2013 IEEE Symposium on Computational Intelligence for Engineering Solutions

(CIES 2013)

Singapore
16-19 April

IEEE Catalog Number: CFP13ZAC-POD
ISBN: 978-1-4673-5850-7

TABLE OF CONTENTS

Optimization of Structural Support Locations Using a Hybrid Genetic Algorithm 1
J. Cheng, Y. Li
The Applications of Computational Intelligence in System Reliability Optimization 7
B. Xing, W. Gao, T. Marwla
Interactive Particle Swarm Optimization for the Architectural Design of Truss Structures 15
J. Felkner,E. Chatzi, T. Kotnik
Modified Binary Differential Evolution for Solving Wind Farm Layout Optimization Problems 23
D. Jiang, C. Peng, Z. Fan, Y. Chen, X. Cai
A Multi-Objective Particle Swarm Optimization For Dual-Resource Constrained Shop Scheduling With Resource Flexibility 29
J. Zhang, W. Wang, X. Xu, J. Jie
Research on Hydropower Station Optimal Scheduling Considering Ecological Water Demand 35
W. Wang, L. Li, X. Xu, X. Cheng, Y. Zhao
A Hybrid Evolutionary Algorithm For OFDM Resource Allocations 43
H. Liu, Q. Wang
Cost Functions For Assessment of Vehicle Dynamics 48
D. Savitski, P. Nedoma, J. Machan, J. Plihal, V. Ivanov, K. Augsburg
Assessment of Rollover Stability Based on Risk Indicator 56
B. Wang, A. Victorino, A. Charara, K. Augsburg, K. Höpping
Analysis of Subsystems Coordination for Electric Vehicle During Straight-Line Braking and Brake-In-Turn 61
B. Shyrokau, D. Wang, L. Heidrich, K. Höpping
Designing a Fully Automated Hierarchical Fuzzy Logic Controllers Using Evolutionary Algorithms 68
P. Shill, K. Murase
Efficient Serial and Parallel SVM Training Using Coordinate Descent 76
E. Liossis
FATHOMing Out Interdisciplinary Research Transfer 84
K. Crockett, J. O'Shea, F. Bandar, K. Macqueen, M. Chen, K. Simpson
An Interactive Genetic Algorithm-Based Image Sharpening System Considering User's Liking 91
Y. Ueda, Y. Kuramoto, R. Kubota, N. Suetake, E. Uchino
Real-Coded Genetic Algorithm for Solving Multi-Area Economic Dispatch Problem 97
H. Binh, T. Toan
Computational Intelligence-Based Identification of Maximally Sustainable Materials: The Case of Liquid Containers 102
T. Tambouratzis, D. Karalekas, N. Moustakas
A Hybrid Approach To Co-Referenfce Identification Within Museum Collections 110
D. Croft, S. Coupland, S. Brown
An Artificial Neural Network Based Approach For Power Spectrum Estimation And Simulation of Stochastic Processes Subject to Missing Data 118
L. Comerford, I. Kougiomtzoglou, M. Beer
Parameter Estimation in an Uncertain and Noisy Environment Via Set Inversion 125
R. Merheb, L. Mora, E. Palomo
Hazard Analysis For Safety-Critical Systems Using SOFL 133
A. Abdullah, S. Liu
A Smart Agent To Trade and Predict Foreign Exchange Market 141
M. Alrefaie, A. Hamouda, R. Ramadan
From p-Boxes to p-Ellipsoids: Towards an Optimal Representation of Imprecise Probabilities 149
K. Semenov, V. Kreinovich
Construction of Confidence Interval on Mean Value With Interval Data 157
K. Zaman, S. Khan
Data Anonymization That Leads to the Most Accurate Estimates of Statistical Characteristics 163
G. Xiang, V. Kreinovich
Predicting Mine Dam Levels and Energy Consumption Using Artificial Intelligence Methods 171
A. Hasan, B. Twala, T. Marwala
Classification of Day-Ahead Prices in Asia's First Liberalized Electricity Market Using PNN 176
S. Anbazhagan, K. Pravin, N. Kumarappan

Augmenting Simulations With Measurements 180
D. Vernay, I. Smith, B. Raphael
A Multiobjective Particle Swarm Optimization Algorithm for Load Scheduling in Electric Smelting Furnaces 188
W. Kong, J. Ding, T. Chai, X. Zheng, S. Yang
Transitions-Based System: A Relevant Use Case 196
T. Raimbault, D. Genest, S. Loiseau
Author Index