Contents

Part I Evolutionary Computation Theory and Applications

Incremental Hough Transform: A New Method for Circle Detection ........................................ 3
A. Oualid Djekoune, Khadidja Messaoudi and Mahmoud Belhocine

Self-adaptive Evolutionary Many-Objective Optimization Based on Relation e-Preferred ......................... 23
Nicole Drechsler

Automated Graphical User Interface Testing Framework—Evoguitest—Based on Evolutionary Algorithms ................. 39
Gentiana Ioana Latiu, Octavian Augustin Cret and Lucia Vacariu

Evolving Protection Measures for Lava Risk Management Decision Making .................................................. 65
Giuseppe Filippone, Donato D’Ambrosio, Davide Marocco and William Spataro

A Targeted Estimation of Distribution Algorithm Compared to Traditional Methods in Feature Selection ................ 83
Geoffrey Neumann and David Cairns

Genetic Programming Model Regularization .................................................... 105
César L. Alonso, José Luis Montaña and Cruz Enrique Borges

A Radial Basis Function Neural Network-Based Coevolutionary Algorithm for Short-Term to Long-Term Time Series Forecasting .......................... 121
E. Parras-Gutierrez, V.M. Rivas and J.J. Merelo

Tree Automata Mining .......................................................... 137
Michal R. Przybylak

Alternative Topologies for GREEN-PSO ........................................ 155
Stephen M. Majercik
A Hybrid Shuffled Frog-Leaping Algorithm for the University Examination Timetabling Problem ........................................ 173
Nuno Leite, Fernando Melício and Agostinho C. Rosa

Part II Fuzzy Computation Theory and Applications

Model-Based Fuzzy System for Multimodal Image Segmentation ........ 191
Joanna Czajkowska

Multiple Fuzzy Roles: Analysis of Their Evolution in a Fuzzy Agent-Based Collaborative Design Platform .......................... 207
Alain-Jérôme Fougères and Egon Ostrosi

Multi-distance and Fuzzy Similarity Based Fuzzy TOPSIS ............ 227
Mikael Collan, Mario Fedrizzi and Pasi Luukka

Methodology of Virtual Wood Piece Quality Evaluation ............... 245
Jeremy Jover, Vincent Bombardier and Andre Thomas

Fuzzy Discretization Process from Small Datasets ...................... 263
José M. Cadenas, M. Carmen Garrido and Raquel Martínez

A Framework for Modelling Real-World Knowledge Capable of Obtaining Answers to Fuzzy and Flexible Searches ............ 281
Víctor Pablos-Ceruelo and Susana Munoz-Hernandez

On the Deduction Problem in Gödel and Product Logics ............... 299
Dušan Guller

Fuzzy Optimization Models for Seaside Port Logistics: Berthing and Quay Crane Scheduling ........................................ 323
Christopher Expósito-Izquierdo, Eduardo Lalla-Ruiz, Teresa Lamata,
Belén Melián-Batista and J. Marcos Moreno-Vega

Obtaining the Decision Criteria and Evaluation of Optimal Sites for Renewable Energy Facilities Through a Decision Support System ........................................ 345
Juan M. Sánchez-Lozano, Jose Angel Jiménez-Pérez,
M. Socorro García-Cascales and M. Teresa Lamata

Gene Priorization for Tumor Classification Using an Embedded Method ........................................ 363
Jose M. Cadenas, M. Carmen Garrido, Raquel Martínez,
David Pelta and Piero P. Bonissone

Generalizing and Formalizing Precisiation Language to Facilitate Human-Robot Interaction ........................................ 381
Takehiko Nakama, Enrique Muñoz, Kevin LeBlanc
and Enrique Ruspini
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing Surface Structures: A Topology Focused Learning Scheme</td>
<td>401</td>
</tr>
<tr>
<td>Hendrik Annuth and Christian-A. Bohn</td>
<td></td>
</tr>
<tr>
<td>Selective Image Compression Using MSIC Algorithm</td>
<td>419</td>
</tr>
<tr>
<td>Enrique Pelayo, David Buldain and Carlos Orrite</td>
<td></td>
</tr>
<tr>
<td>Unsupervised Analysis of Morphological ECG Features for Attention Detection</td>
<td>437</td>
</tr>
<tr>
<td>Carlos Carreiras, André Lourenço, Helena Aidos, Hugo Plácido da Silva and Ana L.N. Fred</td>
<td></td>
</tr>
<tr>
<td>Autonomous Learning Needs a Second Environmental Feedback Loop</td>
<td>455</td>
</tr>
<tr>
<td>Hazem Toutounji and Frank Pasemann</td>
<td></td>
</tr>
<tr>
<td>Prediction Capabilities of Evolino RNN Ensembles</td>
<td>473</td>
</tr>
<tr>
<td>Nijolė Maknickienė and Algirdas Maknickas</td>
<td></td>
</tr>
<tr>
<td>Gene Ontology Analysis on Behalf of Improved Classification of Different Colorectal Cancer Stages</td>
<td>487</td>
</tr>
<tr>
<td>Monika Simjanoska, Ana Madevska Bogdanova and Sasho Panov</td>
<td></td>
</tr>
<tr>
<td>Artificial Curiosity Emerging Human-Like Behavior: Toward Fully Autonomous Cognitive Robots</td>
<td>501</td>
</tr>
<tr>
<td>Kurosh Madani, Christophe Sabourin and Dominik M. Ramik</td>
<td></td>
</tr>
<tr>
<td>Author Index</td>
<td>517</td>
</tr>
</tbody>
</table>
Computational Intelligence
Revised and Selected Papers of the International Joint Conference, IJCCI 2013, Vilamoura, Portugal, September 20-22, 2013
Madani, K.; Correia, A.D.; Rosa, A.; Filipe, J.; Kacprzyk, J. (Eds.)
2016, XVII, 518 p. 170 illus., 88 illus. in color.,
Hardcover
ISBN: 978-3-319-23391-8