

# 10<sup>th</sup> Mexican Conference on Pattern Recognition

## MCPR2018

June 27–30, 2018, Puebla, Mexico

### PROGRAM

#### Wednesday June 27

8:00-9:00	Registration
9:00-9:20	Opening
9:20-10:20	Keynote Address State of the Art and Recent Advances in Handwriting and Touchscreen Biometrics <b>Prof. Julián Fierrez</b> School of Engineering, Universidad Autónoma de Madrid, Spain
10:20-10:40	<b>Coffee break</b> Posters (Postgraduate Students' Meeting)
	<b>Session 1: Pattern Recognition Principles</b>
10:40-11:00	Patterns of Go gaming by Ising model Arturo Yee, Matías Alvarado
11:00-11:20	A Novel Criterion to Obtain the Best Feature Subset from Filter Ranking Methods Lauro Vargas-Ruíz, Anilu Franco-Arcega, María de los Ángeles Alonso-Lavernia
11:20-11:40	Class-specific Reducts vs. Classic Reducts in a Rule-based Classifier: A Case Study Manuel S. Lazo-Cortés, José Fco. Martínez-Trinidad, Jesús Ariel Carrasco-Ochoa
11:40-12:00	On the Construction of a Specific Algebra for Composing Tonal Counterpoint Erick G.G. de Paz, Malaquías Quintero-Flores, Xavier Quiñones-Solís
12:00-12:20	<b>Coffee break</b> Posters (Postgraduate Students' Meeting)
	<b>Session 2: Pattern Recognition Principles</b>
12:20-12:40	The Impact of Basic Matrix Dimension on the Performance of Algorithms for Computing Typical Testors Vladimir Rodríguez-Diez, José Fco. Martínez-Trinidad, Jesús Ariel Carrasco-Ochoa, Manuel S. Lazo-Cortés
12:40-13:00	Fast Convex Hull by a Geometric Approach Alberto Beltrán-Herrera, Sonia Mendoza
13:00-13:20	An Experimental Study on Ant Colony Optimization Hyper-heuristics for Solving the Knapsack Problem Bronson Duhart, Fernando Camarena, José Carlos Ortiz-Bayliss, Ivan Amaya, Hugo Terashima-Marín
13:20-13:40	A Linear Time Algorithm for Computing $\#2SAT$ for Outerplanar 2-CNF Formulas Marco A. López, J. Raymundo Marcial-Romero, Guillermo De Ita, Yolanda Moyao
13:40-14:00	Improving the List of Clustered Permutation on Metric Spaces for Similarity Searching on Secondary Memory Karina Figueroa, Nora Reyes, Antonio Camarena-Ibarrola, L. Valero-Elizondo
14:00-15:30	<b>Lunch</b>
	<b>Session 3: Pattern Recognition Principles &amp; Data Mining</b>
15:30-15:50	Modelling 3-Coloring of Polygonal Trees via Incremental Satisfiability Cristina López-Ramírez, Guillermo De Ita, Alfredo Neri
15.50-16:10	Patterns in Poor Learning Engagement in Students While They are Solving Mathematics Exercises in an Affective Tutoring System Related to Frustration Gustavo Padron-Rivera, Cristina Joaquin-Salas, Jose-Luis Patoni-Nieves, Juan-Carlos Bravo-Perez
16:10-16:30	Pattern Discovery in Mixed Data Bases Angel Kuri-Morales
16:30-16:50	Validation of Semantic Relation of Synonymy in Domain Ontologies using Lexico-Syntactic Patterns and Acronyms Mireya Tovar, Gerardo Flores, José A. Reyes-Ortiz, Meliza Contreras

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#### Thursday June 28

8:30-9:00	Registration	
9:00-10:00	<p>Keynote Address</p> <p>Data Analytics for Clouds Health-Care and Risk Predictions based on Ensemble Classifiers and Subjective Projection</p> <p><b>Prof. Hamido Fujita</b> Faculty of Software and Information Science Iwate Prefectural University, Japan</p>	
10:00-10:20	<b>Coffee break</b> Posters (Postgraduate Students' Meeting)	
	<b>Session 4:</b> Deep Learning, Neural Networks and Associative Memories	
10:20-10:40	<p>Performance Analysis of Deep Neural Networks for Classification of Gene-Expression Microarrays</p> <p>A. Reyes-Nava, J.S. Sánchez, R. Alejo, A. A. Flores-Fuentes, E. Rendón-Lara</p>	
10:40-11:00	<p>Extreme Points of Convex Polytopes Derived from Lattice Autoassociative Memories</p> <p>Gerhard X. Ritter, Gonzalo Urcid</p>	
11:00-11:20	<p>A Comparison of Deep Neural Network Algorithms for Recognition of EEG Motor Imagery Signals</p> <p>Luis G. Hernández, Javier M. Antelis</p>	
11:20-11:40	<b>Coffee break</b> Posters (Postgraduate Students' Meeting)	
11:40-12:40	<p>Keynote Address</p> <p>AI + IOT = Efficient Transportation</p> <p><b>Prof. Humberto Sossa</b> Center for Computing Research National Polytechnic Institute, Mexico</p>	
12:40-13:40	<b>Coffee break</b>	Posters (Postgraduate Students' Meeting)
14:00-15:30	<b>Lunch</b>	
	<b>Session 5:</b> Deep Learning, Neural Networks and Associative Memories	
15:30-15:50	<p>Learning Word and Sentence Embeddings using a Generative Convolutional Network</p> <p>Edgar Vargas-Ocampo, Edgar Roman-Rangel, Jorge Hermsillo-Valadez</p>	
15:50-16:10	<p>Dense Captioning of Natural Scenes in Spanish</p> <p>Alejandro Gomez-Garay, Bogdan Raducanu, Joaquín Salas</p>	
16:10-16:30	<p>Automated Detection of Hummingbirds in Images: a Deep Learning Approach</p> <p>Sergio A. Serrano, Ricardo Benítez Jimenez, Laura Nuñez-Rosas, Ma del Coro Arizmendi, Harold Greeney, Veronica Reyes-Meza, Eduardo Morales, Hugo Jair Escalante</p>	
16:30-17:30	<b>Coffee break</b>	Posters (Postgraduate Students' Meeting)
20:00-22:00	<b>Conference Dinner</b>	

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<b>Friday June 29</b>	
8:30-9:00	Registration
9:00-10:00	Keynote Address  From Features to Non-Reducible Descriptors in Supervised Pattern Recognition  <b>Prof. Ventzeslav Valev</b> (IAPR Invited Speaker) Institute of Mathematics and Informatics Bulgarian Academy of Sciences, Bulgaria
10:00-10:20	<b>Coffee break</b>
	<b>Session 6:</b> Computer Vision
10:20-10:40	Scene Text Segmentation Based on Local Image Phase Information and MSER Method Julia Diaz-Escobar, Vitaly Kober
10:40-11:00	A Lightweight Library for Augmented Reality Applications Luis Gerardo de la Fraga, Nataly A. García-Morales, Daybelis Jaramillo-Olivares, Adrián J. Ramírez-Díaz
11:00-11:20	Point Set Matching with Order Type Luis Gerardo de la Fraga, Heriberto Cruz Hernandez
11:20-11:40	Including Foreground and Background Information in Maya Hieroglyph Representation Laura Alejandra Pinilla-Buitrago, Jesús A. Carrasco-Ochoa, José Fco. Martínez-Trinidad
11:40-12:00	<b>Coffee break</b>
	<b>Session 7:</b> Computer Vision
12:00-12:20	A Fast Algorithm for Robot Localization using Multiple Sensing Units Reinier Oves García, Luis Valentin, José Martínez-Carranza, L. Enrique Sucar
12:20-12:40	Improving Breast Mass Classification through Kernel Methods and the Fusion of Clinical Data and Image Descriptors Saiveth Hernández-Hernández, Antonio Orantes-Molina, Raúl Cruz-Barbosa
12:40-13:00	Scaled CCR Histogram for Scale-invariant Texture Classification Juan L. Alonso-Cuevas, Raul E. Sanchez-Yanez, Evguenii V. Kurmyshev
13:00-13:20	An Improved Stroke Width Transform to Detect Race Bib Numbers Wellington Moreira de Jesus, Díbio Leandro Borges
13:20-14:00	<b>Final Meeting</b>
14:00-15:30	<b>Lunch</b>
	<b>Free Afternoon</b>

Saturday June 30		
8:00-9:00	Registration	
	<b>Room 1</b>	<b>Room 2</b>
9:00-10:30	<p>Tutorial 1</p> <p>Logical Combinatorial Methods for Pattern Recognition</p> <p><b>Prof. Ventzeslav Valev</b> (IAPR Invited Speaker) Bulgarian Academy of Sciences, Bulgaria</p>	<p>Tutorial 2</p> <p>Artificial Neural Networks: New Models and Training Algorithms</p> <p><b>Prof. Humberto Sossa</b> Center for Computing Research National Polytechnic Institute, Mexico</p>
10:30-10:45	<b>Coffee Break</b>	
10:45-12:00	<p>Tutorial 1 (second part)</p> <p>Logical Combinatorial Methods for Pattern Recognition</p> <p><b>Prof. Ventzeslav Valev</b> (IAPR Invited Speaker) Bulgarian Academy of Sciences, Bulgaria</p>	<p>Tutorial 2 (second part)</p> <p>Artificial Neural Networks: New Models and Training Algorithms</p> <p><b>Prof. Humberto Sossa</b> Center for Computing Research National Polytechnic Institute, Mexico</p>