

MICAI 2016 Springer LNAI proceedings

- Page numbers are approximate. Springer can slightly change them in the final version.
- Titles and authors are as indicated in the system and can be different from the final version. Springer will use the title and author list from the paper itself.
- There are two volumes, 10061 and 10062. Check below in which one your paper is.

LNAI 10061:

Grigori Sidorov, Oscar Herrera-Alcántara (Eds.). Advances in Computational Intelligence. 15th Mexican International Conference on Artificial Intelligence, MICAI 2016, Cancún, Quintana Roo, Mexico, October 23 to 29, 2016. Proceedings, Part I. Lecture Notes in Artificial Intelligence, Volume 10061.

Natural Language Processing

Best Student Paper Award, First Place:

The relevance of the Named Entities in Authorship Attribution 1
Germán Ríos, Grigori Sidorov and Noé Alejandro Castro Sánchez

Best Student Paper Award, First Place:

A compact representation for cross-domain short text clustering 14	
<i>Alba Núñez-Reyes, Esau Villatoro-Tello, Gabriela Ramírez-De-La-Rosa and Christian Sánchez-Sánchez</i>	
Characteristics of Most Frequent Spanish Verb-Noun Combinations 26	
<i>Olga Kolesnikova and Alexander Gelbukh</i>	
Sentence Paraphrase Graphs: Classification Based on Predictive Models or Annotators Decisions? 39	
<i>Ekaterina Pronoza, Elena Yagunova and Nataliya Kochetkova</i>	
Mathematical model of an ontological-semantic analyzer using basic ontological-semantic patterns 52	
<i>Anastasia Mochalova and Vladimir Mochalov</i>	
CookingQA: A Question Answering System based on Cooking Ontology 66	
<i>Riyanka Manna, Partha Pakray, Somnath Banerjee, Dipankar Das and Alexander Gelbukh</i>	
LEXIK. An Integrated System for Specialized Terminology 79	
<i>Gerardo Sierra, Jorge Lázaro and Gemma Bel-Enguix</i>	
Linguistic Restrictions in Automatic Translation from Written Spanish to MSL 92	
<i>Obdulia Pichardo-Lagunas, Bella Citlali Martínez-Seis, Carlos Pegueros-Denis, Alejandro Ponce de León-Chávez and Ricardo Muñoz-Guerrero</i>	
Intra-Document and Inter-Document Redundancy on Multi-Document Summarization 105	
<i>Pabel Carrillo-Mendoza, Hiram Calvo and Alexander Gelbukh</i>	
Framework for searching judicial precedents based on Automatic summarization. 115	
<i>Armando Ordonez, Manuel Calambas, Hugo Ordonez, Carlos Cobos, Angela Chacón and Diego Belalcazar</i>	
Discriminatory capacity of the most representative phonemes in Spanish: an evaluation for forensic speech recognition 126	
<i>Fernanda López-Escobedo and Luis Alberto Pineda Cortés</i>	
A Speech-Based Web Co-Authoring Platform for the Blind 141	
<i>Madeeha Batool, Waqar Mirza Muhammad, Ana Maria Martinez Enriquez and Muhammad Aslam</i>	

Social Networks and Opinion Mining

Friends and Enemies of Clinton and Trump: Using Context for Detecting Stance in Political Tweets	152
<i>Mirko Lai, Delia Irazu Hernandez Farias, Viviana Patti and Paolo Rosso</i>	
Additive Regularization for Topic Modeling in Sociological Studies of User-Generated Texts	166
<i>Murat Apishev, Sergei Koltcov, Olessia Koltsova, Sergey Nikolenko and Konstantin Vorontsov</i>	
Effect of the inclusion of non-newsworthy messages in credibility assessment	181
<i>Chaluemwut Noyunsan, Tatpong Katanyukul, Carson Leung and Kanda Runapongsa Saikaew</i>	
On the impact of neighborhood selection strategies for recommender systems in LBSNs.....	193
<i>Carlos Rios, Silvia Schiaffino and Daniela Godoy</i>	

Fuzzy Logic

Invited paper:

For Multi-Interval-Valued Fuzzy Sets, Centroid Defuzzification Is Equivalent to Defuzzifying Its Interval Hull: A Theorem	205
<i>Kreinovich Vladik and Songsak Sriboonchitta</i>	

Invited paper:

Metric Spaces Under Interval Uncertainty: Towards an Adequate Definition	213
<i>Mahdokht Afravi, Kreinovich Vladik and Thongchai Dumrongpokaphoan</i>	
A study of parameter dynamic adaptation with fuzzy logic for the grey wolf optimizer algorithm	222
<i>Luis Rodriguez, Oscar Castillo and Jose Soria</i>	
Interval Type-2 fuzzy logic for parameter adaptation in the gravitational search algorithm	234
<i>Beatriz Gonzalez, Fevrier Valdez and Patricia Melin</i>	
Water cycle algorithm with fuzzy logic for dynamic adaptation of parameters	246
<i>Eduardo Mendez, Oscar Castillo, Jose Soria, Patricia Melin and Ali Sadollah</i>	
Off-line tuning of a PID controller using Type-2 Fuzzy Logic	257
<i>Heberi Tello, Luis Torres Treviño and Angel Rodriguez-Liñan</i>	
Detection of faults in induction motors using texture-based features and fuzzy inference	269
<i>Uriel Calderon-Uribe, Rocio Lizarraga-Morales, Carlos Rodriguez-Donate and Eduardo Cabal-Yepez</i>	

Time Series Analysis and Forecasting

Trend Detection in Gold Worth using Regression	278
<i>Frouzan Rashidi</i>	
Queries to Internet as a Tool for Analysis of Regional Police Work and Forecast of Crimes in Regions	291
<i>Anna Boldyreva, Oleg Sobolevskiy, Mikhail Alexandrov and Olexiy Koshulko</i>	
Creating Collections of Descriptors of Events and Processes Based on Internet Queries	303
<i>Anna Boldyreva, Oleg Sobolevskiy, Mikhail Alexandrov and Vera Danilova</i>	

Planning and Scheduling

Best Paper Award, Second Place:

Using a Grammar Checker to Validate Compliance of Processes with Workflow Models	315
<i>Roman Bartak and Vladislav Kubon</i>	
On Verification of Workflow and Planning Domain Models using Attribute Grammars	330
<i>Roman Bartak and Dvorak Tomas</i>	
Tramp Ship Scheduling Problem with Berth Allocation Considerations and Time-dependent Constraints	344
<i>Francisco López-Ramos, Armando Guarnaschelli, José-Fernando Camacho-Vallejo, Laura Hervert-Escobar and Rosa-Guadalupe González-Ramírez</i>	
Hierarchical Task Model for Resource Failure Recovery in Production Scheduling	360
<i>Marek Vlk and Roman Bartak</i>	

A multi-objective hospital operating room planning and scheduling problem using compromise programming	377
<i>Alejandra Duenas, Christine Di Martinelly, G.Yazgi Tütüncü and Joaquin Aguado</i>	
Solving Manufacturing Cell Design Problems using the Black Hole Algorithm.....	389
<i>Ricardo Soto, Broderick Crawford, Nicolás Fernandez, Victor Reyes, Stefanie Niklander and Ignacio Araya</i>	

Image Processing and Computer Vision

Efficient Computation of the Euler Number of a 2-D Binary of Image.....	398
<i>Juan Humberto Sossa Azuela, Ángel Carreón, Raúl Santiago, Ernesto Bribiesca and Alberto Petrilli-Barceló</i>	
Image filter based on block matching and principal component analysis.....	410
<i>Alejandro Ivan Callejas Ramos, Edgardo Manuel Felipe-Riveron, Pablo Manrique Ramirez and Oleksiy Pogrebnyak</i>	
Support to the diagnosis of the Pap test, using computer algorithms of digital image processing.....	422
<i>Solangel Rodríguez Vázquez</i>	
Implementation of Computer Vision Guided Peg-Hole Insertion Task Performed by Robot through LabVIEW	434
<i>Andres Saucedo, Enrique Rodriguez, Jesus Romero, David Ortega and Baidya Nath Saha</i>	
Object Tracking Based on Modified TLD Framework Using Compressive Sensing Features.....	454
<i>Tao Yang, Cindy Cappelle, Yassine Ruichek and Mohammed El Bagdouri</i>	
Parameter characterization of complex wavelets and its use in 3D reconstruction.....	466
<i>Claudia Victoria Lopez-Torres, Jesus Carlos Pedraza-Ortega, Juan Manuel Ramos-Arreguin, Gonzalo Elias Blanco-Silva and Efren Gorrostieta-Hurtado</i>	
Customer Analysis via Video Analytics: Customer Detection with Multiple Cues.....	477
<i>Tatpong Katanyukul and Jiradej Ponsawat</i>	
Methodology for Automatic Collection of Vehicle Traffic Data by Object Tracking	496
<i>Jesús Caro Gutiérrez, Miguel E. Bravo-Zanoguera and Felix F. Gonzalez-Navarro</i>	

Robotics

GPS-based curve estimation for an adaptive pure pursuit algorithm	508
<i>Citlalli Gámez Serna, Alexandre Lombard, Yassine Ruichek and Abdeljalil Abbas-Turki</i>	
Collective motion of a swarm of simulated quadrotors using repulsion, attraction and orientation rules	523
<i>Mario Aguilera Ruiz, Luis Torres Treviño and Angel Rodríguez Liñán</i>	
Design and Simulation of a New Lower Exoskeleton for Rehabilitation of Patients with Paraplegia.....	535
<i>C. Hernández-Santos, Fermín Castro Aragón, Jose Isidro Hernandez Vega, Dolores Gabriela Palomares Gorham, Jonam Leonel Sánchez Cuevas and Daniel Andrés Córdova Córdova</i>	
Sensorial system for obtaining the angles of the human movement in the coronal and sagittal anatomical planes.....	548
<i>Leonel Corona Ramirez, Saul Muñoz Reina, Jose Aquino Robles and David Alvarado Rivera</i>	

LNAI 10062:

Obdulia Pichardo-Lagunas, Sabino Miranda-Jiménez (Eds.). *Advances in Soft Computing. 15th Mexican International Conference on Artificial Intelligence, MICA I 2016, Cancún, Quintana Roo, Mexico, October 23 to 29, 2016. Proceedings, Part II. Lecture Notes in Artificial Intelligence, Volume 10061.*

General

Normality from Monte Carlo Simulation for Statistical Validation of Computer Intensive Algorithms	1
<i>Angel Kuri-Morales and Ignacio López-Peña</i>	
Are Android Smartphones Ready to Locally Execute Intelligent Algorithms?	13
<i>M. Ricardo Carlos, Fernando Martínez, Raymundo Cornejo and Luis C. Gonzalez</i>	

Reasoning and Multi-Agent Systems

Large Scale Reasoning Using Allen's Interval Algebra	24
<i>Matthew Mantle, Sotiris Batsakis and Grigoris Antoniou</i>	
Towards the Distributed Logic Programming of Intelligent Visual Surveillance Applications.....	37
<i>Alexei Morozov, Olga Sushkova and Alexander Polupanov</i>	
An efficient expert system for diabetes with a Bayesian inference engine	49
<i>Viridiana Cruz-Gutiérrez, Mario Alberto Posada Zamora and Abraham Sánchez López</i>	
iEnsemble: A Framework for Committee Machine based On Multiagent Systems with Reinforcement Learning.....	59
<i>Arnoldo Uber Junior, Paulo José Freitas Filho, Ricardo Azambuja Silveira, Mariana Dehon Costa E Lima and Arthur Erpen</i>	
Exploring Complex Networks with Failure-prone Agents.....	71
<i>Arlés Rodriguez, Jonatan Gomez and Ada Diaconescu</i>	
On the Conception of Intelligent Power Plants Based on Multiple Agent Systems.....	90
<i>Raul Garduno-Ramirez and Mónica Borunda</i>	

Neural Networks and Deep Learning

Best Paper Award, First Place:

Author Profiling with doc2vec Neural Network-Based Document Embeddings.....	106
<i>Iliia Markov, Helena Gómez-Adorno, Juan-Pablo Posadas-Durán, Grigori Sidorov and Alexander Gelbukh</i>	

Best Paper Award, Third Place:

Neural network modelling for dissolved oxygen effects in extensive <i>Litopenaeus vannamei</i> culture.....	121
<i>José Juan Carbajal Hernández and Luis Pastor Sánchez Fernández</i>	
Neural-network based algorithm for algae detection in automatic inspection of underwater pipelines.....	129
<i>Edgar Medina, Mariane Rembold Petraglia and José Gabriel Rodriguez Carneiro Gomes</i>	

Evolutionary Algorithms

Study on the Development of Complex Network for Evolutionary and Swarm based Algorithms	133
<i>Roman Senkerik, Ivan Zelinka, Michal Pluhacek and Adam Viktorin</i>	
Estimation of Distribution Algorithms based on the Beta Distribution for Bounded Search Spaces.....	144
<i>Rogelio Salinas-Gutiérrez, Ángel Eduardo Muñoz Zavala, José Antonio Guerrero Díaz de León and Arturo Hernández-Aguirre</i>	
Automated Analog Synthesis with an Estimation of the Distribution Algorithm.....	156
<i>Aurora Torres Soto, María Dolores Torres Soto and Eunice Esther Ponce de León Sentí</i>	

Mathematical model of glucose metabolism by symbolic regression alpha beta.....	168
<i>Luis Torres Treviño</i>	

Machine Learning

Jensen inequality with subdifferential for Sugeno integral	175
<i>Anikó Szakál, Endre Pap, Sadeq Abbaszadeh and Madjid Eshaghi Gordji</i>	
Towards a more general XCS: Classifier fusion and don't care in actions	182
<i>Alejandro Garza-Cuéllar, Manuel Valenzuela-Rendón and Ricardo Parra-Álvarez</i>	
A Novel Artificial Hydrocarbon Networks Based Value Function Approximation in Hierarchical Reinforcement Learning	194
<i>Hiram Ponce</i>	
Wind power forecasting for the Villonaco wind farm using AI techniques	209
<i>Alberto Reyes, Pablo H. Ibarquengoytia, J. Diego Jijón, Tania Guerrero, Uriel A. García and Mónica Borunda</i>	
Predicting the need of mechanical ventilation in Guillain-Barre patients using machine learning algorithms with relevant features.....	220
<i>Jose Hernández-Torruco, Juana Canul-Reich and Oscar Chávez-Bosquez</i>	
A Robust Machine learning Approach to Microprocessor Instructions Identification Final	231
<i>Hippolyte Djonon Tsague and Bheki Twala</i>	

Classification and Clustering

Stochastic Semantic-Based Multi-Objective Genetic Programming Optimisation for Classification of Imbalanced Data	246
<i>Edgar Galvan-Lopez, Lucia Vazquez-Mendoza and Leonardo Trujillo</i>	
Consensus Clustering for Binning Metagenome Sequences.....	258
<i>Isis Bonet, Adriana Escobar, Andrea Mesa and Juan Fernando Alzate</i>	
Algorithm for Clustering of Web Search Results from a Hyper-Heuristic approach.....	270
<i>Carlos Cobos, Andrea Duque, Jamith Bolaños, Martha Mendoza and Elizabeth León</i>	
Grouping Business Process Models Based on Multimodal Search and Covering Arrays	302
<i>Hugo Ordoñez, Jose Torres and Carlos Cobos</i>	

Optimization

A new method to optimize dynamic environments with global changes using the chickens-hen' algorithm	314
<i>Hamid Parvin</i>	
Transit Network Frequencies-Setting Problem Solved Using a new Multi-Objective Global-Best Harmony Search Algorithm and Discrete Event Simulation.....	325
<i>Edgar Ruano, Carlos Cobos and José Torres-Jimenez</i>	
Optimal pricing model: case of study for convenience stores.....	337
<i>Laura Hervert-Escobar, Jesús Fabián López-Pérez and Oscar Alejandro Esquivel Flores</i>	
Method of musical composition for portfolio optimization problem.....	350
<i>Roman Anselmo Mora-Gutiérrez, Antonin Ponsich, Eric Alfredo Rincón-García, Sergio De-Los-Cobos-Silva, Miguel Ángel Gutiérrez-Andrade and Pedro Lara-Velázquez</i>	
Metaheuristic hybridized applied to solve the Capacity Vehicle Routing Problem.....	362
<i>Ernesto Liñán-García, Linda Crystal Cruz-Villegas, Pascual Montes-Dorantes and Gerardo Maximiliano Méndez</i>	
ABC-PSO: An Efficient Bioinspired Metaheuristic for Parameter Estimation in Nonlinear Regression	373
<i>Sergio Gerardo De-Los-Cobos-Silva, Miguel Ángel Gutiérrez-Andrade, Pedro Lara-Velázquez, Eric Alfredo Rincón-García, Roman Anselmo Mora-Gutiérrez and Antonin Ponsich</i>	

Data Mining

Data mining in EEG wave trains in early stages of Parkinson's disease	385
<i>Olga Sushkova, Alexei Morozov and Alexandra Gabova</i>	
Data Mining in the Analysis of Ocean-Atmosphere Dynamics in Colombia's Central Caribbean Ocean	395
<i>Fran Ernesto Romero Alvarez and Oswaldo Velez-Langs</i>	

Molecular docking based on ligand by Complexity LMC	407
<i>Mauricio Martínez Medina, Miguel González-Mendoza and Neil Hernández Gress</i>	
Integrating Information of Films by a Multi-Source Combining Framework.....	420
<i>Elias Dasturian</i>	

Graph-Based Algorithms

Computing the clique-width of Polygonal tree graphs.....	430
<i>J. Leonardo González, J. Raymundo Marcial-Romero, J A Hernández Servín and Guillermo De Ita Luna</i>	
A New Approach to Weakening and Destruction of Malicious Internet Networks	442
<i>Mark Korenblit</i>	

Intelligent Learning Environments

Toward Optimal Pedagogical Action Patterns by means of Partially Observable Markov Decision Process	452
<i>Manuel Mejía-Lavalle, Hermilo Victorio, Alicia Martínez, Grigori Sidorov, Enrique Sucar and Obdulia Pichardo</i>	
Data-driven construction of a student model using Bayesian networks in an electrical domain	461
<i>Yasmin Hernández, Marilu Cervantes-Salgado, Miguel Pérez and Manuel Mejía-Lavalle</i>	
Strategic Learning Meta-model: A Selection Model of Learning Activities	471
<i>Rafaela-Blanca Silva-López and Oscar Herrera</i>	
CodeTraining: An Authoring Tool for a Gamified Programming Learning Environment	482
<i>Lucía Barrón-Estrada, Ramón Zatarain-Cabada and Mario Lindor-Valdez</i>	
Generating a Logical Structure for Virtualizing Physiotherapy Instructions through NLP	494
<i>Sandeep Kumar Dash, Dr. Partha Pakray and Alexander Gelbukh</i>	
Building a Corpus and a Local Binary Pattern Recognizer for Learning-Centered Emotions.....	503
<i>Ramón Zatarain, María Lucía Barrón Estrada, Francisco González Hernández, Raul Oramas Bustillos, Giner Alor Hernández and Carlos Alberto Reyes García</i>	
Affective Learning System for Algorithmic Logic Applying Gamification	515
<i>Ramón Zatarain, María Lucía Barrón-Estrada and José Mario Ríos Félix</i>	