13th International Conference on Machine Learning and Applications
December 3-6, 2014

ICMLA 2014 Program Schedule
Marriott Detroit
Renaissance Center, Detroit, Michigan 48243

Day 1: Wednesday, December 3, 2014			
7:30AM - 8:30AM	Light Breakfast		
8:30AM - 8:45AM	Open Remark		
8:45AM -10:25AM	Room:Ambassador I Chair: Fares Hedayati **Session: Information Retrieval I**	Room: Brule A Chair: Ali Bou Nassif **Special Session: Machine Learning for Predictive Models I**	Room: Brule B Chair: Moamar Sqyed-mouchaweh **Session: Ensemble Methods**
10:25AM - 10:40AM	Coffee Break		
10:40AM - 12:20PM	Room:Ambassador I Chair: Kaushik Sinha **Session: Information Retrieval II**	Room: Brule A Chair: Ali Bou Nassif **Speical Session: Machine Learning for Predictive Models II**	Room: Brule B Chair: Bo Luo **Session: Feature Extraction and Selection**
12:20AM - 1:20AM	Lunch		
1:20PM - 3:00PM	Room:Ambassador I **Tutorials: Big Data Industry (Jayashree Ravi)**		
3:00PM - 3:20PM	Coffee Break		
3:20PM - 5:00PM	Room:Ambassador I **Tutorials: Big Data Industry (Jayashree Ravi)**		

5:30PM	Room:Ambassador I
	reception

Day 2: Thursday, December 4, 2014			
7:30AM - 8:30AM	Light Breakfast		
8:45 AM - 10:00AM	Room:Ambassador I		
	Keynote Speech (Prof. Inderjit Dhillon)		
10:00AM - 10:15AM	Coffee Break		
10:15AM - 12:00AM	Room: Ambassador I Chair: Ching-Hua Chuan	Room: Brule A Chair: Seref Sagiroglu	Room: Brule B Chair: Adel Aloraini
	Session: Neural Networks I	**Special Session: Machine Learning in Information and System Security Issues**	**Workshop: Machine learning of graphical models in static and dynamic complex environments**
12:00AM - 1:00PM	Lunch		
1:15PM - 2:15PM	Room:Ambassador I		
	Keynote Speech (Prof. Andrew Ng) (videoconference)		
2:15PM - 3:55PM	Room:Ambassador I Chair: Dongxiao Zhu	Room: Brule A Chair: Ilhami Colak	Room: Brule B Chair: Imme Ebert-Uphoff
	Session: Neural Network II	**Special Session: Machine Learning in Energy Applications**	**Session: Medicine and Bioinformatics**
3:55PM - 4:10PM	Coffee Break		
4:10PM - 5:40PM	Room: Ambassador I		
	Poster Session		
6:00PM -	Banquet		

Day 3: Friday, December 5, 2014			
7:30AM - 8:30AM	Light Breakfast		
8:45AM - 10:25AM	Room:Ambassador I Chair: Cesar Ferri	Room: Brule A Chair: Halil İbrahim BÜLBÜL	Room: Richard B Chair: Arif Wani
	Session: Machine Learning I	**Special Session: Machine Learning Applications in Education I**	**Session: Science and Industry**
10:25AM - 10:40AM	Coffee Break		
10:40AM - 12:20AM	Room:Ambassador I Chair: Edwin Lughofer	Room: Richard A Chair: Halil İbrahim BÜLBÜL	Room: Richard B Chair: Chang-Dong Wang
	Session: Machine Learning II	**Special Session: Machine Learning Applications in Education II**	**Session: Semi-Supervised Learning**

12:20AM - 1:20AM	Lunch		
1:20PM - 3:00PM	Room:Ambassador I Chair: Jeremy Marvel	Room: Brule A Chair: Arif Wani	Room: Richard B Chair: Arif Wani
	Session: Real-time Systems and Industry	**Workshop: Machine Learning Algorithms, Systems and Applications**	**Special Session: Machine Learning in Visual Information Processing**
3:00PM - 3:20PM	Coffee Break		
3:20PM - 5:00PM	Room:Ambassador I Chair: Cesar Ferri	Room: Brule A Chair: Guangzhi	Room: Brule B Chair: Moamar Sayed-Mouchaweh
	Session: Medicine, Science and Music	**Session: Applications in Security**	**Special Session: Adaptive Data-Driven Modeling in Dynamic Environments and On-line Processes**

Session: Ensemble Methods

Ensemble Statistical and Heuristic Models for Unsupervised Word Alignment
Mahsa Mohaghegh; Mehdi Mohammadi*

Improving Spectral Learning by Using Multiple Representations
Adam Drake; Dan Ventura*

Applying Swarm Ensemble Clustering Technique for Fault Prediction Using Software Metrics
Rodrigo Coelho, Fabrício Guimarães, Ahmed Esmin*

Reducing the Effects of Detrimental Instances
Michael Smith; Tony Martinez*

Concept Drift Awareness in Twitter Streams
Joana Costa; Catarina Silva; Mário Antunes;Bernardete Ribeiro*

Session: Applications in Security

High Precision Screening for Android Malware with Dimensionality Reduction
Britton Wolfe; Karim Elish; Danfeng (Daphne) Yao*

Reducing the Cost of Breaking Audio CAPTCHAs by Active and Semi-Supervised Learning
Malte Darnstädt; Hendrik Meutzner; Dorothea Kolossa*

Q-Learning: From Computer Network Security To Software Security
Solofoarisina Randrianasolo; Larry Pyeatt*

On-line Signature Verification using Symbolic Aggregate Apprximation (SAX) and Sequential Minimal Optimization (SMO)
Rakesh Deivachilai, Tim Oates

Detection of abnormal human behavior using a matrix approximation-based approach
Lijun Wang; Ming Dong*

Session: Information Retrieval I

Modelling Mutual Information Between Voiceprint and Optimal Number of Mel-frequency Cepstral Coefficients in Voice Discrimination
Kin Wah Edward Lin*; Tian Feng; Natalie Agus; Clifford So; Simon Lui

LSH vs Randomized Partition Trees : Which One to Use for Nearest Neighbor Search?
Kaushik Sinha*

Topic Detection in Instant Messages
Han Zhang; Chang-Dong Wang*; Jian-Huang Lai

Automated scoring of the Level of Conceptual/Integrative Complexity from Text using Machine Learning
Aardra Kannan Ambili*; Khaled Rasheed

Session: Information Retrieval II

Extraction of Unexpected Rules from Twitter Hashtags and its Application to Sport Events
Mariam Adedoyin-Olowe*; Mohamed Gaber; Carlos Dancausa; Frederic Stahl

Using Spectral Features to Improve Sentiment Analysis
Adam Drake; Dan Ventura*

Recommendation Systems for Markets with Two Sided Preferences
Anjan Goswami*; Fares Hedayati, Prasant Mohapatra

Session: Neural Networks I

Human action recognition based on recognition of linear patterns in action bank features using convolutional neural networks
Earnest Paul Ijjina*; Krishna Mohan C

A Cyclic Contrastive Divergence Learning Algorithm for High-order RBMs
Dingsheng Luo*; Yi Wang; Xiaoqiang Han; Xihong Wu

Facial expression recognition using kinect depth sensor and convolutional neural networks
Earnest Paul Ijjina*; Krishna Mohan C

Improving Performance on Problems with Few Labelled Data by Reusing Stacked Auto-Encoders
Telmo Amaral*; Chetak Kandaswamy; Luís Silva; Luís Alexandre ; Joaquim Marques de Sá, ; Jorge Santos

An Analysis of Instance Selection for Neural Networks to Improve Training Speed
Xunhu Sun*; Philip Chan

Session: Neural Network II

Human action recognition based on MOCAP information using convolution neural networks
Earnest Paul Ijjina*; Krishna Mohan C

Improving Named Entity Recognition for Morphologically Rich Languages using Word Embeddings
Hakan Demir*; Arzucan Özgür

Multi-variable Neural Network Forecasting Using Two Stage Feature Selection
Rohit Rawat*; Kunal Vora; Michael Manry; Gautam Eapi

Adaptive restructuring of radial basis functions using integrate-and-fire neurons
Jeremy Marvel*

One-shot periodic activity recognition using Convolutional Neural Networks
Earnest Paul Ijjina*; Krishna Mohan C

Session: Semi-Supervised Learning

Semi-Supervised Kernel-Based Temporal Clustering
Rodrigo Araujo*; Mohamed Kamel

Learning to Rank with Only Positive Examples
Mingzhu Zhu*; Wei Xiong; Yifang Wu

Geometric PDEs on weighted graphs for semi-supervised classification
Matthieu Toutain*; Abderrahim Elmoataz; Olivier Lezoray

Post-Processing Association Rules using Networks and Transductive Learning
Renan Padua*; Veronica Carvalho; Solange Rezende

Variational Inference on Infinite Mixtures of Inverse Gaussian, Multinomial Probit and Exponential
Minhazul Islam Sk*; Arunava Banerjee

Session: Real-time Systems and Industry

A Hybrid Genetic-Programming Swarm-Optimisation Approach for Examining the Nature and Stability of High Frequency Trading Strategies
Andreea-Ingrid Funie*; Mark Salmon; Wayne Luk

Sequential Logistic Principal Component Analysis (SLPCA): Dimensional Reduction in Streaming Multivariate Binary-State System
Zhaoyi Kang*; Costas Spanos

Using k-Nearest Neighbor and Speaker Ranking for Phoneme Prediction
Muhammad Rizwan`*; David Anderson

A Machine Learning Approach to Combining Individual Strength and Team Features for Team
Haibin Liu*; Mu Qiao; Daniel Greenia; Rama Akkiraju; Stephen Dill; Taiga Nakamura; Yang Song; Hamid Motahari Nezha

Genetically Supervised Self-Organizing Map for the Classification of Glass Samples
Richard deGroof; Iren Valova*

Session: Machine Learning I

Bayesian Nonparametric Inverse Reinforcement Learning for Switched Markov Decision Processes
Amit Surana*; Kunal Srivastava

State Abstraction in Reinforcement Learning by Eliminating Useless Dimensions
Zhao Cheng*; Laura Ray

A knowledge growth and consolidation framework for lifelong machine learning systems
Fernando Martinez Plumed*; José Hernández-Orallo; Maria Jose Ramírez-Quintana; Cèsar Ferri

LaCova: A Tree-Based Multi-Label Classifier using Label Covariance as Splitting Criterion
Reem Al-Otaibi*; Meelis Kull; Peter Flach

Combining Exact And Metaheuristic Techniques For Learning Extended Finite-State Machines From Test Scenarios and Temporal Properties
Daniil Chivilikhin*; Vladimir Ulyantsev; Anatoly Shalyto

Session: Machine Learning II

A Switch-and-Restart Algorithm with Exponential Restart Strategy for Objective Selection and its Runtime Analysis
Maxim Buzdalov*

Adding Diversity to Rank Examples in Anytime Nearest Neighbor Classification
Cristiano Lemes*; Diego Silva; Gustavo Batista

Improved kNN Rule for Small Training Sets
Sunsern Cheamanunkul*; Yoav Freund

Computation of a Rejection Threshold used for the Bayes Classifier
Matthias Blankenburg*; Christian Bloch; Jörg Krüger

Session: Science and Industry

Improving Robustness of Gaussian Process-based Inferential Control System using Kernel Principle Component Analysis
Ali Abusnina*; Daniel Kudenko; Rolf Roth

Arctic Sea Ice Extent Forecasting Using Support Vector Regression
Tyler Reid*; Paul Tarantino

WiFi Localization For Mobile Robots based on Random Forests and GPLVM
Reda Elbasiony*

Example-Dependent Cost-Sensitive Logistic Regression for Credit Scoring
Alejandro Correa Bahnsen*; Djamila Aouada; Björn Ottersten

Special Session : Machine Learning for Predictive Models I

Using Balanced Random Forests on Load Spectrum Data for Classifying Component Failures of a Hybrid Electric Vehicle Fleet
Philipp Bergmeir, Christof Nitsche, Jürgen Nonnast, Michael Bargende, Peter Antony, Uwe Keller

Multimodal Sparsity-Eager Support Vector Machines for Music Classification
Kamelia Aryafar, Ali Shokoufandeh

A Better Case Adaptation Method for Case-Based Effort Estimation Using Multi-Objective Optimization
Mohammad Azzeh, Ali Bou Nassif, Shadi Banitaan

Employing Markov Networks on Curriculum Graphs to Predict Student Performance
Ahmad Slim, Gregory Heileman, Jarred Kozlick, Chaouki Abdallah

Special Session : Machine Learning for Predictive Models II

Leveraging Machine Learning Algorithms to Perform Online and Offline Highway Traffic Flow Prediction
Arezou Moussavi-Khalkhali, Mo Jamshidi

OUPS: A Combined Approach Using SMOTE and Propensity Score Matchingtching

William A. Rivera, Amit Goel, and J. Peter Kincaid

A Comparison of Supervised Machine Learning Techniques for Predicting Short-Term In-Hospital Length of
April Morton, Eman Marzban, Georgios Giannoulis, Ayush Patel, Raj Aparasu, Ioannis Kakadiaris

Comparative Study of Different Classification Tech-niques: Heart Disease Use Case
Hanen Bouali, Jalel Akaichi

A Genetic Algorithm Approach to Partitioning Clustering : A case study on M.Sc. applicants
Kittichai Lavangnananda, Ratipong Poolphol

American Sign Language Recognition Using Leap Motion Sensor
Ching-Hua Chuan, Eric Regina, caroline Guardino

Learner Engagement Measurement and Classification in 1:1 Learning
Sinem Aslan, Zehra Cataltepe, Itay Diner, Onur Dundar, Asli Esme, Ron Ferens, Gila Kamhi, Ece Oktay,

An Intelligent Tutoring System for Argument-Making in Higher Education: A Pilot Study
Ching-Hua Chuan, Daniel Dinsmore , Joseph Schmuller, Tyler Morris

Special Session: Machine Learning Applications in Education II

Automatically filtering irrelevant words for applications in language acquisition
Gihad Sohsah, Emrah Akkurt, Ilkin Safarli, Muhammed Unal, Onur Guzey

A Clustering-based Grouping Model for Enhanceing Collaborative Learning
Yulei Pang, feiya xiao, Xiaozhen Xue

Improving an Early Warning System to Prediction of Student Examination Achievement
Halil Ibrahim Bulbul, Hanife Goker

Investigating sentimental relation between social media presence and academic success of Turkish Universit
Sedef Gunduz, Fatih Demirhan, Seref Sagiroglu

Special Session: Machine Learning in Information and System Security Issues

Next Generation Application-Layer DDoS Defences: Applying the Concepts of Outlier Detection in Data
Streams with Concept Drift
Dusan Stevanovic, Natalija Vlajic

TSD: Detecting Sybil Accounts in Twitter
Mansour Alsaleh, Abdulrahman Alarifi, AbdulMalik Al-Salman, Mohammed Alfayez, Abdulmajeed

An Intelligent Technique for Detecting Malicious Users on Mobile Stores
Ramazan Terzi, Semra Cakir, Mazlum Derse, Duygu Sinanc, Gizem Yavanoglu, Seref Sagiroglu

Age Estimation from Fingerprints: Examination of the Population in Turkey
Eyup Burak Ceyhan, Sinan Tatoglu, Ercan Atagun, Seref Sagiroglu

Special Session: Machine Learning in Energy Applications

Diagnosis using incomplete model in fuzzy discrete event system: Application to crisis management
Moussa Traore, Eric Chatelet, Eddie Soulier, Hossam Gaber

Incremental SVD for Insight into Wind Generation
Chandrika Kamath, Ya Ju Fan

Transient Characteristics of DC-DC Converter with PID Parameters Selection and Neural Network Control
Daiki Mitsutake, Hidenori Maruta, Fujio Kurokawa

Intelligent Crude Oil Price Forecaster
Ardalan Tebyanian, Fares Hedayati

Workshop: Machine Learning Algorithms, Systems and Applications

Improved Selection of Auxiliary Objectives using Reinforcement Learning in Non-Stationary Environment
Arina Buzdalova, Arina Buzdalova, Maxim Buzdalov

A New Algorithm for Adaptive Online Selection of Auxiliary Objectives
Arina Buzdalova, Maxim Buzdalov

Iterative Hard Thresholding for Keyword Extraction from Large Text Corpora

Steven Yadlowsky, Preetum Nakkiran, Jingyan Wang, Rishi Sharma, Laurent El Ghaoui

A Novel Bayesian Network Based Scheme for Finding the Optimal Solution to Stochastic Online Equi-
Sondre Glimsdal and Ole-Christoffer Granmo

Automatic Gender Classification System from Finger 2D: 4D Ratio and Comparison of Successes with
Eyüp Burak Ceyhan, Seref Sagiroglu, Ramazan Cesur, and Kadriye Öner

Special Session: Adaptive Data-Driven Modeling in Dynamic Environments and On-line Processes

Dynamic Inclusion of New Event Types in Visual Inspection using Evolving Classifiers
Edwin Lughofer, Eva Weigl, Wolfgang Heidl, Thomas Radauer

Speeding Learning of Personalized Audio Equalization
Bongjun Kim, Bryan Pardo

A Semi-Supervised Clustering Approach for Semantic Slot Labelling
Heriberto Cuayahuitl, Nina Dethlefs, Helen Hastie

Special Session: Machine Learning in Visual Information Processing

Multimodal Music and Lyrics Fusion Classifier for Artist Identification
Kamelia Aryafar, Ali Shokoufandeh

Machine-Sourced Segmentations vs. Expert-Sourced Segmentations for the Classification of Lung Nodules
Mayra Molina-Puentes, Jacob Furst, Daniela Raicu

Tool Machines with Brains - Touchless Wheel Alignment with Neural Networks
Karl-Heinz Weis

Performance Comparison of Major Classical Face Recognition Techniques
Farooq Bhat, Mohd Wani

Assessment of Different Image Clutter Metrics using Multivariate Analyses and Neurofuzzy System
Deok Nam, Harpreet Singh

Session: Feature Extraction and Selection

Activity Recognition Using Graphical Features
Syeda Akter; Lawrence Holder*

An Accurate, Fast Embedded Feature Selection for SVMs
Tarfa Hamed; Rozita Dara; Stefan Kremer*

Learning Good Features To Track
Raed Almomani*; Ming Dong

Feature Selections for Effectively Localizing Faulty Events in GUI Applications
Xiaozhen Xue; Yulei Pang; Akbar Siami-Namin*

Dimensionality Reduction in Statistical Learning
Alexander Bernstein*; Alexander Ruleshov

<mark>**Workshop: Machine learning of graphical models in static and dynamic complex environments**</mark>

Causal Discovery from Spatio-Temporal Data with Applications to Climate Science
Imme Ebert-Uphoff, Yi Deng

Graphical Model Based Approach for Fault Diagnosis of Wind Turbines
Adel Oraini, Moamar Moamar Sqyed-mouchaweh

A directed acyclic graphical approach and ensemble feature selection for a better drug-design using partial
Adel Oraini

<mark>**Session: Medicine and Bioinformatics**</mark>

Varying Coefficient Models for Analyzing the Effects of Risk Factors on Pregnant Women's Blood Pressure
Wenshuai Cheng*; Liying Fang; Lin Yang; Han Zhao; Pu Wang; Jianzhuo Yan

Learning Score Systems for Patient Mortality Prediction in Intensive Care Units via Orthogonal Matching
Aadirupa Saha*; Chandrahas Dewangan; Harikrishna Narasimhan; Sriram Sampath; Shivani Agarwal

Implementation of machine learning for classifying hemiplegic gait disparity through use of a force plate
Robert LeMoyne*; Wesley Kerr; Timothy Mastroianni ; Anthony Hessel

ExpertBayes: Automatically refining manually built Bayesian networks
Ezilda Almeida; Pedro Ferreira; Tiago Vinhoza; Inês Dutra*; Yirong Wu; Elizabeth Burnside

Time Warping Symbolic Aggregation Approximation with Bag-of-Patterns Representation for Time Series
Zhiguang Wang*; Tim Oates

<mark>**Session: Medicine, Science and Music**</mark>

Protein Conformation Motion Modeling using sep-CMA-ES
Maxim Buzdalov*; Sergey Knyazev; Yury Porozov

Budgeted Learning for Developing Personalized Treatment

Kun Deng*

Visualising Singing Style Under Common Musical Events Using Pitch-Dynamics Trajectories and Modified
Kin Wah Edward Lin*; Hans Anderson; Natalie Agus; Clifford So;Simon Lui

Supervised Music Chord Recognition
Imad Rida*; Gilles Gasso ; Romain Herault

Uncertainty Quantified Matrix Completion using Bayesian Hierarchical Matrix Factorization
Farideh Fazayeli*; arindam Banerjee; Jens Kattge ; Franziska Schrodt ; Peter Reich,