

Contents – Part II

Online Control of Enumeration Strategies via Bat-Inspired Optimization	1
<i>Ricardo Soto, Broderick Crawford, Rodrigo Olivares, Franklin Johnson, and Fernando Paredes</i>	
LEXMATH - A Tool for the Study of Available Lexicon in Mathematics	11
<i>Pedro Salcedo Lagos, María del Valle, Ricardo Contreras Arriagada, and M. Angélica Pinninghoff</i>	
Low-Power Occupancy Sensor for an Ambient Assisted Living System	20
<i>Francisco Fernandez-Luque, Juan Zapata, and Ramón Ruiz</i>	
Evolution of Synaptic Delay Based Neural Controllers for Implementing Central Pattern Generators in Hexapod Robotic Structures	30
<i>José Santos and Pablo Fernández</i>	
Genetic Algorithm for the Job-Shop Scheduling with Skilled Operators	41
<i>Raúl Mencía, María R. Sierra, and Ramiro Varela</i>	
Preliminary Design of the Real-Time Control Software for the Adaptive Optics of AOLI	51
<i>Carlos Colodro-Conde, Luis F. Rodríguez-Ramos, Isidro Villó, Craig Mackay, Rafael Rebolo, Jonathan Crass, Juan J. Fernández-Valdivia, David L. King, Lucas Labadie, Roberto López, Alejandro Oscoz, Antonio Pérez-Garrido, Marta Puga, José M. Rodríguez-Ramos, and Sergio Velasco</i>	
Graph-Based Learning on Sparse Data for Recommendation Systems in Social Networks	61
<i>J. David Nuñez-Gonzalez and Manuel Graña</i>	
Self-sampling Strategies for Multimemetic Algorithms in Unstable Computational Environments	69
<i>Rafael Nogueras and Carlos Cotta</i>	
On the Influence of Illumination Quality in 2D Facial Recognition	79
<i>Ángel Sánchez, José F. Vélez, and A. Belén Moreno</i>	

A Binary Cuckoo Search Algorithm for Solving the Set Covering Problem	88
<i>Ricardo Soto, Broderick Crawford, Rodrigo Olivares, Jorge Barraza, Franklin Johnson, and Fernando Paredes</i>	
State Machine Based Architecture to Increase Flexibility of Dual-Arm Robot Programming	98
<i>Héctor Herrero, Jose Luis Outón, Urko Esnaola, Damien Sallé, and Karmele López de Ipiña</i>	
A Cellular Automata Model for Mobile Worm Propagation	107
<i>A. Martín del Rey, A. Hernández Encinas, J. Martín Vaquero, A. Queiruga Dios, and G. Rodríguez Sánchez</i>	
Evolving Cellular Automata to Segment Hyperspectral Images Using Low Dimensional Images for Training	117
<i>B. Priego, Francisco Bellas, and Richard J. Duro</i>	
Multicriteria Inventory Routing by Cooperative Swarms and Evolutionary Algorithms	127
<i>Zhiwei Yang, Michael Emmerich, Thomas Bäck, and Joost Kok</i>	
Embodied Evolution for Collective Indoor Surveillance and Location ...	138
<i>Pedro Trueba, Abraham Prieto, Francisco Bellas, and Richard J. Duro</i>	
On the Spectral Clustering for Dynamic Data	148
<i>D.H. Peluffo-Ordóñez, J.C. Alvarado-Pérez, and A.E. Castro-Ospina</i>	
A Multiple-Model Particle Filter Based Method for Slide Detection and Compensation in Road Vehicles	156
<i>R. Toledo-Moreo, Carlos Colodro-Conde, and F. Javier Toledo-Moreo</i>	
Pedestrian Tracking-by-Detection Using Image Density Projections and Particle Filters	166
<i>B. Lacabex, A. Cuesta-Infante, A.S. Montemayor, and J.J. Pantrigo</i>	
Comparative Study of the Features Used by Algorithms Based on Viola and Jones Face Detection Algorithm.	175
<i>Alexandre Paz Mena, Margarita Bachiller Mayoral, and Estela Díaz-Lópe</i>	
Experiments of Skin Detection in Hyperspectral Images	184
<i>Manuel Graña and Ion Marques</i>	
Scene Recognition for Robot Localization in Difficult Environments	193
<i>D. Santos-Saavedra, A. Canedo-Rodríguez, X.M. Pardo, R. Iglesias, and C.V. Regueiro</i>	

Pyramid Representations of the Set of Actions in Reinforcement Learning	203
<i>R. Iglesias, V. Alvarez-Santos, M.A. Rodriguez, D. Santos-Saavedra, C.V. Regueiro, and X.M. Pardo</i>	
Related Tasks Selection to Multitask Learning Schemes	213
<i>Andrés Bueno-Crespo, Rosa-María Menchón-Lara, and José-Luis Sancho-Gómez</i>	
Towards Robot Localization Using Bluetooth Low Energy Beacons RSSI Measures	222
<i>J.M. Cuadra-Troncoso, A. Rivas-Casado, J.R. Álvarez-Sánchez, F. de la Paz López, and D. Obregón-Castellanos</i>	
Development of a Web Platform for On-line Robotics Learning Workshops Using Real Robots	232
<i>R. García-Misis, J.M. Cuadra-Troncoso, F. de la Paz López, and J.R. Álvarez-Sánchez</i>	
A Growing Functional Modules Learning Based Controller Designed to Balance of a Humanoid Robot on One Foot	240
<i>Jérôme Leboeuf-Pasquier</i>	
Optimized Representation of 3D Sequences Using Neural Networks	251
<i>Sergio Orts-Escolano, José García Rodríguez, Vicente Morell, Miguel Cazorla, Alberto Garcia-Garcia, and Sergiu Ovidiu-Oprea</i>	
Object Recognition in Noisy RGB-D Data	261
<i>José Carlos Rangel, Vicente Morell, Miguel Cazorla, Sergio Orts-Escolano, and José García Rodríguez</i>	
Topology Preserving Self-Organizing Map of Features in Image Space for Trajectory Classification	271
<i>Jorge Azorin-Lopez, Marcelo Saval-Calvo, Andres Fuster-Guillo, Higinio Mora-Mora, and Victor Villena-Martinez</i>	
A Comparative Study of Downsampling Techniques for Non-rigid Point Set Registration Using Color	281
<i>Marcelo Saval-Calvo, Sergio Orts-Escolano, Jorge Azorin-Lopez, José García Rodríguez, Andres Fuster-Guillo, Vicente Morell-Gimenez, and Miguel Cazorla</i>	
Robust Control Tuning by PSO of Aerial Robots Hose Transportation	291
<i>Julian Estevez and Manuel Graña</i>	

Visual Bug Algorithm for Simultaneous Robot Homing and Obstacle Avoidance Using Visual Topological Maps in an Unmanned Ground Vehicle	301
<i>Darío Maravall, Javier de Lope, and Juan Pablo Fuentes</i>	
Neural Modeling of Hose Dynamics to Speedup Reinforcement Learning Experiments.....	311
<i>Jose Manuel Lopez-Guede and Manuel Graña</i>	
Autonomous Robot Navigation Based on Pattern Recognition Techniques and Artificial Neural Networks	320
<i>Yadira Quiñonez, Mario Ramirez, Carmen Lizarraga, Iván Tostado, and Juan Bekios</i>	
Collaborative Group Formation Using Genetic Algorithms	330
<i>M. Angélica Pinninghoff, Miguel Ramírez, Ricardo Contreras Arriagada, and Pedro Salcedo Lagos</i>	
The CALIMACO Multimodal System: Providing Enhanced Library Services Using Mobile Devices	339
<i>David Griol, Miguel Ángel Patricio, and José Manuel Molina</i>	
Agent Based Modelling to Build Serious Games: The Learn to Lead Game	349
<i>Andrea Di Ferdinando, Massimiliano Schembri, Michela Ponticorvo, and Orazio Miglino</i>	
An Augmented Reality Application for Learning Anatomy	359
<i>C. Rodriguez-Pardo, S. Hernandez, Miguel Ángel Patricio, A. Berlanga, and José Manuel Molina</i>	
Data Cleansing Meets Feature Selection: A Supervised Machine Learning Approach.....	369
<i>Antonio J. Tallón-Ballesteros and José C. Riquelme</i>	
Multicriterion Segmentation of Demand Markets to Increase Forecasting Accuracy of Analogous Time Series: A First Investigation	379
<i>Emiao Lu and Julia Handl</i>	
A Self-Organising Multi-Manifold Learning Algorithm	389
<i>Hujun Yin and Shireen Mohd Zaki</i>	
Artificial Metaplasticity for Deep Learning: Application to WBCD Breast Cancer Database Classification	399
<i>Juan Fombellida, Santiago Torres-Alegre, Juan Antonio Piñuela-Izquierdo, and Diego Andina</i>	

Comparing ELM Against MLP for Electrical Power Prediction in Buildings	409
<i>Gonzalo Vergara, Javier Cózar, Cristina Romero-González, José A. Gámez, and Emilio Soria-Olivas</i>	
Fish Monitoring and Sizing Using Computer Vision	419
<i>Alvaro Rodriguez, Angel J. Rico-Diaz, Juan R. Rabuñal, Jeronimo Puertas, and Luis Pena</i>	
Computer-Aided Development of Thermo-Mechanical Laser Surface Treatments for the Fatigue Life Extension of Bio-Mechanical Components.....	429
<i>José-Luis Ocaña, Carlos Correa, Ángel García-Beltrán, Juan-Antonio Porro, Leonardo Ruiz-de-Lara, and Marcos Díaz</i>	
From Smart Grids to Business Intelligence, a Challenge for Bioinspired Systems	439
<i>Irene Martín-Rubio, Antonio E. Florence-Sandoval, Juan Jiménez-Trillo, and Diego Andina</i>	
Neural Recognition of Real and Computer-Designed Architectural Images	451
<i>M.D. Grima Murcia, Maria J. Ortiz, M.A. López-Gordo, J.M. Ferrández-Vicente, and Eduardo Ferrández</i>	
Author Index	459

Bioinspired Computation in Artificial Systems
International Work-Conference on the Interplay
Between Natural and Artificial Computation, IWINAC
2015, Elche, Spain, June 1-5, 2015, Proceedings, Part II
Ferrández Vicente, J.M.; Álvarez-Sánchez, J.R.; de la Paz
López, F.; Toledo Moreo, F.J.; Adeli, H. (Eds.)
2015, XXIV, 462 p. 177 illus., Softcover
ISBN: 978-3-319-18832-4