

Preface

The Mexican International Conference on Artificial Intelligence (MICAI) is a yearly international conference series that has been organized by the Mexican Society of Artificial Intelligence (SMIA) since 2000. MICAI is a major international artificial intelligence forum and the main event in the academic life of the country's growing artificial intelligence community.

MICAI conferences publish high-quality papers in all areas of artificial intelligence and its applications. The proceedings of the previous MICAI events have been published by Springer in its *Lecture Notes in Artificial Intelligence* series, vols. 1793, 2313, 2972, 3789, 4293, 4827, 5317, 5845, 6437, 6438, 7094, 7095, 7629, 7630, 8265, 8266, 8856, 8857, 9413, and 9414. Since its foundation in 2000, the conference has been growing in popularity and improving in quality.

The proceedings of MICAI 2016 are published in two volumes. The first volume, *Advances in Computational Intelligence*, contains 44 papers structured into seven sections:

- Natural Language Processing
- Social Networks and Opinion Mining
- Fuzzy Logic
- Time Series Analysis and Forecasting
- Planning and Scheduling
- Image Processing and Computer Vision
- Robotics

The second volume, *Advances in Soft Computing*, contains 44 papers structured into ten sections:

- General
- Reasoning and Multi-Agent Systems
- Neural Networks and Deep Learning
- Evolutionary Algorithms
- Machine Learning
- Classification and Clustering
- Optimization
- Data Mining
- Graph-Based Algorithms
- Intelligent Learning Environments

This two-volume set will be of interest for researchers in all areas of artificial intelligence, students specializing in related topics, and for the general public interested in recent developments in artificial intelligence.

The conference received for evaluation 238 submissions by 584 authors from 32 countries: Argentina, Brazil, Canada, Chile, China, Colombia, Costa Rica, Cuba, Czech Republic, Ecuador, France, Germany, Greece, Hungary, India, Iran, Ireland, Israel, Italy, Macao, Mexico, Pakistan, Russia, Serbia, Singapore, South Africa, Spain,

Thailand, Turkey, Ukraine, UK, and USA. Of these submissions, 86 papers were selected for publication in these two volumes after a peer-reviewing process carried out by the international Program Committee. The acceptance rate was 36.1%.

In addition to regular papers, the volumes contain two invited papers by the keynote speaker Vladik Kreinovich (USA):

- “For Multi-Interval-Valued Fuzzy Sets, Centroid Defuzzification Is Equivalent to Defuzzifying Its Interval Hull: A Theorem”
- “Metric Spaces Under Interval Uncertainty: Towards an Adequate Definition”

The international Program Committee consisted of 140 experts from 26 countries: Australia, Azerbaijan, Benin, Brazil, Canada, Colombia, Czech Republic, Finland, France, Germany, Greece, India, Israel, Italy, Japan, Luxembourg, Mexico, Poland, Russia, Singapore, Spain, Sweden, Switzerland, Turkey, UK, and USA.

MICAI 2016 was honored by the presence of renowned experts who gave excellent keynote lectures:

- Efstathios Stamatatos, University of the Aegean, Greece
- Imre J. Rudas, Óbuda University, Hungary
- Vladik Kreinovich, University of Texas at El Paso, USA
- Genoveva Vargas Solar, Centre national de la recherche scientifique, France

In addition, a special talk was given by Ángel Fernando Kuri Morales, ITAM, Mexico.

The technical program of the conference also featured tutorials presented by Félix Castro (UAEH), Miguel González Mendoza (ITESM), Oscar Herrera Alcántara (UAM), Francisco Viveros Jimenez (CIC-IPN), Alexei Morozov (IRE-RAS, Russia), and Ildar Batyrshin (CIC-IPN), among others. Four workshops were held jointly with the conference: the First International Workshop on Genetic Programming, the 9th International Workshop of Hybrid Intelligent Systems (HIS 2016), the Second International Workshop on Intelligent Decision Support Systems for Industry, and the 9th International Workshop on Intelligent Learning Environments (WILE 2016).

The authors of the following papers received the Best Paper Award based on the paper’s overall quality, significance, and originality of the reported results:

First place:	“Author Profiling with doc2vec Neural Network-Based Document Embeddings,” by Ilia Markov, Helena Gómez-Adorno, Juan-Pablo Posadas-Durán, Grigori Sidorov, and Alexander Gelbukh (Mexico)
	Prize from Springer: € 400; prize from SMIA: € 400
Second place:	“Using a Grammar Checker to Validate Compliance of Processes with Workflow Models,” by Roman Barták and Vladislav Kuboň (Czech Republic)
	Prize from Springer: € 300; prize from SMIA: € 300
Third place:	“Neural Network Modelling for Dissolved Oxygen Effects in Extensive Litopenaeus Vannamei Culture,” by José Juan Carbajal-Hernández and Luis P. Sánchez-Fernández (Mexico)
	Prize from Springer: € 200; prize from SMIA: € 200

The authors of the following papers selected among all papers of which the first author was a full-time student, excluding the papers listed above, shared the Best Student Paper Award:

First place:	“Relevance of Named Entities in Authorship Attribution,” by Germán Ríos-Toledo, Grigori Sidorov, Noé Alejandro Castro-Sánchez, Alondra Nava-Zea, and Liliana Chanona-Hernández (Mexico)
	Prize from Springer: € 50; prize from SMIA: € 50
	“A Compact Representation for Cross-Domain Short Text Clustering,” by Alba Núñez-Reyes, Esaú Villatoro-Tello, Gabriela Ramírez-de-la-Rosa, and Christian Sánchez-Sánchez (Mexico)
	Prize from Springer: € 50; prize from SMIA: € 50

The awards included significant monetary prizes sponsored by Springer and by the Mexican Society of Artificial Intelligent (SMIA).

We want to thank everyone involved in the organization of this conference. Firstly, the authors of the papers published in this book: It is their research work that gives value to the book and to the work of the organizers. We thank the track chairs for their hard work, and the Program Committee members and additional reviewers for their great effort in reviewing the submissions.

We would like to thank the Instituto Tecnológico de Cancún (ITCancún) for hosting the workshops and tutorials of MICA I 2016; particularly we thank Socorro Xóchitl Carmona Bareño, Director of the ITCancún, for her support and generosity. We also want to thank the staff of the Instituto Tecnológico de Cancún for their support in the organization of this conference. We gratefully acknowledge the sponsorship received from Springer for monetary prizes handed to the authors of the best papers of the conference. This generous sponsorship demonstrates Springer’s strong commitment to the development of science and their sincere interest in the highest quality of the conferences published in their series.

We are deeply grateful to the conference staff and to all members of the Local Committee headed by Fernando Antonio Koh Puga. We acknowledge support received from the project CONACYT 240844. The entire submission, reviewing, and selection process, as well as preparation of the proceedings, was supported free of charge by the EasyChair system (www.easychair.org). Finally, yet importantly, we are very grateful to the staff at Springer for their patience and help in the preparation of this volume.

October 2016

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Advances in Soft Computing

15th Mexican International Conference on Artificial
Intelligence, MICA 2016, Cancún, Mexico, October
23–28, 2016, Proceedings, Part II

Pichardo Lagunas, O.; Miranda-Jiménez, S. (Eds.)

2017, XXVII, 552 p. 195 illus., Softcover

ISBN: 978-3-319-62427-3