhang, Xiaoyu Wang, Qingping Liu, Mengjun Gu, Weiguo Sheng</i>	
Continual Learning of LSTM Using Ant Colony Optimization	17
<i>Rikitaka Kinoyama, Nagar Anthel Venkatesh Suryanarayanan, Hitoshi Iba</i>	
Utilizing Innovization to Solve Large-Scale Multi-Objective Chesapeake Bay Watershed Problem.....	25
<i>Gregorio Toscano, Hoda Razavi, A. Pouyan Nejadhashemi, Kalyanmoy Deb, Lewis Linker</i>	
Improving Confidence in Evolutionary Mine Scheduling Via Uncertainty Discounting	33
<i>Michael Stimson, William Reid, Aneta Neumann, Simon Ratcliffe, Frank Neumann</i>	
Toward Unbounded Search Space Exploration by Particle Swarm Optimization in Multi-Modal Optimization Problem	43
<i>Ryuki Ishizawa, Tomoya Kuga, Yusuke Maekawa, Hiroyuki Sato, Keiki Takadama</i>	
Sequential Estimation of States and Parameters of Non-Linear State Space Models Taking Account of Ensembles Not Covering True States.....	51
<i>Daigo Yamamoto, Haruki Yoshida, Yoshiki Kobayashi, Isao Ono</i>	
Evolutionary Multitasking Bi-Directional Particle Swarm Optimization for High-Dimensional Feature Selection	59
<i>Jia-Quan Yang, Ke-Jing Du, Chun-Hua Chen, Hua Wang, Jun Zhang, Zhi-Hui Zhan</i>	
An Archive-Based Multi-Objective Simulated Annealing Algorithm for the Time/Weight-Balanced Cluster Problem in Delivery Logistics	67
<i>Eduardo Manuel Ceja-Cruz, Adriana Menchaca-Méndez, Elizabeth Montero, Saúl Zapotecas-Martínez</i>	
Effects of Pareto Set on the Performance of Problem Reformulation-Based Large-Scale Multiobjective Optimization Algorithms.....	75
<i>Haoran Gu, Handing Wang, Yaochu Jin</i>	
Sensitivity Analysis of RF+clust for Leave-One-Problem-Out Performance Prediction	83
<i>Ana Nikolikj, Michal Pluháček, Carola Doerr, Peter Korošec, Tome Eftimov</i>	
Modified Robust Optimization Over Time for Process Parameter Optimization in Pre-Oxidation Process of Carbon Fiber Production	91
<i>Yilin Fang, Ziheng Zhao, Liang Jin, Kunlun Li</i>	
A Linear Programming Enhanced Genetic Algorithm for Hyperparameter Tuning in Machine Learning	99
<i>Ankur Sinha, Paritosh Pankaj</i>	
Genetic Programming for Resource Allocation in Network Function Virtualization.....	107
<i>Nguyen Thi Tam, Do Duc Anh, Tran Huy Hung, Pham Van Hanh, Huynh Thi Thanh Binh, Le Trong Vinh</i>	

Neural Network Based Heuristic Selection for Selection Hyper-Heuristics.....	115
<i>Jingwei Li, Yuanjun Lin, Mustafa Misir</i>	
A Test Suite and an Optimizer for Dietary Nutrition Optimization Problem: from Constrained Many-Objective Perspective.....	122
<i>Yaqi Ti, Changhe Li, Shengxiang Yang</i>	
Grammatical Evolution with Adaptive Building Blocks for Traffic Light Control	130
<i>Jyotheesh Gaddam, Jan Carlo Barca, Thanh Thi Nguyen, Maia Angelova</i>	
A Surrogate-Ensemble Assisted Coevolutionary Algorithm for Expensive Constrained Multi-Objective Optimization Problems	140
<i>Wenji Li, Ruitao Mai, Pengxiang Ren, Zhaojun Wang, Qinchang Zhang, Ning Xu, Biao Xu, Zhun Fan, Zhifeng Hao</i>	
Finding Robust Solutions for Many-Objective Optimization Using NSGA-III	147
<i>Deepanshu Yadav, Palaniappan Ramu, Kalyanmoy Deb</i>	
A Sparsity-Guided Elitism Co-Evolutionary Framework for Sparse Large-Scale Multi-Objective Optimization.....	155
<i>Chengming Wu, Ye Tian, Yajie Zhang, Hao Jiang, Xingyi Zhang</i>	
Solving the Discretization-Based Feature Construction Problem Using Bi-level Evolutionary Optimization.....	163
<i>Rihab Said, Slim Bechikh, Carlos A. Coello Coello, Lamjed Ben Said</i>	
A Hybrid Genetic Approach for Bi-Level Flexible Job Shops Arising from Selective Deconstruction.....	171
<i>Corentin Juvigny, Julien Baste, Guillaume Lozenguez, Arnaud Doniec, Laetitia Jourdan</i>	
Variational Quantum Algorithm Parameter Tuning with Estimation of Distribution Algorithms	179
<i>Vicente P. Soloviev, Pedro Larrañaga, Concha Bielza</i>	
Interpretability-Aware Multi-Objective Genetic Programming for Scheduling Heuristics Learning in Dynamic Flexible Job Shop Scheduling.....	188
<i>Gaofeng Shi, Fangfang Zhang, Yi Mei</i>	
Surrogate-Assisted Evolution of Convolutional Neural Networks by Collaboratively Optimizing the Basic Blocks and Topologies.....	196
<i>Yifan Li, Jing Liu, Yang Liu</i>	
A Decomposition-Based Hybrid Algorithm for Multi-objective Vehicle Routing Problem with Time Windows.....	205
<i>Yiwen Wang, Fei Liu, Qingfu Zhang</i>	
Investigating Style Forming and Twisting by Adapting AntsOMG for Composing Second Species Counterpoint.....	213
<i>Chun-Yien Chang, Ying-Ping Chen</i>	
A Reachability-Distance Based Differential Evolution with Individual Transfer for Multimodal Optimization Problems.....	221
<i>Hong Zhao, Xiangqian Li, Jing Liu</i>	
A Data-Centric Approach to Parameter Tuning, an Application to Differential Evolution	229
<i>Antonio Bolufe-Röhler, Wangwei Han</i>	

A Subspace-Based Non-Dominated Subset Selection Method.....	238
<i>Qingshan Tan, Changhe Li, Sanyou Zeng, Shengxiang Yang</i>	
Genetic Algorithms for Constructing Effective Nuclear Shell-Model Hamiltonians	246
<i>Giovanni Acampora, Angela Chiatto, Luigi Coraggio, Giovanni De Gregorio, Roberto Schiattarella, Autilia Vitiello</i>	
Privacy-Preserving Implementation of Local Search Algorithms for Collaboratively Solving Assignment Problems in Time-Critical Contexts	254
<i>Kevin Schuetz, Christoph G. Schuetz, Samuel Jaburek</i>	
The Algorithm Selection Problem for Solving Sudoku with Metaheuristics.....	264
<i>Danielle Notice, Ahmed Kheiri, Nicos G. Pavlidis</i>	
Effective Robotic Swarm Shepherding in the Presence of Obstacles.....	272
<i>Jing Liu, Hemant Singh, Saber Elsayed, Robert Hunjet, Hussein A. Abbass</i>	
Federated Bayesian Optimization for Privacy-Preserving Neural Architecture Search	280
<i>Shiqing Liu, Xilu Wang, Yaochu Jin</i>	
Evolution of Collective Decision-Making Mechanisms for Collective Perception.....	288
<i>Tanja Katharina Kaiser, Tristan Potten, Heiko Hamann</i>	
An Improved Genetic Algorithm with Euclidean Geometry and Hybrid Heuristic Crossover for Traveling Salesman Problem.....	296
<i>Bryan Zhu, Wei-Fang Xie</i>	
Negatively Correlated Search for Constrained Optimization	304
<i>Yuan Li, Xiaofen Lu, Xin Yao</i>	
IoT Service Composition — An Estimation of Distribution Algorithm with Adaptive Bias.....	314
<i>Fengyang Sun, Hui Ma, Gang Chen, Sven Hartmann</i>	
A Long Short-Term Memory Prediction-Based Dynamic Multi-Objective Evolutionary Optimization Algorithm.....	322
<i>Gejie Rang, Biao Xu, Wenji Li, Zhun Fan, Yuanping Su</i>	
Gaussian Adaptation with Decaying Matrix Adaptation Weights.....	330
<i>Oladayo S. Ajani, Dzeuban Fenyom Ivan, Rammohan Mallipeddi</i>	
A Filter-Based Feature Selection and Ranking Approach to Enhance Genetic Programming for High-Dimensional Data Analysis	337
<i>Mohammad Sadegh Khorshidi, Danial Yazdani, Jacek Mandziuk, Mohammad Reza Nikoo, Amir H. Gandomi</i>	
Multi-Objective Coordinate Search Optimization.....	346
<i>Farzaneh Nikbakhtsarvestani, Azam Asilian Bidgoli, Mehran Ebrahimi, Shahryar Rahnamayan</i>	
Evolutionary Multitask Reinforcement Learning Using Symbiosis in Biocoenosis Optimization.....	355
<i>Rung-Tzuo Liaw, Yu-Ting Lo</i>	
The Domination Game: Dilating Bubbles to Fill Up Pareto Fronts	363
<i>Vasco Coelho, Daniele M. Papetti, Andrea Tangherloni, Paolo Cazzaniga, Daniela Besozzi, Marco S. Nobile</i>	

A Novel Cooperative Co-Evolutionary Framework for Large-Scale Overlapping Problems.....	371
<i>Mingke Chen, Wei Du</i>	
Is CC-(1+1) EA More Efficient than (1+1) EA on Separable and Inseparable Problems?	379
<i>Per Kristian Lehre, Shishen Lin</i>	
Surrogate-Assisted Morphology Optimization by Genetic Algorithms.....	388
<i>Jinlin Jiang, Yongchao Chen, Wenbin Pei, Junxiang Zhang, Yaqing Hou, Hongwei Ge, Liang Feng</i>	
A Comparison of Evolutionary Algorithms for Training Variational Quantum Classifiers	396
<i>Giovanni Acampora, Angela Chiatto, Autilia Vitiello</i>	
Adjacent Intensity Matrix with Linkage Identification for Large-Scale Optimization in Noisy Environments.....	404
<i>Rui Zhong, Binan Tu, Enzhi Zhang, Masaharu Munetomo</i>	
Multi-Objective Optimization of Critical Node Detection Based on Both Cascading and Non-Cascading Scenarios in Complex Networks.....	414
<i>Xinyi Feng, Tong Shen, Huaijin Zhang, Haipeng Yang, Lei Zhang</i>	
Exact Formulas for the Computation of Expected Tchebycheff Improvement.....	423
<i>Liang Zhao, Qingfu Zhang</i>	
Recursive Hyper-Heuristics for the Job Shop Scheduling Problem	431
<i>Alonso Vela, Jorge M. Cruz-Duarte, José Carlos Ortiz-Bayliss, Ivan Amaya</i>	
Trend Ratio-Based Portfolio Optimization Model Adopting Entanglement-enhanced Quantum-Inspired Evolutionary Computation in the Global Financial Markets.....	439
<i>Yu-Chi Jiang, Ming-Ho Chang, Yu-Yu Chang, Kun-Min Wu, Po-Chun Chen, Yong Feng Tong, Yun-Ting Lai, Shu-Yu Kuo, Yao-Hsin Chou</i>	
Directed Differential Equation Discovery Using Modified Mutation and Cross-Over Operators.....	448
<i>Elizaveta Ivanchik, Alexander Hvatov</i>	
Applying Multi-Fidelity Optimization for Process Parameter Optimization in Polymerization Process of Carbon Fiber Production.....	458
<i>Liang Jin, Xinwei Lu, Yilin Fang, Kunlun Li</i>	
CudaBRKGA-CNN: An Approach for Optimizing Convolutional Neural Network Architectures.....	466
<i>Andersson A. Da Silva, Ricardo M. A. Silva, Amanda S. Xavier, Thiago D. Bispo, Geraldo R. Mateus, Mauricio G. C. Resende</i>	
Behavioural Swarm Optimisation for Stable Slung-Load Aerial Transportation	474
<i>Jingyu Chen, John Oyekan</i>	
Benchmark Problems on GPU: Accelerating Experiments on Metaheuristics	482
<i>Leonardo Da Luz Dorneles, Mateus Boiani, Marcio Dorn</i>	
Order Picking: Exploring the Properties of the Greedy Seed-Based Batching Algorithm	490
<i>Son Thai Tran, Rui Jorge Almeida, Christof Defryn</i>	
Contrastive Learning Approach to Predict Radiologist's Error Based on Gaze Data	498
<i>Ilya Pershin, Tamerlan Mustafaev, Bulat Ibragimov</i>	
A Surrogate Assisted Evolutionary Strategy for Image Approximation by Density-Ratio Estimation.....	504
<i>Phoenix Williams, Ke Li, Geyong Min</i>	

A Comparative Study of Multi-Guide Particle Swarm Optimization Topologies in Dynamic Multi-Objective Environments	512
<i>Alanna McNulty, Beatrice Ombuki-Berman</i>	
Expensive Many-Objective Optimization by Learning of the Strengthened Dominance Relation	522
<i>Jiangtao Shen, Peng Wang, Huachao Dong, Wenxin Wang</i>	
IVF/NSGA-III - in Vitro Fertilization Method Coupled to NSGA-III	530
<i>Sávio Menezes Sampaio, Altino Dantas, Celso G. Camilo-Junior</i>	
A Generalized Surrogate-Assisted Evolutionary Algorithm for Expensive Multi-Objective Optimization	538
<i>Kamrul Hasan Rahi, Hemant Kumar Singh, Tapabrata Ray</i>	
A New Portfolio Optimization Model Considering Hybrid Trading Strategies.....	546
<i>Shu-Yu Kuo, Yu-Chi Jiang, Yun-Ting Lai, Yao-Hsin Chou</i>	
A Novel Computational Nanobiosensing Approach to Improve the Exploitation of in Vivo Computation	556
<i>Shaolong Shi, Yifan Chen, Zhaoyang Jiang, Qiang Liu, Jurong Ding, Qingfu Zhang</i>	
Optimization of Trading Strategies Using a Genetic Algorithm Under the Directional Changes Paradigm with Multiple Thresholds	563
<i>Ozgur Salman, Themistoklis Melissourgos, Michael Kampouridis</i>	
The Natural Bias of Artificial Instances	571
<i>Imanol Unanue, María Merino, Jose A. Lozano</i>	
Improvement of Computational Performance of Evolutionary AutoML in a Heterogeneous Environment	579
<i>Nikolay O. Nikitin, Sergey Teryoshkin, Valerii Pokrovskii, Sergey Pakulin, Denis Nasonov</i>	
An Evaluation of Simple Solution Transfer Strategies for Bilevel Multiobjective Optimization.....	587
<i>Bing Wang, Hemant Kumar Singh, Tapabrata Ray</i>	
Efficient Multi-Agent Exploration with Mutual-Guided Actor-Critic.....	595
<i>Renlong Chen, Ying Tan</i>	
Block Differential Evolution	604
<i>Rasa Khosrowshahli, Shahryar Rahnamayan</i>	
On the Effect of Quantum Noise in Quantum Genetic Algorithms	612
<i>Giovanni Acampora, Roberto Schiattarella</i>	
When Simpler is Better: Automated Configuration of a University Timetabling Solver	620
<i>Thomas Feutrier, Nadarajen Veerapen, Marie-éleonore Kessaci</i>	
Multi-Objective Optimisation and Genetic Programming for Trading by Combining Directional Changes and Technical Indicators	628
<i>Xinpeng Long, Michael Kampouridis, Panagiotis Kanellopoulos</i>	
Genetic Assessment Agent for High-School Student and Machine Co-Learning Model Construction on Computational Intelligence Experience.....	636
<i>Chang-Shing Lee, Mei-Hui Wang, Chih-Yu Chen, Fu-Jie Yang, Alexander Dockhorn</i>	
Increasing Features in MAP-Elites Using an Age-Layered Population Structure	644
<i>Andrew Pozzuoli, Brian Ross</i>	

FWA-RL: Fireworks Algorithm with Policy Gradient for Reinforcement Learning	652
<i>Maiyue Chen, Ying Tan</i>	
A Knowledge Transfer-Based Genetic Algorithm for Multi-Target Robotic Arm Control.....	661
<i>Zheng Guo, Zhaoping Yu, Wenbin Pei, Chuan Wang, Yaqing Hou, Chenchen Zhang, Zexuan Zhu, Xianneng Li</i>	
Evolutionary Optimization of Baba is You Agents.....	669
<i>Christopher Olson, Lars Wagner, Alexander Dockhorn</i>	
An Improved Version of MMOEA/DC Based on Alternative Clustering Definitions.....	677
<i>Kaoutar Senhaji, Carlos A. Coello Coello, José Antonio Lozano</i>	
3-SCHSL: Three-Stage Cyclic Hybrid SFS and L-SHADE Algorithm for Single Objective Optimization.....	686
<i>Heba Abdel-Nabi, Mostafa Z. Ali, Arafat Awajan, Rami Alazrai, Mohammad I. Daoud, Ponnuthurai N. Suganthan, Robert Reynolds</i>	
Incremental Search-Based Allocation of Autonomous Robots for Goods Delivery	694
<i>Paolo Arcaini, Ezequiel Castellano, Fuyuki Ishikawa, Hirokazu Kawamoto, Kaoru Sawai, Eiichi Muramoto</i>	
An Hyper-Heuristic Based Population Management Through Statistical Analysis and Phases Optimization.....	704
<i>Mario A. Navarro, Bernardo Morales-Castañeda, Alfonso Ramos-Michel, Diego Oliva, Arturo Valdivia, Angel Casas-Ordaz, Erick Rodriguez-Esparza</i>	
A Comparative Study of Meta-Heuristic Algorithms for WSN Deployment Problem in Indoor Environments.....	712
<i>Khaoula Zaimen, Mohamed-El-Amine Brahmia, Laurent Moalic, Abdelhafid Abouaissa, Lhassane Idoumghar</i>	
Improving the Convergence of the PSO Algorithm with a Stagnation Variable and Fuzzy Logic	720
<i>Bernardo Morales-Castañeda, Diego Oliva, Mario A. Navarro, Alfonso Ramos-Michel, Arturo Valdivia, Angel Casas-Ordaz, Erick Rodriguez-Esparza, Seyed Jalaleddin Mousavirad</i>	
A Many-Objective Evolutionary Algorithm Based on Hybrid Dynamic Decomposition	728
<i>Chunlei Li, Libao Deng, Wenyin Gong, Liyan Qiao</i>	
A Historical Information Based Differential Evolution.....	736
<i>Yifan Qin, Libao Deng, Chunlei Li, Wenyin Gong</i>	
An Efficient Multitasking Ant Colony Optimization Framework	744
<i>Zhenjian Yu, Wei-Li Liu, Jinghui Zhong, Ting Huang, Xu Lu, Zhiyong Lin</i>	
Application of Quantum Genetic Algorithms to Network Signal Setting Design	752
<i>Giovanni Acampora, Angela Chiattò, Stefano De Luca, Roberta Di Pace, Alfredo Massa, Roberto Schiattarella, Autilia Vitiello</i>	
Evolving Intertask Mappings for Transfer in Reinforcement Learning.....	760
<i>Minh Hua, John W. Sheppard</i>	
Adjusting Infeasible Regions in the Constrained Multiobjective Optimization Problem.....	768
<i>Yi-Ruei Chen, Chuan-Kang Ting</i>	

A Novel Diversity-Aware Inertia Weight and Velocity Control for Particle Swarm Optimization.....	776
<i>Bernardo Morales-Castañeda, Diego Oliva, Angel Casas-Ordaz, Arturo Valdivia, Mario A. Navarro, Alfonso Ramos-Michel, Erick Rodríguez-Esparza, Seyed Jalaleddin Mousavirad</i>	
Meta-Heuristics Approach for Arrival Sequencing and Delay Absorption Through Automated Vectoring	784
<i>Imen Dhief, Mir Feroskhan, Sameer Alam, Nimrod Lilith, Daniel Delahaye</i>	
An Anisotropic Expected Improvement Criterion for Kriging-Assisted Evolutionary Computation.....	792
<i>Dawei Zhan, Yuqian Gui, Tianrui Li</i>	
An Elite-Guided Evolutionary Algorithm for Large-Scale Multi-Objective Optimization	800
<i>Xiangzhou Gao, Shenmin Song, Jingyi Dong</i>	
An Alternative Pareto-Based Approach to Multi-Objective Neural Architecture Search	808
<i>Meyssa Zouambi, Clarisse Dhaenens, Julie Jacques</i>	
Multi-View Transfer with Marginal and Conditional Alignment for Many-Task Optimization.....	816
<i>Sheng-Hao Wu, Jian-Yu Li, Zhi-Hui Zhan, Jun Zhang</i>	
Manta Ray Foraging Optimization Approaches on Multivariable PID Controller Tuning.....	824
<i>Yan Lieven Souza Lúcio, Luiza Scapinello Aquino Da Silva, Viviana Cocco Mariani, Leandro Dos Santos Coelho</i>	
Hyper-Heuristics Meet Controller Design: Improving Electrical Grid Performance Through Microgrids	832
<i>Gerardo Humberto Valencia-Rivera, José Carlos Ortiz-Bayliss, Jorge M. Cruz-Duarte, Ivan Amaya, Juan Gabriel Avina-Cervantes</i>	
Robust Density-Based Data Clustering Using a Quantum-Inspired Genetic Algorithm	840
<i>Amit Banerjee</i>	
Effects of External Archives on the Performance of Multi-Objective Evolutionary Algorithms on Real-World Problems	847
<i>Yang Nan, Tianye Shu, Hisao Ishibuchi</i>	
A Modified MOEA/D Based on Guided Search Directions for Large-Scale Multiobjective Optimization.....	855
<i>Yanhui Tang, Hui Li, Yuxiang Shui, Jianyong Sun</i>	
A Hybrid Evolutionary Approach with Group-Based Solution Encoding for Solving the Constrained Bilevel Multi-Depot Vehicle Routing Problem	863
<i>Rocío Salinas-Guerra, Efrén Mezura-Montes, Marcela Quiroz-Castellanos, Jesús-Adolfo Mejía-De-Dios, Slim Bechikh</i>	
Game Based Pigeon-Inspired Optimization with Repository Assistance for Stochastic Optimizations with Uncertain Infeasible Search Regions	871
<i>Daifeng Zhang, Jiliang Zhang, Yong Wang</i>	
A New Solution Encoding Scheme for Solving the Flexible Job-Shop Scheduling Problem	879
<i>Juan Carlos B. Somohano-Murrieta, Efrén Mezura-Montes, Marcela Quiroz-Castellanos</i>	
Deep Learning Models Compression Based on Evolutionary Algorithms and Digital Fractional Differentiation	887
<i>Arcadi Llanza, Fekhr Eddine Keddous, Nadiya Shvai, Amir Nakib</i>	

Portfolio Re-Balancing and Optimization Using Directional Changes and Genetic Algorithms	896
<i>Rui Jorge Almeida, Nalan Bastürk, Paulo Rodrigues</i>	
A Framework for Meta-Heuristic Parameter Performance Prediction Using Fitness Landscape Analysis and Machine Learning	904
<i>Liam J. S. McDevitt, Kyle Robert Harrison, Beatrice M. Ombuki-Berman</i>	
Extreme Learning Machine-Based Genetic Algorithm for the Facility Location Problem with Distributed Demands on Network Edges	912
<i>Mahmoud Golabi, Mokhtar Essaid, Muhammad Sulaman, Lhassane Idoumghar</i>	
The Combination of MOEA/D and WOF for Solving High-Dimensional Expensive Multiobjective Optimization Problems.....	920
<i>Yuxiang Shui, Hui Li, Jianyong Sun, Qingfu Zhang</i>	
Multi-Objective Grouped Grey Wolf Optimization of PID Controllers Applied to a Water Treatment Plant Model	928
<i>Yan Lieven Souza Lúcio, Viviana Cocco Mariani, Leandro Dos Santos Coelho</i>	
Multi-Qubit Bacterial Foraging Optimization Based Pilot Assignment and Access Point Selection in Cell-Free Massive MIMO	936
<i>Chenyu Geng, Zhiwei Yan, Caiyun Zhu, Wei Ji, Fei Li</i>	
Removal of Confounding Factors Using GA-SVM Feature Adaptation: Application on Detection of Vocal Fatigue Thru sEMG Classification	944
<i>Yixiang Gao, G. N. Desouza, Mark Berardi, Maria Dietrich</i>	
Transposition Point Optimization for Voltage Unbalance Mitigation in Electric Power Distribution Systems by Integer Form of Population-Based Incremental Learning	950
<i>Yuto Kobayashi, Yoshikazu Fukuyama, Kojiro Seki, Akihiro Oi, Hotaka Yoshida, Toru Jintsugawa, Hisashi Fujimoto</i>	
A Competent Memetic Algorithm for Error Mitigation in Quantum Measurement	956
<i>Giovanni Acampora, Autilia Vitiello</i>	
Optimizing Large-Scale Distribution Center Locations During the COVID-19 Quarantine.....	964
<i>Luchen Wang, Ye Tian, Xiaoshu Xiang, Xingyi Zhang</i>	
Benchmarking Algorithms for Submodular Optimization Problems Using IOHProfiler	972
<i>Frank Neumann, Aneta Neumann, Chao Qian, Anh Viet Do, Jacob De Nobel, Diederick Vermetten, Saba Sadeghi Ahouei, Furong Ye, Hao Wang, Thomas Bäck</i>	
Immune-Based System to Enhance Malware Detection.....	981
<i>Manel Jerbi, Zaineb Chelly Dagdia, Slim Bechikh, Lamjed Ben Said</i>	
A Multi-Contractor Approach for MLRCPSP with the Graph Structure Optimization	989
<i>Anastasiia Filatova, Mikhail Kovalchuk, Stanislav Batalenkov, Aleksander Voskresenskiy, Irina Deeva, Anna Kalyuzhnaya, Aleksei Shpilman, Natalia Kondrashova, Maxim Dudnichenko, Denis Nasonov</i>	
EVOAL: A Domain-Specific Language-Based Approach to Optimisation.....	997
<i>Bernhard J. Berger, Christina Plump, Rolf Drechsler</i>	

Author Index