Table of Contents

Computer Simulation of Steady State Emission and Absorption Spectra for Molecular Ring 1
Pavel Herman, David Zapletal, and Milan Horak

Hybrid Walking Point Location Algorithm 7
Roman Soukal, Martina Malkova, Tomas Vomacka, and Ivana Kolingerova

Virtual Environment in Civil Engineering: Construction and Maintenance of Buildings 13
Alcinia Z. Sampaio, Ana Rita Gomes, and Joana Prata

An Electrical Circuits e-Tutor based on Symbolic and Qualitative Analysis 21
Jason Debono and Adrian Muscat

Adaptive Free-form Deformation for the Modification of CAD/CAM Data 27
Alexei Sacharow, Tobias Surmann, and Dirk Biermann

On Root Classification in Kinetic Data Structures 32
Tomas Vomacka and Ivana Kolingerova

Advanced Space Filtering for the Construction of 3D Additively Weighted Voronoi Diagram 37
Michal Zemek, Martin Manak, and Ivana Kolingerova

A Novel Approach for Detection of Copy-Move Forgery 44
Mengyu Qiao, Andrew Sung, Qingzhong Liu, and Bernardete Ribeiro

Concurrent Differential Evolution for Uncertain Optimization Problems 48
Kiyoharu Tagawa and Takashi Ishimizu

Energy-aware MPSoC with Space-sharing for Real-time Applications 54
Stefan Aust and Harald Richter

Image Restoration by Revised Bayesian-Based Iterative Method 60
Sigeru Omatu and Hideo Araki

Automatic Error Detection in Gaussian Processes Regression Modeling for Production Scheduling 66
Bernd Scholz-Reiter and Jens Heger

Scalable Resource Provisioning in the Cloud Using Business Metrics 72
Wlodzimierz Funika and Pawel Koperek

e-Reverse Logistics for Remanufacture-to-Order: An Online Auction Based and Multi-Agent System Supported 78

Solution
Bo Xing, Wen-Jing Gao, Kimberly Battle, Fulufhelo Nelwamondo, and Tshilidzi Marwala

e-RL: The Internet of Things Supported Reverse Logistics for Remanufacture-to-Order 84
Bo Xing, Wen-Jing Gao, Kimberly Battle, Fulufhelo Nelwamondo, and Tshilidzi Marwala

Particle Swarm Optimization for Nonlinear Model Predictive Control 88
Julian Mercieca and Simon Fabri

Extending Microsoft Project for Real-World Job-Shop Scheduling 94
Peter Steininger

An Analysis of MOSIX Load Balancing Capabilities 100
Siavash Ghiasvand, Ehsan Mousavi Khaneghah, Sina Mahmoodi Khorandi, Seyedeh Leili Mirtaheri, Najmeh Osouli Nezhad, Meisam Mohammadkhani, and Mohsen Sharifi

Characterizing Energy Efficiency in I/O System for Scientific Applications 106
Javier Panadero, Sandra Mendez, Dolores Rexachs, and Emilio Luque

Supervised Hybrid SOM-NG Algorithm 113
Mario J. Crespo-Ramos, Ivan Machon-Gonzalez, Hilario Lopez-Garcia, and Jose Luis Calvo-Rolle

Building Virtual Private Clouds with Network-aware Cloud 119
Joao Soares, Jorge Carapinha, Marcio Melo, Romeu Monteiro, and Susana Sargento