

# ICMLA 2015 Conference Program

Pullman Hotel (former Sofitel Miami Hotel), Miami, Florida, USA  
9-11 December 2015

<b>Registration:</b>		Dec. 8 (5:00 pm – 8:00 pm), Dec. 9-10 (8:00 am – 5:00 pm), Dec. 11 (8:00 am – 1:00 pm)		
<b>Date</b>	<b>Time</b>			
<b>Dec. 9 Wedne sday</b>	8:20	Opening Remarks		
	8:30	<b>Invited Talk</b> <b>Igor Jurisika, University of Toronto, Canada</b> <i>“Avoiding fusion of illusion and confusion by data mining”</i>		
		<b>Parallel Sessions (20 minutes each paper)</b>		
	9:30	<u><b>Session: Fuzzy Systems</b></u> <b>Chair:</b> Hamid R Tizhoosh  147 <i>Feature Selection Using Gustafson-Kessel Fuzzy Algorithm in High Dimension Data Clustering</i> George Georgiev; Natacha Gueorguieva*; Matthew Chiappa; Austin Krauza  197 <i>Coordinate Descent Fuzzy Twin Support Vector Machine for Classification</i> Bin Gao; Jianjun Wang*; Yao Wang; Chanyun Yang  207 <i>Self-Configuring and Evolving Fuzzy Image Thresholding</i> Hamid R Tizhoosh*; Ahmed Othman; Farzad Khalvati  116 <i>Adaptive Fuzzy Prediction for Automotive Applications Usage</i> Shiqi Qiu*; Ryan McGee; Yi Murphey	<u><b>Session: Time Series</b></u> <b>Chair:</b> Alex Lavin  253 <i>Learning Multi-Valued Biological Models with Delayed Influence from Time-Series Observations</i> Tony Ribeiro*; Morgan Magnin; Katsumi Inoue; Chiaki Sakama  213 <i>A proposal of a methodological framework with experimental guidelines to investigate clustering stability on financial time series</i> Gautier Marti*  186 <i>Evaluating Real-time Anomaly Detection Algorithms – the Numenta Anomaly Benchmark</i> Alexander Lavin*; Subutai Ahmad  373 <i>A Study of the Use of Complexity Measures in the Similarity Search Process Adopted by kNN Algorithm for Time Series Prediction</i> Antonio Rafael Sabino Parmezan*; Gustavo Batista	<u><b>Session: Statistical Learning</b></u> <b>Chair:</b> Alexander Bernstein  244 <i>The Influence of Sample Reconstruction on Stock Trend Prediction via NARX Neural Network</i> Yi Wei*; Vipin Chaudhary  247 <i>Statistical Fault Localization based on Importance Sampling</i> Akbar Siami-Namin*; Mohan Sridharan  175 <i>Statistical Learning via Manifold Learning</i> Alexander Bernstein*; Alexander Kuleshov; Yury Yanovich  261 <i>Topic novelty Detection Using Infinite Variational Inverted Dirichlet Mixture Models</i> Wentao Fan; Nizar Bouguila*
	10:50	<b>Coffee Break</b>		
	<b>Parallel Sessions (20 minutes each paper)</b>			
11:10	<u><b>Session: Bayesian Learning and Classifier Systems</b></u> <b>Chair:</b> Erik Ferragut  137 <i>Evaluating the uncertainty of a Bayesian network query response by using joint probability distribution</i> Yang Sgao*; Toshinori Miyoshi; Yasutaka	<u><b>Session: Kernels and Support Vector Machines</b></u> <b>Chair:</b> Tim Vor der Brück  150 <i>Complex Decomposition of the Negative Distance Kernel</i> Tim Vor der Brück*; Steffen Eger  203 <i>A Family of Chisini Mean Based Jensen-Shannon</i>	<u><b>Special Session: Machine Learning in Information and System Security Issues</b></u> <b>Chair:</b> Seref Sagiroglu  401 <i>SMS Spam Identification Through Optimum-path Forest-based Classifiers</i> Dheny Fernandes; Kelton Costa; Tiago Almeida; Joao	

	<p>Hasegawa; Hideyuki Ban</p> <p>158 <i>Nonparametric Bayesian Modeling for Automated Database Schema Matching</i> Erik Ferragut*; Jason Laska</p> <p>221 <i>Performance Analysis of Majority Vote Combiner for Multiple Classifier Systems</i> Mohammed Hassan*; Ikhlas Abdel-Qader</p> <p>256 <i>The Effect of Dataset Size on Training Tweet Sentiment Classifiers</i> Taghi Khoshgoftaar*; Joseph Prusa; Naeem Seliya</p>	<p><i>Divergence Kernels</i> Piyush Sharma*; Gary Holness; Yuri Markushin; Noureddine Melikechi</p> <p>270 <i>Online One-class SVMs with Active-set Optimization for Data Streams</i> Katelyn Gao*</p> <p>282 <i>Example-Specific Density based Matching Kernels for Scene Classification using Support Vector Machines</i> Abhijeet Sachdev; Veena Thenkanidiyoor; Dileep AD*; Chandra Sekhar Chellu</p> <p>179 <i>Medical Image Classification via SVM using LBP Features from Saliency-Based Folded Data</i> Hamid R Tizhoosh*; Zehra Çamlıca; Farzad Khalvati</p>	<p>Papa</p> <p>410 <i>TubeSpam: Comment Spam Filtering on YouTube</i> Alberto Tulio; Johannes Lochter; Tiago Almeida</p> <p>411 <i>Optimizing System Attack Surface and Configuration Diversity Using Multi-Objective Reinforcement Learning</i> Bentz Tozer; Thomas Mazzuchi; Shahram Sarkani</p> <p>443 <i>A Review of Machine Learning Solutions to Denial-of-Services Attacks in Wireless Sensor Networks</i> Sedef Gunduz; Bilgehan Arslan; Mehmet Demirci</p> <p>446 <i>A Hybrid Method for Intrusion Detection</i> Yavuz Canbay; Seref Sagiroglu</p>
12:50	<b>Lunch Break</b>		
	<b>Parallel Sessions (20 minutes each paper)</b>		
14:00	<p><b>Session: Predictive Modelling and Applications</b></p> <p><b>Chair:</b> Arif Wani</p> <p>154 <i>Scalable Learning of Entity and Predicate Embeddings for Knowledge Graph Completion</i> Pasquale Minervini*; Nicola Fanizzi; Claudia d'Amato; Floriana Esposito</p> <p>267 <i>Measuring and Modelling Delays in Robot Manipulators for Temporally Precise Control using Machine Learning</i> Thomas Andersen*; Heni Amor; Nils Andersen; Ole Ravn</p> <p>296 <i>Metabolic profiling of 1H NMR spectra in Chronic Kidney Disease with local predictive modeling</i> Margaux Luck*; Anastasia Yartseva; Gildas Bertho; Eric Thervet; Philippe Beaune; Nicolas Pallet; Cecilia Damon</p> <p>332 <i>Predicting Churn of Expert Respondents in Social Networks Using Data Mining Techniques</i> Ifeoma Adaji*; Julita Vassileva</p>	<p><b>Session: Feature Selection</b></p> <p><b>Chair:</b> Hichem Frigui</p> <p>192 <i>Predictable Feature Analysis</i> Stefan Richthofer*; Laurenz Wiskott</p> <p>218 <i>Speaker Identification In Medical Simulation Data Using Fisher Vector Representation</i> Shuangshuang Jiang; Hichem Frigui*; Aaron Calhoun</p> <p>227 <i>A Machine Learning Approach to False Alarm Detection for Critical Arrhythmias</i> Xing Wang*; Yifeng Gao; Jessica Lin; Huzefa Rangwala</p> <p>300 <i>Detecting Credit Card Fraud using Periodic Features</i> Alejandro Correa Bahnsen*; Djamila Aouada; Aleksandar Stojanovic; Bjorn Ottersten</p>	<p><b>Session: Advanced Learning Methods I</b></p> <p><b>Chair:</b> Victor S Sheng</p> <p>125 <i>Classification of Evolving Data Streams with Infinitely Delayed Labels</i> Vinicius Souza*; Diego Silva; Gustavo Batista; Joao Gama</p> <p>139 <i>Sparse Temporal Difference Learning via Alternating Direction Method of Multipliers</i> Nikos Tsipinakis*; James Nelson</p> <p>281 <i>Transfer Learning of Air Combat Behavior</i> Armon Toubman*; Jan Joris Roessingh; Pieter Spronck; Aske Plaat; Jaap van den Herik</p> <p>260 <i>Integrating Active Learning with Supervision for Crowdsourcing Generalization</i> Zhenyu Shu; Victor S Sheng*; Dianhong Wang; Jing Zhang</p>
15:20	<b>Coffee Break</b>		

**Parallel Sessions (20 minutes each paper)**

15:40

**Session: Information Retrieval and Topic Models**

**Chair:** Vincent Ng

313 *Active Information Retrieval for Linking Twitter Posts with Political Debates*  
Raheleh Makki Niri\*; Axel Soto; Stephen Brooks; Evangelos Milios

356 *A Highly Distributable Computational Framework for Fast Cloud Data Retrieval*  
Amir Basirat\*; Asad Khan

299 *Online Learning Algorithm for Collective LDA*  
Xiaoyu Chen\*; Jiangchao Yao; Yanfeng Wang; Ya Zhang

126 *Automatic Topic Labeling using Ontology-based Topic Models*  
Mehdi Allahyari\*; Krys Kochut

170 *Investigating Eating Behaviours using Topic Models*  
Ruth White\*; William Harwin; William Holderbaum; Laura Johnson

375 *Fine-Grained Opinion Extraction with Markov Logic Networks*  
Luis Gerardo Mojica de la Vega\*; Vincent Ng

**Special session: Machine Learning in Information and System Security Issues**

**Chair:** Seref Sagiroglu

448 *The Effect of Clustering on Data Privacy*  
Pelin Canbay; Hayri Sever

450 *Detection of SSH Brute Force Attacks Using Aggregated Netflow Data*  
Taghi Khoshgoftaar; Maryam Najafabadi; Chad Calvert; Clifford Kemp

455 *A Machine-Learning Based Approach for Measuring the Completeness of Online Privacy Policies*  
Niharika Guntamukkala, Rozita Dara, Gary Grewal

456 *Combating Comment Spam with Machine Learning Approaches*  
Mansour Alsaleh; Abdulrahman Alarifi; Fatima Al-Quayed; AbdulMalik Al-Salman

475 *Using Bipartite Anomaly Features for Cyber Security Applications*  
Eric Goodman

153 *Effective User Authentications Using Keystroke Dynamics Based on Feature Selections*  
Akbar Siami- Namin; Alaa Darabseh

**Special Session: Machine Learning Algorithms for Environmental Applications**

**Chair:** Ravinesh Deo

464 *Statistical Downscaling of Climate Change Scenarios of Rainfall and Temperature over Indira Sagar Canal Command area in Madhya Pradesh, India*  
Ravinesh Deo; Rituraj Shukla\*

466 *Prediction of SPEI using MLR and ANN: A case study for Wilsons Promontory Station in Victoria*  
Soukayna Mouatadid; Ravinesh Deo; Jan Adamowski

478 *Prediction of Sunspot Number Using Minimum Error Entropy Cost Based Kernel Adaptive Filters*  
Pratik Brahma

485 *Secure Data Aggregation Model (SDAM) in Wireless Sensor Networks*  
Mohamed Ben Haj Frej, Khaled M. Elleithy

486 *A New Video Steganography Algorithm Based on the Multiple Object Tracking and Hamming Codes*  
Ramadhan J. Mstafa, Khaled M. Elleithy

487 *A novel study for the modeling of monthly evaporation using k-nearest neighbor algorithms for a semi-arid continental climate*  
Onur Genc; Ali Dag; Mehmet Ardicioglu

17:40

**Poster Session:**

Coffee will be served during poster sessions.

**Posters from main track:**

173 *Parallelization of Minimum Probability Flow on Binary Markov Random Fields*; Rui Shu\*; James Brofos

183 *Automatically Discovering Fatigue Patterns from Sparsely Labelled Temporal Data*; Karen Guo\*; Paul Schrater

187 *Increasing Grid Flexibility Through Improved Electricity Demand Prediction in Nicaragua*; Stephen Suffian\*; Diego Ponce de Leon Barido; Madhura Ingallhalikar; Pritpal Singh

217 *Patient Identification for Telehealth Programs*; Martha Ganser\*; Sauptik Dhar; Unmesh Kurup; Carlos Cunha; Aca Gacic

251 *Layer-Specific Adaptive Learning Rates for Deep Networks*; Bharat Singh\*; Soham De; Yangmuzi Zhang; Thomas Goldstein; Gavin Taylor

- 259 Model Shrinking for Embedded Keyword Spotting; Ming Sun\*; Varun Nagaraja; Bjorn Hoffmeister; Shiv Vitaladevuni
- 291 Vibration Learning and Control Towards Vibration Actuated Robotic Systems; Woong Yeol Joe\*
- 306 Nearest Neighbor Minutia Quadruplets based Fingerprint Matching with Reduced Time and Space Complexity; Tirupathi Rao Avula\*; Ramaiah Nalla; Krishna Mohan Chalavadi
- 317 Hidden Markov Support Vector Machines for Self-Paced Brain Computer Interfaces; Hossein Bashashati\*; Rabab Ward; Ali Bashashati
- 324 Linear KernelPCA and K-means Clustering Using True Eigenvectors of Covariance Matrice; Nassara Elhadji Ille Gado\*; Edith Grall-Maes, Utt Troyes; Malika Kharouf
- 351 Active Learning for One-Class Classification; Vincent Barnabé-Lortie\*; Colin Bellinger; Nathalie Japkowicz
- 360 A Generic Platform to Automate Legal Knowledge Work Process using Machine Learning; Annervaz KM\*; Jovin George; Shubhashis Sengupta
- 363 Application of a Multilayer Perceptron Neural Network for Classifying Software Platforms of a Powered Prosthesis Through a Force Plate; Robert LeMoyné\*; Timothy Mastroianni; Anthony Hessel
- 365 Ankle Rehabilitation System with Feedback from a Smartphone Wireless Gyroscope Platform and Machine Learning Classification; Robert LeMoyné\*; Timothy Mastroianni; Anthony Hessel
- 366 Lambda-Consensus Clustering; Douglas Heisterkamp\*
- 371 An Application of Neural Networks to Predicting Mastery of Learning Outcomes in the Treatment of Autism Spectrum Disorder; Erik Linstead\*; Rene German; Dennis Dixon; Doreen Granpeesheh; Marlina Novack; Alva Powell
- 387 Anomalies detection in smart-home activities; Labiba Fahad\*; Muttukrishnan Rajarajan
- 103 An automatic recognition for the Auditory Brainstem Response waveform; Balemir Urangun\*
- 105 Eye State Prediction from EEG Data Using Boosted Rotational Forests; Cameron Hamilton\*; Shervin Shahryari; Khaled Rasheed
- 113 Data-Based Statistical Models of Data Networks; Alexander Bernstein\*; Alexander Kuleshov; Yury Agalakov
- 122 Scrubbing The Web For Association Rules, An Application In Predictive Text; Justin Lovinger; Iren Valova\*
- 135 Restricted Boltzmann machine for nonlinear system modeling; Wen Yu\*; Erick De la Rosa
- 136 Using Vector Quantization of Hough Transform for Circle Detection; Bing Zhou\*
- 140 Human Action Recognition using Accelerated Variational Learning of Infinite Dirichlet Mixture Models; Wentao Fan; Hassen Sallay; Nizar Bouguila\*; Ji-Xiang Du
- 142 A Multiscale Spectral Method for Learning Number of Clusters; Anna Little\*; Alicia Byrd
- 144 Learning from Synthetic Data Using a Stacked Multichannel Autoencoder; Xi Zhang\*; Yanwei Fu; Shanshan Jiang; Leonid Sigal; Gady Agam
- 146 Analyzing the Gender Wage Gap in Ontario's Public Sector; Luiza Antonie\*; Andrew D'Angelo; Gary Grewal; Miana Plesca
- 171 MDL-Based Hierarchical Clustering; Zdravko Markov\*
- 178 A Bayesian Classification Approach to Improving Performance for a Real-World Sales Forecasting Application; Claire Gallagher\*; Michael Madden; Brian D'Arcy
- 181 Demographic Group Classification of Smart Device Users; Adel Alharbi\*; Mitch Thornton
- 182 Data-driven Kernels via Semi-Supervised Clustering on the Manifold; Jared Lundell; Charles DuHadway; Dan Ventura\*
- 184 An Empirical Study on Structured Dichotomies in Music Genre Classification; Tom Arjannikov\*; John Zhang
- 191 Real-Time American Sign Language Recognition Using Surface ENG Signal; Celal Savur\*; Ferat Sahin
- 205 Path for Kernel Adaptive One-Class Support Vector Machine; Pierre Beausery\*; Van Khoa Le
- 211 Predicting energy demand peak using M5 model trees; Sara Abdelkader; Katarina Grolinger\*; Miriam Capretz
- 225 Mining Clusters in XML Corpora based on Bayesian Generative Topic Modeling; Gianni Costa\*; Riccardo Ortale
- 228 Predicting New Friendships In Social Networks; Anvardh Nanduri\*; Huzefa Rangwala
- 234 Does the Inclusion of Data Sampling Improve the Performance of Boosting Algorithms on Imbalanced Bioinformatics Data?; Taghi Khoshgoftaar\*; Alireza Fazelpour; David Dittman; Amri Napolitano
- 236 Utilizing Ensemble, Data Sampling and Feature Selection Techniques for Improving Classification

- Performance on Tweet Sentiment Data; Taghi Khoshgoftaar\*; Joseph Prusa; Amri Napolitano
- 238 Predicting Vulnerable Software Components through N-gram Analysis and Statistical Feature Selection; Yulei Pang; Xiaozhen Xue\*; Akbar Siami-Namin
- 242 A Non-parametric Hidden Markov Clustering Model with Applications to Time Varying User Activity Analysis; Wutao Wei\*; Chuanhai Liu; Sorin Matei; Yu Zhu
- 246 SkILL - a Stochastic Inductive Logic Learner; Joana Côrte-Real\*; Theofrastos Mantadelis; Inês Dutra; Ricardi Rocha
- 250 RPC: an efficient classifier ensemble using random projections; Lovedeep Gondara\*
- 254 Wineinformatics: Uncork Napa's Cabernet Sauvignon by Association Rule Based Classification; Bernard Chen\*; Valentin Velchev; Bryce Nicholson; Joey Garrison; Moani Iwamura; Ryan Battisto
- 257 A Support Vector Classification Model with Partial Empirical Risks Given; Linkai Luo\*; Lingjun Ye; Qifeng Zhou; Hong Peng
- 264 Unsupervised Learning and Image Classification in High Performance Computing Cluster; Itauma Itauma; Melih Aslan; Flavio Villanustre; Xuewen Chen\*
- 271 Deep Neural Networks with Parallel Autoencoders for Learning Pairwise Relations: Handwritten Digits Subtraction; Li Liao\*; Tianchuan Du
- 277 Constrained Projective Non-negative Matrix Factorization for Semi-supervised Multi-label Learning; Xiang Zhang; Naiyang Guan; Zhigang Luo; Xuejun Yang
- 279 ABC-Sampling for balancing imbalanced datasets based on Artificial Bee Colony algorithm; Ali Braytee\*; Farookh Hussain; Ali Anaissi; Paul Kennedy
- 289 State Tracking of Composite Delaminations with a Bayesian Filter; Elizabeth Gregory\*; Stephen Holland
- 292 Local Coordinate Projective Non-negative Matrix Factorization; Qing Liao\*; Xiang Zhang; Naiyang Guan; Qian Zhang
- 293 EEG-Based Secondary Task Detection in a Multiple Objective Operational Environment; Joseph Giametta\*; Brett Borghetti
- 295 Population Migration Using Dominance in Multi-Population Cultural Algorithm; Santosh Upadhyayula\*; Ziad Kobti
- 297 Prediction of Users' Response Time in Q&A Communities; Nikolay Burlutskiy\*; Andrew Fish; Nour Ali; Miltos Petridis
- 301 Weakly Supervised Learning of Dialogue Structure in MOOC Forum Threads; Robert Fisher\*; Reid Simmons; Caroline Malin-Mayor
- 304 Sequential Covariance-Matrix Estimation with Application to Mitigating Catastrophic Forgetting; Tomer Lancewicki; Benjamin Goodrich\*; Itamar Arel
- 310 A Model of Local Binary Pattern Feature Descriptor for Valence Facial Expression Classification; Jie Yan\*
- 312 VISAGE: A Support Vector Machine Approach to Group Dynamic Analysis; Abhilasha Ravichander\*; Varshini Ramaseshan; Subramanyam Natarajan; Supriya Vijay
- 315 Extracting Topical Information of Tweets Using Hashtags; Zeynep Zengin Alp\*; Şule Gündüz Öğüdücü
- 318 On Asymmetric Similarity Search; Ankita Garg\*; Catherine Enright; Michael Madden
- 320 Deep Neural Networks: A Case Study for Music Genre Classification; Arjun Raj Rajanna; Kamelia Aryafar\*; Ali Shokoufandeh; Raymond Ptucha
- 329 WNN-Based Fast Event Pattern Detection and Prediction Using Reversed Pattern Tree for Cloud System Reliability Management; Zhengping Wu\*; Yuanyao Liu
- 330 Boosting with Adaptive Sampling for Multi-class Classification; Jianhua Chen\*
- 335 Solving the Academic Timetable Problem Thinking on Student Needs; Maria Weslane Almeida\*; Joao Paulo Medeiros
- 338 Multiple Imputation of Missing Residuals for Fault Classification: a Wind Turbine Application; Eman Mohammadi Nejad\*; Roozbeh Razavi-Far; Q.M. Jonathan Wu; Mehrdad Saif
- 340 Semi Supervised Learning for Human Activity Recognition using Depth Cameras; Moustafa Fathy\*
- 342 Thompson Sampling Guided Stochastic Searching on the Line for Non-stationary Adversarial Learning; Sondre Glimsdal\*; Ole-Christoffer Granmo
- 346 Learning from the Crowd with Neural Network; Jingjing Li; Victor S Sheng\*; Yanxia Cheng; Zhenyu Shu
- 347 Class Discovery via Bimodal Feature Selection in Unsupervised Settings; Jessica Curtis\*; Mark Kon
- 348 Learning Context-based Outcomes for Mobile Robots in Unstructured Indoor Environments; Priyam Parashar;

		<p>Robert Fisher*; Reid Simmons; Manuela Veloso; Joydeep Biswas</p> <p>355 An Asynchronous Implementation of the Limited Memory CMA-ES; Viktor Arkhipov; Maxim Buzdalov*; Anatoly Shalyto</p> <p>362 Multi-level Resolution Features for Classification of Transportation Trajectories; Aidan Macdonald; Jeffrey Ellen*</p> <p>364 Study of how the Integration of Artificial Neural Network and Genetic Algorithm Should be Made for Modeling Meteorological Data; Thiago Ventura*; Allan Oliveira; Claudia Martins; Josiel Figueiredo; Raphael Gomes</p> <p>370 Multi-Query Optimization in Federated Databases using Evolutionary Algorithm; Sameen Mansha*, Punjab, Lahore; Faisal Kamiran</p> <p>376 Probabilistic Graphical Models and Deep Belief Networks for Prognosis of Breast Cancer; Mahmoud Khademi*; Nediialko Nediialkov</p> <p>388 Inertia Based Recognition of Daily Activities with ANNs and Spectrotemporal Features; Ismail Kılınc*; Ismail Uluturk; Ismail Uysal</p> <p>390 Regularized Supervised Topic Model for Continuous Emotion Analysis; Prasanth Lade*, Robert Bosch; Hemanth Venkateswara; Sethuraman Panchanathan</p> <p><b>Posters from special sessions and workshops:</b></p> <p>473 A hierarchical deep neural network for fault diagnosis on Tennessee-Eastman process; Danfeng Xie</p> <p>431 A Two-step Dynamic Inventory Forecasting Model For Large Manufacturing; Qifeng Zhou; Tao Li</p> <p>407 Malware Detection in Android-based Mobile Environments using Optimum-Path Forest; Kelton Costa; Luis Silva; Guilherme Martins; Gustavo Rosa; Clayton Pereira; Joao Papa*</p> <p>449 Boosting the Detection of Malicious Documents Using Designated Active Learning Methods Nir Nissim; Aviad Cohen; Yuval Elovici</p> <p>451 A New Cyber Security Alert System for Twitter Sedef Gunduz; Yigit Erkal; Mustafa Sezgin; Seref Sagiroglu</p> <p>266 A Machine Learning Based WSN System for Autism Activity Recognition ; Sami Alwakeel, Bassem Alhalabi, Hadi Aggoune, Mohammad Alwakeel</p> <p>437 Performance Investigation of UCB Policy in Q-Learning; Koki Saito, Akira Notsu, Seiki Ubukata, Katsuhiro Honda</p> <p>463 An Industrial-Strength Pipeline For Recognizing Fasteners; Nashlie Sephus, Sravan Bhagavatula, Palash Shastri, Erica Gabriel</p>
	19:20	

Date	Time			
Dec. 10 Thurs day	8:30	<p><b>Invited Talk</b></p> <p><b>Zoran Obradovic, Temple University, USA</b></p> <p><i>"Predictive Analytics in Complex Dynamic Networks"</i></p>		
		<b>Parallel Sessions (20 minutes each paper)</b>		
	9:30	<p><b>Session: Neural Networks</b></p> <p><b>Chair: Iren Valova</b></p> <p>123 <i>Decaying Potential Fields Neural Network: An Approach for Parallelizing Topologically Indicative Mapping Exemplars</i> Clinton Rogers; Iren Valova*</p> <p>149 <i>A Bilevel Parameter Tuning Strategy of Partially Connected ANNs</i> Mina Moradi Kordmahalleh*; Mohammad Gorji Sefidmazgi; Abdollah</p>	<p><b>Session: Machine Learning Applications I</b></p> <p><b>Chair: Vladimir Cherkassky</b></p> <p>102 <i>Using Machine Learning to Understand and Mitigate Model Form Uncertainty in Turbulence Models</i> Julia Ling*</p> <p>119 <i>A Finite Gamma Mixture Model-Based Discriminative Learning Framework</i> Faisal R. Al-Osaimi; Nizar Bouguila*</p> <p>176 <i>Multi-label Classification of</i></p>	<p><b>Workshop on Machine Learning Algorithms, Systems and Applications</b></p> <p><b>Chair: Moamar Sayed-Mouchaweh</b></p> <p>212 <i>Towards Sleep Apnea Screening with an Under-the-mattress IR-UWB Radar Using Machine Learning</i> Abdul Qadir Javaid, Carlo Noble, Russell Rosenberg, Mary Weitnauer</p> <p>273 <i>iClass: Combining Multiple Multi-Label Classification with Expert Knowledge</i></p>

		<p>Homaifar</p> <p>134 <i>Sequence Classification with Neural Conditional Random Fields</i> Myriam Abramson*</p> <p>198 <i>Classification of Occluded Objects using Fast Recurrent Processing</i> Ozgur Yilmaz*</p>	<p><i>Anemia Patients</i> Colin Bellinger*; Ali Amid; Nathalie Japkowicz; Herna Viktor</p> <p>190 <i>Donor Selection for Hematopoietic Stem Cell Transplant using Cost-Sensitive SVM</i> Adarsh Sivasankaran*; Vladimir Cherkassky; Mark Albrecht; Eric Williams; Martin Maiers</p>	<p>Marmar Moussa, Marc Maynard</p> <p>395 <i>An Interval-Radial Algorithm for Hierarchical Clustering Analysis</i> Chenyi Hu, Christopher Rhodes, James Lemon</p> <p>397 <i>Time Series Prediction Based on Robust Recurrent Kernel Online Learning</i> Qing Song</p>
	10:50	<b>Coffee Break</b>		
		<b>Parallel Sessions (20 minutes each paper)</b>		
	11:10	<p><b>Session: Deep Learning</b></p> <p><b>Chair:</b> Murat Dunder</p> <p>155 <i>Recognizing Human Activities from Raw Accelerometer Data Using Deep Neural Networks</i> Licheng Zhang; Xihong Wu; Dingsheng Luo*</p> <p>202 <i>Zero Shot Deep Learning from Semantic Attributes</i> Philippe Burlina; Aurora Schmidt; I-Jeng Wang*</p> <p>210 <i>Speaker Adaptation Using Speaker Similarity Score on DNN Features</i> Muhammad Rizwan*; David Anderson</p> <p>235 <i>Simplicity of K-means versus Deepness of Deep Learning: A Case of Unsupervised Feature Learning with Limited Data</i> Murat Dunder*; Qiang Kou; Baichuan Zhang; Yicheng He; Bartek Rajwa</p>	<p><b>Session: Machine Learning Applications II</b></p> <p><b>Chair:</b> Lukasz Kurgan</p> <p>359 <i>Adaptive OpenMP Task Scheduling Using Runtime APIs and Machine Learning</i> Ahmad Qawasmeh*; Abid Malik; Barbara Chapman</p> <p>180 <i>MLaaS - Machine Learning as a Service</i> Mauro Ribeiro; Katarina Grolinger*; Miriam Capretz</p> <p>164 <i>Detecting Erosion Events in Earth Dam and Levee Passive Seismic Data with Clustering</i> Wendy Belcher*; Tracy Camp; Valeria Krzhizhanovskaya</p> <p>194 <i>A Power Variance Test for Nonstationarity in Complex-Valued Signals</i> Thomas Bartlett; Adam Sykulski*; Sofia Olhede; Jonathan Lilly; Jeffrey Early</p>	<p><b>Workshop on Machine Learning Algorithms, Systems and Applications</b></p> <p><b>Chair:</b> Moamar Sayed-Mouchaweh</p> <p>399 <i>BreakFast, Analyzing Celerity Of News</i> Shuguang Wang, Eui-Hong Han</p> <p>414 <i>Adaptive modular approach for online fault diagnosis of discrete event systems</i> Moamar Sayed-Mouchaweh</p> <p>438 <i>Achievements Recommendation Framework based on Scientific Collaboration Network</i> Xiaohui Li</p> <p>482 <i>Diagnosis of bearing defects in induction motors by fuzzy-neighborhood density-based clustering</i> M. Farajzadeh-Zanjani, R. Razavi-Far, M. Saif, J. Zarei, V. Palade</p>
	12:30	<b>Lunch Break</b>		
		<b>Parallel Sessions (20 minutes each paper)</b>		
	13:30	<p><b>Session: Machine Learning Applications III</b></p> <p><b>Chair:</b> Lipyew Lim</p> <p>193 <i>Measuring Level-K Reasoning, Satisficing, and Human Error in Game-Play Data</i> Tamal Biswas*; Kenneth Regan</p> <p>177 <i>Synthetic Oversampling for Advanced Radioactive Threat Detection</i></p>	<p><b>Session : Supervised Learning and Optimization</b></p> <p><b>Chair:</b> Xuewen Chen</p> <p>159 <i>Learning Convex Piecewise Linear Machine for Data-driving Optimal Control</i> Yuxun Zhou*</p> <p>341 <i>Augmenting Interactive Evolution with Multi-Objective Optimization</i> Joshua Christman; Brian</p>	<p><b>Workshop on Machine Learning Algorithms, Systems and Applications</b></p> <p><b>Chair:</b> Moamar Sayed-Mouchaweh</p> <p>457 <i>Investigating New Bootstrapping Approaches of Bagging Classifiers to Account for Class Imbalance in Bioinformatics Datasets</i> Taghi Khoshgoftaar, Alireza Fazelpour, David Dittman,</p>

	<p>Colin Bellinger*; Nathalie Japkowicz; Christopher Drummond</p> <p>334 <i>Intelligent Bus Stop Identification Using Smartphone Sensors</i> Kaavya Srinivasan; Konstantinos Kalpakis*</p> <p>452 <i>Rejection Factors of Pull Requests Filed by Core Team Developers in Software Projects with High Acceptance Rates</i> Daricelio Soares; Manoel Lima Júnior, Leonardo Murta; Alexandre Plastino</p>	<p>Woolley*</p> <p>274 <i>NewsCubeSum: A Personalized Multidimensional News Update Summarization System</i> Dingding Wang*; Lei Li; Tao Li</p>	<p>Amri Napolitano</p> <p>458 <i>Request Type Prediction for Web Robot and Internet of Things Traffic</i> H. Nathan Rude, Derek Doran</p> <p>474 <i>Interpretable Classifier for Identifying High-Value Child Support Cases</i> Bryan Dolan, Kirk Ocke, Eric Gross, Yasmine Charif</p>
<b>Parallel Sessions (20 minutes each paper)</b>			
14:50	<p><b><u>Section: Generative Models</u></b> <b>Chair:</b> I-Jeng Wang</p> <p>157 <i>Learning Common Metrics for Homogeneous Tasks in Traffic Flow Prediction</i> Haikun Hong*</p> <p>172 <i>Car Following Markov Regime Classification and Calibration</i> Ahmed Zaky*; Walid Gomaa; Mohamed Khamis</p> <p>111 <i>Gaussian Mixture Model Cluster Forest</i> Jan Janousek*; Petr Gajdos; Michal Radecky; Vaclav Snasel</p>	<p><b><u>Session: Recommender Systems</u></b> <b>Chair:</b> Christopher Scaffidi</p> <p>169 <i>Comparative evaluation of top-N recommenders in e-commerce: industrial perspective</i> Dimitris Paraschakis*; Bengt Nilsson; John Holländer</p> <p>133 <i>A code-centric cluster-based approach for searching online support forums for programmers</i> Christopher Scaffidi*; Chris Chambers; Sheela Surisetty</p> <p>423 <i>What to Learn Next: Recommending Commands in a Feature-rich Environment</i> Sedigheh Zolaktaf; Gail Murphy</p>	<p><b><u>Special Session: Machine Learning in Energy Applications</u></b> <b>Chair:</b> Ilhami Colak</p> <p>441 <i>Multi-Period Prediction of Solar Radiation Using ARMA and ARIMA Models</i> Ilhami Colak; Mehmet Yesilbudak*; Naci Genc; Ramazan Bayindir</p> <p>471 <i>A Data-Driven Method to Detect the Abnormal Instances in an Electricity Market</i> Payam Zamani-Dehkordi; Logan Rakai; Hamidreza Zareipour</p> <p>467 <i>Statistical Scenarios for Demand Forecast of a High Voltage Feeder: A Comparative Study</i> Ramazan Bayindir; Mehmet Yesilbudak*; Umut Cetinkaya; Halil Ibrahim Bulbul; Fahrettin Arslan</p>
15:50	<b>Coffee Break</b>		
16:10	<p><b><u>Section: Advanced Learning Methods II</u></b> <b>Chair:</b> Ismail Uysal</p> <p>303 <i>Incremental Learning on Decorrelated Approximators: Incremental learning system using artificial and benchmark data sets for regression tasks.</i> Jan Hendrik Schoenke*; Werner Brockmann</p>	<p><b><u>Session: Applications: Image, Signal, and Big Data Processing</u></b> <b>Chair:</b> Hamidreza Zareipour</p> <p>124 <i>An Edge-Less Approach to Horizon Line Detection</i> Touqeer Ahmad*; George Bebis; Monica Nicolescu; Ara Nefian; Terry Fong</p> <p>383 <i>Efficient and Rotation Invariant Fingerprint Matching Algorithm</i></p>	<p><b><u>Special Session: Machine Learning in Energy Applications</u></b> <b>Chair:</b> Ilhami Colak</p> <p>223 <i>Identifying Daily Electric Consumption Patterns from Smart Meter Data by Means of Clustering Algorithms</i> Fateh Nassim Melzi*; Mohamed Haykel Zayani; Amira Ben Hamida; Allou Same; Latifa Oukhellou</p>

		<p>352 <i>A Demonstration of Stability-Plasticity Imbalance in Multi-Agent, Decomposition-Based Learning</i> Sean Mondesire*; R. Wiegand</p> <p>357 <i>Resampling-based variable selection with lasso for partially linear models</i> Mihaela Mares*; Yike Guo</p> <p>369 <i>Source-aware Partitioning for Robust Cross-validation</i> Ismail Uysal*; Ozsel Kilinc</p> <p>255 <i>Learning Complex Events from Sequences with Informed Gaps</i> Pablo Gay*; Beatriz López; Joaquin Meléndez</p>	<p><i>Using Adjustment Factor</i> Asif Khan*; Arif Wani</p> <p>231 <i>Robust Vehicle Tracking Using Perceptual Hashing Algorithm</i> Jian-Fei Yang; Zheng Li; Long Chen*; Xin Li</p> <p>316 <i>Acoustic Features For Recognizing Musical Artist Influence</i> Brandon Morton*; Youngmoo Kim</p> <p>165 <i>Using consumer behavior data to reduce energy consumption in smart homes</i> Daniel Schweizer; Michael Zehnder; Holger Wache; Hans Friedrich Witsch; Danilo Zanatta*; Miguel Rodriguez</p> <p>321 <i>Frequent Set Mining for Streaming Mixed and Large Data</i> Rohan Khade*; Jessica Lin; Nital Patel</p>	<p>240 <i>Improved Wind Power Forecasting Using Combination Methods</i> Ceyda Er Köksoy*; Mehmet Baris; Serkan Buhan; Turan Demirci; Aysenur Birturk; Pinar Karagoz</p> <p>307 <i>A Web-based Auction Platform for Electricity Retail Markets</i> Burak Çolak; Mehmet Ali Gökmen; Hurevren Kilic*</p> <p>379 <i>Optimized Small-Scaled Hybrid Energy Management of a Smart House Based on Genetic Algorithm</i> Viktor Ten*; Zhandos Yessenbayev; Akmaral Shamshimova; Albina Khakimova</p> <p>406 <i>Concept of 4th Dimension for Databases</i> Omer Kurtuldu; Erdal Irmak*</p> <p>353 <i>Probabilistic Models for One-Day Ahead Solar Irradiance Forecasting in Renewable Energy Applications</i> Carlos Vinicius Andrade Silva*; Lipyeow Lim; Duane Stevens; Dora Nakafuji</p>
	19:30	<p><b>Banquet</b> <b>Award Presentation (best papers, best posters)</b></p>		

Date	Time			
Dec. 11 Friday	8:30	<p><b>Invited Talk</b> <b>Zhi-Hua Zhou, Nanjing University, China</b> <i>"Big data incremental learning"</i></p>		
		<b>Parallel Sessions (20 minutes each paper)</b>		
	9:30	<p><b><u>Special Session: Machine Learning in Energy Applications</u></b> <b>Chair:</b> Ilhami Colak</p> <p>409 <i>Basin Clustering of Turkey by Use of Monthly Stream-Flow Data</i> Yusuf Arslan*; Aysenur Birturk; Sinan Eren</p> <p>425 <i>Decision Tree Learning for Fraud Detection in Consumer Energy Consumption</i> Christa Cody; Vitaly Ford*; Ambareen Siraj</p> <p>436 <i>Improvement of Transient</i></p>	<p><b><u>Special Session: Machine Learning in Bioinformatics</u></b> <b>Chair:</b> Evgin Goceri</p> <p>435 <i>Artificial Neural Network Based Abdominal Organ Segmentations: A Review</i> Evgin Goceri; Esther Martinez</p> <p>405 <i>A Neural Network Based Kidney Segmentation from MR Images : Preliminary Results</i> Numan Goceri; Evgin Goceri</p> <p>402 <i>An EMD Based Method for Reduction of Ballistocardiogram</i></p>	<p><b><u>Workshop on Machine Learning for Predictive Models for Engineering Applications</u></b> <b>Chair:</b> Ali Bou Nassif</p> <p>339 <i>A Neural Network Based Handover Management Scheme for Heterogeneous Networks</i> Sami Alwakeel; Nasser Alotaibi</p> <p>415 <i>Resource Allocation Predictive Modeling to Optimize Virtual World Simulator Performance</i></p>

	<p><i>Response of PI controller with Reference Modification for Digitally Controlled DC-DC Converter</i> Hidenori Maruta*; Daiki Mitsutake; Hironobu Taniguchi; Fujio Kurokawa</p> <p>444 <i>A Survey of Machine Learning Applications for Energy-Efficient Resource Management in Cloud Computing Environments</i> Mehmet Demirci*</p>	<p><i>Artifact from EEG Studies of Evoked Potentials</i> Ehtasham Javed; Ibrahima Faye; Aamir Saeed Malik; Jafri Malin Abdullah</p> <p>426 <i>Automated Detection of Adenoviral Conjunctivitis Disease from Facial Images using Machine Learning</i> Melih Gunay; Evgin Goceri; Taner Danisman</p>	<p>Sean Mondesire; Douglas Maxwell, Jonathan Stevens, Rebecca Leis</p> <p>416 <i>Summary Sentence Classification using Stylometry</i> Rushdi Shams; Robert Mercer</p> <p>440 <i>Superposed Naive Bayes for Accurate and Interpretable Prediction</i> Toshiki Mori</p>
10:50	<b>Coffee Break</b>		
	<b>Parallel Sessions (20 minutes each paper)</b>		
11:10	<p><b><u>Special session: Formal Modeling for Machine Learning Techniques</u></b> <b>Chair:</b> Farooq Ahmad</p> <p>462 <i>Event Prioritization and Correlation based on Pattern Mining Techniques</i> Mona Lange</p> <p>469 <i>Modeling and Simulation of Community Mobility Model for Next Generation Wireless Networks using Coloured Petri Nets</i> Naeem Akhtar Khan, Farooq Ahmad, Syed Asad Hussain, Sher Afzal Khan</p>	<p><b><u>Special Session: Machine Learning in Bioinformatics</u></b> <b>Chair:</b> Evgin Goceri</p> <p>394 <i>Prediction of continuous phenotypes in mouse, fly, and rice genome wide association studies with support vector regression SNPs and ridge regression classifier</i> Abdulrhman Aljouie; Usman Roshan</p> <p>424 <i>Random forest with Random projection to impute missing gene expression data</i> Lovedeep Gondara</p> <p>403 <i>Mining over a Reliable Evidential Database: Application on amphiphilic chemical database</i> Ahmed Samet; Tien Tuan Dao</p>	<p><b><u>Workshop on Machine Learning for Predictive Models for Engineering Applications</u></b> <b>Chair:</b> Ali Bou Nassif</p> <p>459 <i>Class Decomposition using K-means and Hierarchical Clustering</i> Shadi Banitaan; Ali Bou Nassif; Mohammad Azzeh</p> <p>461 <i>An Application of Classification and Class Decomposition to Use Case Point Estimation Method</i> Mohammad Azzeh,; Ali Bou Nassif; Shadi Banitaan</p>
12:20	<b>Lunch Break</b>		
13:30	<b>Closing Remarks</b>		