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# Hybrid Artificial Intelligent Systems

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Proceedings

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# Preface

This volume of *Lecture Notes on Artificial Intelligence* (LNAI) includes papers presented at HAIS 2015 held in the beautiful seaside city of Bilbao, Spain, June 2015.

The International Conference on Hybrid Artificial Intelligence Systems (HAIS), has become a unique, established, and broad interdisciplinary forum for researchers and practitioners who are involved in developing and applying symbolic and sub-symbolic techniques aimed at the construction of highly robust and reliable problem-solving techniques and bringing the most relevant achievements in this field.

Hybridization of intelligent techniques, coming from different computational intelligence areas, has become popular because of the growing awareness that such combinations frequently perform better than the individual techniques such as neurocomputing, fuzzy systems, rough sets, evolutionary algorithms, agents and multiagent systems, etc.

Practical experience has indicated that hybrid intelligence techniques might be helpful for solving some of the challenging real-world problems. In a hybrid intelligence system, a synergistic combination of multiple techniques is used to build an efficient solution to deal with a particular problem. This is, thus, the setting of the HAIS conference series, and its increasing success is proof of the vitality of this exciting field.

HAIS 2015 received 190 technical submissions. After a rigorous peer-review process, the international Program Committee selected 60 papers, which are published in this conference proceedings.

The selection of papers was extremely rigorous in order to maintain the high quality of the conference and we would like to thank the Program Committee for their hard work in the reviewing process. This process is very important to the creation of a conference of high standard and the HAIS conference would not exist without their help.

The large number of submissions is certainly not only testimony to the vitality and attractiveness of the field but an indicator of the interest in the HAIS conferences themselves.

HAIS 2015 enjoyed outstanding keynote speeches by distinguished guest speakers: Prof. Enrique Zuazua – Research Professor at Ikerbasque (Basque Country, Spain), Prof. Miguel Angel Sotelo – University of Alcalá (Spain), and Prof. Michal Wozniak – Wrocław University of Technology (Poland).

HAIS 2015 teamed up with *Neurocomputing* (Elsevier) and the *Logic Journal of the IGPL* Oxford Journals for a suite of special issues including selected papers from HAIS 2015.

Particular thanks go to the conference main sponsors, IEEE-Spanish Section, IEEE Systems, Man and Cybernetics – Spanish Chapter, University of Salamanca, University of Deusto, DeustoTech, and The International Federation for Computational Logic, who jointly contributed in an active and constructive manner to the success of this initiative.

We would like to thank Alfred Hofmann and Anna Kramer from Springer for their help and collaboration during this demanding publication project.

June 2015

Enrique Onieva  
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# Contents

## Data Mining and Knowledge Discovery

Frequent Sets Discovery in Privacy Preserving Quantitative Association Rules Mining . . . . .	3
<i>Piotr Andruszkiewicz</i>	
An Instance of Social Intelligence in the Internet of Things: Bread Making Recipe Recommendation by ELM Regression. . . . .	16
<i>Manuel Graña and J. David Nuñez-Gonzalez</i>	
Random Forests and Gradient Boosting for Wind Energy Prediction . . . . .	26
<i>Álvaro Alonso, Alberto Torres, and José R. Dorransoro</i>	
Agent-Based Web Resource Acquisition System for Scientific Knowledge Base . . . . .	38
<i>Adam Omelczuk and Piotr Andruszkiewicz</i>	
An Efficient Nearest Neighbor Method for Protein Contact Prediction . . . . .	50
<i>Gualberto Asencio-Cortés, Jesús S. Aguilar-Ruiz, and Alfonso E. Márquez-Chamorro</i>	
Interface for Composing Queries for Complex Databases for Inexperienced Users . . . . .	61
<i>Rodolfo A. Pazos R., Alan G. Aguirre L., Marco A. Aguirre L., and José A. Martínez F.</i>	
A Structural Pattern Mining Approach for Credit Risk Assessment . . . . .	73
<i>Bernardete Ribeiro, Ning Chen, and Alexander Kovačec</i>	

## Video and Image Analysis

A Novel Technique for Human Face Recognition Using Fractal Code and Bi-dimensional Subspace . . . . .	87
<i>Benouis Mohamed</i>	
A Platform for Matching Context in Real Time . . . . .	99
<i>Andrei Olaru and Adina Magda Florea</i>	
Motion Capture Systems for Jump Analysis . . . . .	111
<i>Sendoa Rojas-Lertxundi, J. Ramón Fernández-López, Sergio Huerta, and Pablo Garía Bringas</i>	

Expert System for Handwritten Numeral Recognition Using Dynamic Zoning . . . . .	125
<i>David Álvarez, Ramón Fernández, Lidia Sánchez, and José Alija</i>	
Arabic Handwriting Recognition Based on Synchronous Multi-stream HMM Without Explicit Segmentation . . . . .	136
<i>Khaoula Jayech, Mohamed Ali Mahjoub, and Najoua Essoukri Ben Amara</i>	
Image Segmentation Based on Hybrid Adaptive Active Contour . . . . .	146
<i>Amira Soudani and Ezzeddine Zagrouba</i>	
Particle Swarm Optimizer with Finite Velocity of Information Transmission . . . .	157
<i>Miguel Cárdenas-Montes and Miguel A. Vega-Rodríguez</i>	
<b>Bio-inspired Models and Evolutionary Computation</b>	
Cryptanalysis of Simplified-AES Using Intelligent Agent . . . . .	173
<i>Rania Saeed and Ashraf Bhery</i>	
A Discrete Bat Algorithm for the Community Detection Problem . . . . .	188
<i>Eslam A. Hassan, Ahmed Ibrahim Hafez, Aboul Ella Hassanien, and Aly A. Fahmy</i>	
Emergence of Cooperation Through Simulation of Moral Behavior . . . . .	200
<i>Fernanda Monteiro Eliott and Carlos Henrique Costa Ribeiro</i>	
MC-PSO/DE Hybrid with Repulsive Strategy – Initial Study . . . . .	213
<i>Michal Pluhacek, Roman Senkerik, Ivan Zelinka, and Donald Davendra</i>	
OVRP_ICA: An Imperialist-Based Optimization Algorithm for the Open Vehicle Routing Problem . . . . .	221
<i>Shahab Shamshirband, Mohammad Shojafar, Ali Asghar Rahmani Hosseinabadi, and Ajith Abraham</i>	
New Adaptive Approach for Multi-chaotic Differential Evolution Concept . . .	234
<i>Roman Senkerik, Michal Pluhacek, Donald Davendra, Ivan Zelinka, and Jakub Janostik</i>	
Automatic Design of Radial Basis Function Networks Through Enhanced Differential Evolution . . . . .	244
<i>Dražen Bajer, Bruno Zorić, and Goran Martinović</i>	
Performance Evaluation of Ant Colony Systems for the Single-Depot Multiple Traveling Salesman Problem . . . . .	257
<i>Raluca Necula, Mihaela Breaban, and Madalina Raschip</i>	

A Metaheuristic Hybridization Within a Holonic Multiagent Model  
for the Flexible Job Shop Problem . . . . . 269  
*Housseem Eddine Nouri, Olfa Belkahla Driss, and Khaled Ghédira*

Quantum Evolutionary Methods for Real Value Problems . . . . . 282  
*Jonathan Wright and Ivan Jordanov*

A Modified Wind Driven Optimization Model for Global  
Continuous Optimization . . . . . 294  
*Abdenmour Boulesnane and Souham Meshoul*

**Learning Algorithms**

Input Filters Implementing Diversity in Ensemble of Neural Networks. . . . . 307  
*Eva Volna, Martin Kotyrba, and Vaclav Kocian*

Learning-Based Multi-agent System for Solving Combinatorial  
Optimization Problems: A New Architecture . . . . . 319  
*Nasser Lotfi and Adnan Acan*

A Novel Approach to Detect Single and Multiple Faults in Complex  
Systems Based on Soft Computing Techniques . . . . . 333  
*Imtiaz Fliss and Moncef Tagina*

Using Mouse Dynamics to Assess Stress During Online Exams . . . . . 345  
*Davide Carneiro, Paulo Novais, José Miguel Pêgo, Nuno Sousa,  
and José Neves*

Modeling Users Emotional State for an Enhanced Human-Machine  
Interaction . . . . . 357  
*David Griol and José Manuel Molina*

**Hybrid Intelligent Systems for Data Mining and Applications**

Predicting PM<sub>10</sub> Concentrations Using Fuzzy Kriging . . . . . 371  
*Jan Caha, Lukáš Marek, and Jiří Dvorský*

Neuro-Fuzzy Analysis of Atmospheric Pollution . . . . . 382  
*Ángel Arroyo, Verónica Tricio, Emilio Corchado, and Álvaro Herrero*

Improving Earthquake Prediction with Principal Component Analysis:  
Application to Chile . . . . . 393  
*Gualberto Asencio-Cortés, Francisco Martínez-Álvarez,  
Antonio Morales-Esteban, Jorge Reyes, and Alicia Troncoso*

Detecting Anomalies in Embedded Computing Systems via a Novel HMM-Based Machine Learning Approach . . . . .	405
<i>Alfredo Cuzzocrea, Eric Medvet, Enzo Mumolo, and Riccardo Cecolin</i>	
Using Dalvik Opcodes for Malware Detection on Android . . . . .	416
<i>José Gaviria de la Puerta, Borja Sanz, Igor Santos, and Pablo García Bringas</i>	
A Method to Encrypt 3D Solid Objects Based on Three-Dimensional Cellular Automata . . . . .	427
<i>A. Martín del Rey</i>	
Exemplar Selection Using Collaborative Neighbor Representation . . . . .	439
<i>F. Dornaika, I. Kamal Aldine, and B. Cases</i>	
On Sentiment Polarity Assignment in the Wordnet Using Loopy Belief Propagation. . . . .	451
<i>Marcin Kulisiewicz, Tomasz Kajdanowicz, Przemyslaw Kazienko, and Maciej Piasecki</i>	
<b>Classification and Cluster Analysis</b>	
Evaluation of Relative Indexes for Multi-objective Clustering . . . . .	465
<i>Tomáš Bartoň and Pavel Kordík</i>	
A Hybrid Analytic Hierarchy Process for Clustering and Ranking Best Location for Logistics Distribution Center. . . . .	477
<i>Dragan Simić, Vladimir Ilin, Ilija Tanackov, Vasa Svirčević, and Svetlana Simić</i>	
Resampling Multilabel Datasets by Decoupling Highly Imbalanced Labels . . .	489
<i>Francisco Charte, Antonio Rivera, María José del Jesus, and Francisco Herrera</i>	
Creating Effective Error Correcting Output Codes for Multiclass Classification . . . . .	502
<i>Wiesław Chmielnicki</i>	
FM3S: Features-Based Measure of Sentences Semantic Similarity . . . . .	515
<i>Mohamed Ali Hadj Taieb, Mohamed Ben Aouicha, and Yosra Bourouis</i>	
Improving Enzyme Function Classification Performance Based on Score Fusion Method. . . . .	530
<i>Alaa Tharwat, Mahir M. Sharif, Aboul Ella Hassanien, and Hesham A. Hefeny</i>	



A Low-Power Context-Aware System for Smartphone Using Hierarchical Modular Bayesian Networks. . . . . 543  
*Jae-Min Yu and Sung-Bae Cho*

**HAIS Applications**

A Parallel Meta-heuristic for Solving a Multiple Asymmetric Traveling Salesman Problem with Simultaneous Pickup and Delivery Modeling Demand Responsive Transport Problems . . . . . 557  
*E. Osaba, F. Diaz, E. Onieva, Pedro López-García, R. Carballedo, and A. Perallos*

Self-Organizing Maps Fusion: An Approach to Different Size Maps . . . . . 568  
*Leandro Antonio Pasa, José Alfredo F. Costa, and Marcial Guerra de Medeiros*

Cloud Robotics in FIWARE: A Proof of Concept . . . . . 580  
*F. Herranz, J. Jaime, I. González, and Á. Hernández*

Comparing Measurement and State Vector Data Fusion Algorithms for Mobile Phone Tracking Using A-GPS and U-TDOA Measurements . . . . . 592  
*Ayalew Belay Habtie, Ajith Abraham, and Dida Midekso*

Hybrid U-TDOA and A-GPS for Vehicle Positioning and Tracking. . . . . 605  
*Ayalew Belay Habtie, Ajith Abraham, and Dida Midekso*

Parallelizing NSGAI for Accelerating the Registration Areas Optimization in Mobile Communication Networks . . . . . 620  
*Víctor Berrocal-Plaza, Miguel A. Vega-Rodríguez, and Juan M. Sánchez-Pérez*

Improving Hotel Room Demand Forecasting with a Hybrid GA-SVR Methodology Based on Skewed Data Transformation, Feature Selection and Parsimony Tuning. . . . . 632  
*R. Urraca, A. Sanz-Garcia, J. Fernandez-Ceniceros, E. Sodupe-Ortega, and F.J. Martinez-de-Pison*

A Survey of Hybrid Artificial Intelligence Algorithms for Dynamic Vehicle Routing Problem. . . . . 644  
*Vladimir Ilin, Dragan Simić, Jovan Tepić, Gordan Stojić, and Nenad Saulić*

A Straightforward Implementation of a GPU-accelerated ELM in R with NVIDIA Graphic Cards. . . . . 656  
*M. Alia-Martinez, J. Antonanzas, F. Antonanzas-Torres, A. Pernía-Espinoza, and R. Urraca*

Real Implantation of an Expert System for Elderly Home Care . . . . .	668
<i>Aitor Moreno-Fernandez-de-Leceta, Unai Arenal Gómez, Jose Manuel Lopez-Guede, and Manuel Graña</i>	
A Novel Hybrid Algorithm for Solving the Clustered Vehicle Routing Problem . . . . .	679
<i>Andrei Horvat Marc, Levente Fuksz, Petrică C. Pop, and Daniela Dănciulescu</i>	
Trading-off Accuracy vs Energy in Multicore Processors via Evolutionary Algorithms Combining Loop Perforation and Static Analysis-Based Scheduling . . . . .	690
<i>Zorana Banković, Umer Liqat, and Pedro López-García</i>	
Distributed Tabu Searches in Multi-agent System for Permutation Flow Shop Scheduling Problem . . . . .	702
<i>Olfa Belkahla Driss and Chaouki Tarchi</i>	
Content Based Image Retrieval for Large Medical Image Corpus . . . . .	714
<i>Gjorgji Strezoski, Dario Stojanovski, Ivica Dimitrovski, and Gjorgji Madjarov</i>	
Twitter Sentiment Analysis Using Deep Convolutional Neural Network . . . . .	726
<i>Dario Stojanovski, Gjorgji Strezoski, Gjorgji Madjarov, and Ivica Dimitrovski</i>	
<b>Author Index</b> . . . . .	739