

**THE 18th INTERNATIONAL CONFERENCE ON MACHINE LEARNING APPLICATIONS
(ICMLA 2019)**

Day 1: December 16, 2019

Conference Registration (7:00 AM to 6:00 PM)

Room: Oasis Ballroom

Light Breakfast (7:00 AM to 8:00 AM)

Room: Oasis Foyer

Welcoming Remarks (8:00AM to 8:30AM)

Chair: Taghi M. Khoshgoftaar

Keynote Speaker (8:30 AM to 9:30 AM)

Title: Broad Learning: A New Perspective on Mining Big Data

Speaker: Philip S. Yu, University of Illinois

Room: Oasis Ballroom

Coffee Break (9:30 AM to 9:45 AM)

Room: Oasis Foyer

Session 1: Machine Learning on Image Processing

Chair: Huanjing Wang

(9:45 AM to 11:45 PM)

Room: Royal Palm 1 & 2

30. Regularization Learning for Image Recognition

Xinjie Lan, Kenneth Barner

320. GRAM: Gradient Rescaling Attention Model for Data Uncertainty Estimation in Single Image Super Resolution

Changwoo Lee, Ki-Seok Chung

360. Through-Wall Pose Imaging in Real-Time with a Many-to-Many Encoder/Decoder Architecture

Yu Meng

210. Domain Mixture: An Overlooked Scenario in Domain Adaptation

Sebastian Schrom, Stephan Hasler

141. Particle Detector Simulation using Generative Adversarial Networks with Domain Related Constraints

Gulrukh Khattak, Sofia Vallecorsa, Federico carminati, Gul Muhammad Khan

Session 2: Deep Learning Algorithms (I)

Chair:

(9:45 AM to 11:45 PM)

Room: Oasis A & B

133. PI-LSTM: Physics-Infused Long Short-Term Memory Network

Shubhendu Kumar Singh, Ryuou Yang, Amir Behjat, Rahul Rai, Souma Chowdhury, Ion Matei

373. Enhancing Decision Tree based Interpretation of Deep Neural Networks through L1-Orthogonal Regularization

Nina Schaaf, Marco Huber, Johannes Maucher

218. Leveraging Semi-Supervised Learning for Fairness using Neural Networks

Vahid Noroozi, Sara Bahaadini, Nooshin Mojab, Samira Sheikhi, Philip S Yu

106. Efficient Evolutionary Architecture Search for CNN Optimization on GTSRB

Fabio Marco Johner, Juergen Wassner

Session 3: Temporal and Structural Modeling

Chair: Dingding Wang

(9:45 AM to 11:45 PM)

Room: Royal Palm 3

160. Temporal Modeling of Deterioration Patterns and Clustering for Disease Prediction of ALS Patients

Dan Halbersberg, Boaz Lerner

206. A Deep Structural Model for Analyzing Correlated Multivariate Time Series
Changwei Hu, Yifan Hu, Sungyong Seo

343. Recurrent Dilated DenseNets for a Time-Series Segmentation Task
Alexander Fuchs, Robin, Franz Pernkopf

425. State Summarization of Video Streams for Spatiotemporal Query Matching in Complex Event Processing
Piyush Yadav, Dibya Prakash Das, Edward Curry

63. RF Transmitter Fingerprinting Exploiting Spatio-Temporal Properties in Raw Signal Data
Debashri Roy, Tathagata Mukherjee, Mainak Chatterjee, Eduardo Pasilliao

Lunch (Provided by the Conference)

(11:45 PM to 1:00 PM)

Room: Oasis Ballroom

Session 4: Recognition and Detection

Chair: Huanjing Wang

(1:00 PM to 2:40 PM)

Room: Royal Palm 1 & 2

122. Brown Planthopper Damage Detection using Remote Sensing and Machine Learning
Dimuthu Lakmal

79. Generative Feature Models and Robustness Analysis for Multimedia Content Classification
Sunil Bharitkar

233. Bimodal Emotion Recognition Based on Audio and Facial Parts Using Deep Convolutional Neural Networks
Jadisha Cornejo, Helio Pedrini

Session 5: Machine Learning on Finance and Marketing

Chair: Dingding Wang

(1:00 PM to 2:40 PM)

Room: Oasis A & B

182. Predicting Futures Market Movement using Deep Neural Networks
Tong Sun, Jia Wang, Jing Ni, Yu Cao, Benyuan Liu

211. DeepTrax: Embedding Graphs of Financial Transactions
C Bayan Bruss, Keegan Hines, Jonathan Rider, Antonia Gogoglou

80. An Industry Case of Large-Scale Demand Forecasting of Hierarchical Components
Rodrigo Rivera, Ivan Nazarov, Ivan Maksimov, Aleksandr Pletnev, Yuke Xiang, Evgeny Burnaev

110. Risk-Based Dynamic Pricing via Failure Prediction
Chi Zhang, Chetan Gupta, Seiji Joichi, Ahmed Farahat, Huijuan Shao

Session 6: Text Analytics

Chair:

(1:00 PM to 2:40 PM)

Room: Royal Palm 3

315. Learning to Propose Amendments: Identifying Patterns in the Right to Information Query Log
Nayantara Kotoky, Saradhi Vijaya V

161. Unsupervised Topic Model Based Text Network Construction for Learning Word Embeddings
Sunnie Sun Chung, Mike D'Arcy

328. Entity Set Expansion for Detecting Fashion Trends
Maulik Parmar, Sagnik Sarkar

185. Collaborative Attentive Autoencoder for Scientific Article Recommendation
Meshal Alfarhood, Jianlin Cheng

Coffee Break

(2:40 PM to 3:00 PM)

Room: Oasis Foyer

Session 7: Recognition and Detection in Computer Vision

Chair: Huanjing Wang

(3:00 PM to 4:40 PM)

Room: Royal Palm 1 & 2

289. Radar-Based Human Target Detection using Deep Residual U-Net for Smart Home Applications

Michael Stephan, Avik Santra

45. Spatio-Temporal FAST 3D Convolutions for Human Action Recognition

Alexandros Stergiou, Ronald Poppe

324. Fall Detection in Video Sequences Based on a Three-Stream Convolutional Neural Network

Guilherme Leite, Gabriel Silva, Helio Pedrini

127. Moving Cast Shadow Detection in Video Based on New Chromatic Criteria and Statistical Modeling

Hang Shi, Chengjun Liu

300. Towards Real-Time Detection and Mitigation of Driver Frustration using SVM

Sebastian Zepf, Tobias Stracke, Alexander Schmitt, Florian van de Camp, Jürgen Beyerer

Session 8: Multi-Agent and Robotics

Chair:

(3:00 PM to 4:40 PM)

Room: Oasis A & B

172. Pattern-RL: Multi-Robot Arbitrary Pattern Formation via Deep Reinforcement Learning

Jia Wang

443. Interpretable Approximation of a Deep Reinforcement Learning Agent as a Set of If-Then Rules

Subramanya Prasad Nagesh Rao, Bruno Costa, Dimitar Filev

105. A Hierarchical Model for StarCraft II Mini-Game

Tianlin Liu, Xihong Wu, Dingsheng Luo

372. Evaluating the Performance of the Deep Active Imitation Learning Algorithm in the Dynamic Environment of FIFA Player Agents

Matheus P. P. Faria, Rita Julia, Lídia Tomaz

283. Shapley Value Approximation with Divisive Clustering

Kevin M Corder, Keith Decker

Session 9: Supervised Learning Applications

Chair:

(3:00 PM to 4:40 PM)

Room: Royal Palm 3

434. Supervised Machine Learning Approach for Effective Supplier Classification

Ramkumar Harikrishnakumar

169. Classifying, Detecting, and Predicting Infestation Patterns of the Brown Planthopper in Rice Paddies

Christopher G Harris, Y Andi Trisyono

100. Reordering Genomic Sequences for Enhanced Classification via Compression Analytics

Christina Ting, Renee Gooding, Richard Field, Jacob Caswell

CONFERENCE RECEPTION

(6:30 PM to 9:00 PM)

Room: Oasis Ballroom

Poster Presentations: ICMLA 2019 Main Conference

Chair: Huanjing Wang and Dingding Wang

(6:30 PM to 9:00 PM)

Room: Oasis Ballroom

10. Educational Data Mining in R and Sparkling Water for Forecasting School Dropout of Students in the Engineering Courses at the University of Brasilia - UnB

Rodrigo Fonseca Silveira, Marcelo Ladeira, Marcio Victorino

20. Using Text Mining to Categorize the Purpose of Public Spending for the Benefit of Transparency and Accountability

Muricio B De Jesus, Marcelo Ladeira, Gustavo Erven, Gladston Silva

31. Leveraging Elastic Demand for Forecasting

Houtao Deng, Ganesh Krishnan, Ji Chen, Dong Liang

34. Locally Convex Kernel Mixtures: Bayesian Subspace Learning

Duy H Thai, David Dunson, Hau-tieng Wu

37. Rare Geometries: Revealing Rare Categories via Dimension-driven Statistics

Henry Kvinge, Elin R Farnell, Jingya Li, Yujia Chen

41. Client-Side Monitoring of HTTP Clusters Using Machine Learning Techniques

Ricardo Filipe

42. Learning User's Mobile Application Usage - a Deep Learning Approach

Jingyi Shen, Omair Shafiq

57. Machine Learning to Predict Developmental Neurotoxicity with High-throughput Data from 2D Bio-engineered Tissues

Finn Kuusisto, Vitor Santos Costa, Zhonggang Hou, James Thomson, David Page, Ron Stewart

64. Stochastic Gradient Descent for 0/1 Loss and its Sensitivity to Adversarial Attacks

Meiyan Xie, yunzhe xue, Usman Roshan

71. Modelling, Learning and Prediction of Complex Radar Emitter Behaviour

Sabine Apfeld

74. IsoClustering: A Generalized Framework for Local Data Clustering

David Haley, Ehsan Kamalinejad, Jiaofei Zhong

77. Using Bidirectional Long Short Term Memory with Attention Layer to Estimate Driver Behavior

Shokoufeh Monjezi Kouchak, Ashraf Gaffar

90. A Boosted Tree Machine Learning Alternative to Predictive Evaluation of Nondestructive Concrete Compressive Strength

Ahmed Lasisi, Obanishola Sadiq, Ibrahim O Balogun, Abdulfatai Tunde-Lawal, Nii Attoh-Okine

113. Style-aware Neural Model with Application in Authorship Attribution

Fereshteh Jafariakinabad, Kien Hua

121. Lean Training Data Generation for Planar Object Detection Models in Unsteady Logistics Contexts

Laura Dörr, Felix Brandt, Anne Meyer, Martin Pouls

126. Unsupervised Learning on the Health and Retirement Study using Geometric Data Analysis

Reinaldo Sanchez-Arias, Roberto Batista

128. A Machine Learning Approach to Maximizing Broadband Capacity via Dynamic DOCSIS 3.1 Profile Management

Anastasia Gaydashenko, Sangeeta Ramakrishnan

131. Encoding in Neural Networks

Sunil Bharitkar

147. AudioForesight: A Process Model for Audio Predictive Maintenance in Industrial Environments

Dominic Henze, Klaidi Gorishti, Bernd Bruegge, Jan-Philipp Simen

154. Cyclic Boosting - an explainable supervised machine learning algorithm

Felix C Wick, Ulrich Kerzel, Michael Feindt

163. Predictive Linguistic Features of Cohesion in Schizophrenia

Amal AlQahtani

170. Low-Power Classification using FPGA—An Approach based on Cellular Automata, Neural Networks, and Hyperdimensional Computing

Joakim Nilsson, Niklas Karvonen

180. Classification and Feature Extraction for User Identification for Smart Home Networks Based on Apps Access History

Yosef Ashibani, Qusay H. Mahmoud

181. Facility Locations Utility for Uncovering Classifier Overconfidence

Karsten T Maurer, Walter Bennette

184. The Machine Learning Models for Activity Recognition Applications with Wearable Sensors

Igor Khokhlov, Leon Reznik, Rohit Bhaskar

192. Online Causal Structure Learning in the Presence of Latent Variables

Durdane Kocacoban, James Cussens

204. An Analysis of Univariate and Multivariate Electrocardiography Signal Classification

Nelly Elsayed, Anthony S. Maida, Magdy Bayoumi

205. Pelee-Text: A Tiny Convolutional Neural Network for Multi-Oriented Scene Text Detection

Manuel A. Córdova, Luis G. L. Decker, Jose L. Flores-Campana, Andreza A. dos Santos, Jhonatas S. Conceição, Allan Pinto, Helio Pedrini and Ricardo da S. Torres

215. RNN-based Classifier to Detect Stealthy Malware using Localized Features and Complex Symbolic Sequence

Sanket Shukla, Gaurav Kolhe, Setareh Rafatirad, Sai Manoj Pudukotai Dinakarrao

217. Computer-Aided Diagnosis using Class-Weighted Deep Neural Network

Pritam Sarkar, Vandad Davoodnia, Ali Etemad

220. Physics-guided Neural Network with Model Discrepancy Based on Upper Troposphere Wind Prediction

Ken-ichi Fukui, Junya Tanaka, Tomohiko Tomita, Masayuki Numao

224. Evaluating the Transferability and Adversarial Discrimination of Convolutional Neural Networks for Threat Object Detection and Classification within X-Ray Security Imagery

Yona Falinie A. Gaus, Neelanjan Bhowmik, Samet Akcay, Toby Breckon

227. When to Pull Starting Pitchers in Major League Baseball? A Data Mining Approach

Michael Woodham, Jason Hawkins, Ankita Singh, Shayok Chakraborty

247. Discovering Programmer Intention Behind Written Source Code

Gadiel Sznaier Camps, Nicolas Bohm Agostini, David R Kaeli

256. Word Embedding by Combining Resources and Integrating Techniques

Kazem Qazanfari, Abdou Youssef

258. A Comparative Analysis of Unsupervised Learning Techniques for Anomaly Detection in Railway Systems

Macilio S Ferreira, Lucio F. Vismari, Paulo S. Cugnasca, Jorge Rady Almeida Junior, João B. Camargo Junior, Guilherme Kallemback

264. Context-Aware Autonomous Driving Using Meta-Reinforcement Learning.

Yesmina Jaafra, Aline Deruyver, Jean-Luc Laurent, Mohamed Saber Naceur

284. Predicting Louisiana Public High School Dropout through Imbalanced Learning Techniques

Marmar Orooji, Jianhua Chen

293. LoGANv2: Conditional Style-Based Logo Generation with Generative Adversarial Networks

Cedric R Oeldorf, Gerasimos Spanakis

301. Explainable Density-based Approach for Self-Driving Actions Classification

Eduardo Soares, Plamen Angelov, Dimitar Filev, Bruno Costa, Marcos Castro, Subramanya P Nagesh Rao

303. Identifying Laguerre-Gaussian Modes using Convolutional Neural Network

Safura Sharifi, Yaser Banadaki, Elisha Siddiqui, Savannah Cuzzo, Narayan Bhusal, Lior Cohen, Austin Kalasky, Nik Prajapati, Rachel Soto-Garcia, Sofia Brown, Irina Novikova, Eugeny Mikhailov, Georgios Veronis, Jonathan Dowling

308. Denoising Internet Delay Measurements using Weak Supervision

Anirudh Muthukumar, Ram Durairajan

313. Scalable Data Parallel Approaches to Anomaly Detection in Climate Data using Gaussian Processes

Krishna Karthik Gadiraju, Bharathkumar Ramachandra, Ashwin Shashidharan Benjamin Dutton, Ranga Vatsavai

327. Advanced Decision Making and Interpretability through Neural Shrubs

Kyle A Caudle, Randy C. Hoover, Shashwati Shradha, Aaron Alphonsus

342. Region Based Anomaly Detection with Real-Time Training and Evaluation

Philip A Adey

359. Extracting Cryptocurrency Price Movements from the Reddit Network Sentiment

Stephen Wooley, Andrew Edmonds, Arunkumar Bagavathi, Siddharth Krishnan

369. Frosting Weights for Better Continual Training

Xiaofeng Zhu, Feng Liu, Goce Trajcevski, Dingding Wang

380. Music Mood Classification using Convolutional Neural Networks

Teng-Sheng Moh

381. Feature Changes in Source Code for Commit Classification into Maintenance Activities

Richard V. R. Mariano, Geanderson Esteves dos Santos, Markos Vigiato de Almeida, Wladimir Cardoso Brandão

394. An Application of Autonomous Learning Multimodel System for Localization in Industrial Warehouse Storage Rack

Sheng Huang

405. Root Cause Detection Among Anomalous Time Series Using Temporal State Alignment

Sayan Chakraborty, Smit Shah, Kiumars Soltani, Anna Swigart

415. Asynchronous Multitask Reinforcement Learning with Dropout for Continuous Control
Zilong Jiao, Jae Oh

416. End-to-End Reinforcement Learning for Multi-Agent Continuous Control
Zilong Jiao, Jae Oh

418. Maximizing Customer Lifetime Value using Stacked Neural Networks: An Insurance Industry Application
Ismael Moreno, Gadiel Desirena, Armando Diaz, Daniel Garcia, Jalil Desirena

422. Face Recognition Using Segmentation Technology
Jiangjiang Liu, Fei Gao

428. Assessing Wireless Data Services with Machine Learning and Geostatistics
Glenn Bruns, Jose Mijangos

439. Hateful Speech Detection in Public Facebook Pages for Bengali Language
Alvi Md. Ishmam

440. A Comparative Analysis of Traditional and Deep Learning-based Anomaly Detection Methods for Streaming Data
Mohsin Munir, Muhammad Ali Chattha, Andreas Dengel Sheraz Ahmed

Day 2: December 17, 2019

Conference Registration (7:00 AM to 6:00 PM)

Room: Oasis Foyer

Light Breakfast (7:00 AM to 8:00 AM)

Room: Oasis Foyer

Keynote Speaker (8:30 AM to 9:30 AM)

Chair: Taghi M. Khoshgoftaar

Title: Deep Learning as a Service: Guaranteeing Robustness Against Deception

Speaker: Ling Liu, Georgia Institute of Technology

Room: Oasis Ballroom

Coffee Break (9:30 AM to 9:45 AM)

Room: Oasis Foyer

Session 10: Machine Learning Algorithms (I)

Chair: Huanjing Wang

(9:45 AM to 11:45 PM)

Room: Royal Palm 1 & 2

82. Active Learning for Feasible Region Discovery

Nicolas Knudde, Ivo Couckuyt, Kohei Shintani, Tom Dhaene

92. Independent Component Analysis Based On Mutual Dependence Measures

Ze Jin, David Matteson, Tianrong Zhang

134. Domain-Invariant Regression under Beer-Lambert's Law

Ramin Nikzad-Langerodi, Werner Zellinger, Susanne Saminger-Platz, Bernhard A. Moser

168. Multiple Learning for Regression in Big Data

Xiang Liu, Ziyang Tang, Huyunting Huang, Tonglin Zhang, Baijian Yang

295. Kernel Selection for Modal Linear Regression: Optimal Kernel and IRLS Algorithm

Yamasaki Ryoya, Toshiyuki Tanaka

Session 11: Deep Learning Applications

Chair: M. Arif Wani

(9:45 AM to 11:45 PM)

Room: Oasis A & B

156. Deep Neuronal Based Classifiers for Wireless Multi-Hop Network Mobility Models

Daniel Gutierrez, Sergio Toral

62. Deep Learning Approach to Trademark International Class Identification

Girish Showkatramani, Nidhi Khatri, Arlene Landicho, Darwin Layog

158. LSTM based Bearing Fault Diagnosis of Electrical Machines using Motor Current Signal
Russell Sabir, Daniele Rosato, Sven Hartmann, Clemens Guehmann

191. Long-Short Term Memory Network for Detecting CRISPR Arrays
Shantanu Deshmukh, Philip Heller, Natalia Khuri

Session 12: Object Detection

Chair: Dingding Wang

(9:45 AM to 11:45 PM)

Room: Royal Palm 3

262. An Edge Computing Visual System for Vegetable Categorization
Chang Liu, Xizhe Wang, Jing Ni, Yu Cao, Benyuan Liu

123. Deep Learning-Based Object Detection for Digital Inspection in the Mining Industry
Thiago D'Angelo, Marina Mendes, Breno Keller, Rafael Ferreira, Saul Delabrida, Ricardo Rabelo, Hector Azpuruu, Andrea Bianchi

348. On the Performance of Extended Real-time Object Detection and Attribute Estimation to Within Urban Scene Understanding
Khalid Dr Ismail, Toby Breckon

213. MobileNet-Tiny: A Deep Neural Network-based Real-Time Object Detection for RaspberryPi
Nithesh Sanjay, Ali Ahmadinia

325. Experimental Exploration of Compact Convolutional Neural Network Architectures for Non-Temporal Real-time Fire Detection
Ganesh Samarth C.A., Neelanjan Bhowmik, Toby Breckon

Lunch (Provided by the Conference)

(11:45 PM to 1:00 PM)

Room: Oasis Ballroom

Session 13: Text Mining

Chair: Dingding Wang

(1:00 PM to 2:40 PM)

Room: Royal Palm 1 & 2

116. Text Similarity in Vector Space Models: A Comparative Study
Omid Shahmirzadi, Kenneth Younge, Adam Lugowski

353. Suggestion Mining from Online Reviews using Random Multimodel Deep Learning
Feng Liu, Liangji Wang, Xiaofeng Zhu, Dingding Wang

257. Mining Strengths and Weaknesses of Cricket Players Using Short Text Commentary
Swarup Ranjan Behera, Parag Agrawal, Amit Awekar, Saradhi Vijaya V

299. Does Semantic Search Performs Better than Lexical Search in the Task of Assisting Legal Opinion Writing?
Daniel de S. C. Pedroso, Marcelo Ladeira, Thiago P Faleiros

Session 14: Deep Learning Algorithms (II)

Chair: Huanjing Wang

(1:00 PM to 2:40 PM)

Room: Oasis A & B

349. Feedback Learning for Improving the Robustness of Neural Networks
Chang Song, Zuoguan Wang, Hai Li

152. Disentangling and Learning Robust Representations with Natural Clustering
Javier Antoran, Antonio Miguel

314. Forcing Interpretability for Deep Neural Networks through Rule-based Regularization
Nadia El Bekri, Marco Huber

111. Low-bit quantization and quantization-aware training for small-footprint keyword spotting
Yuriy Mishchenko

Session 15: Social Networks and Event Mining

Chair:

(1:00 PM to 2:40 PM)

Room: Royal Palm 3

362. Large-scale Gender/Age Prediction of Tumblr Users

Yao Zhang, Changwei Hu, Yifan Hu, Tejaswi Kasturi, Matt Gillingham, Shanmugam Ramasamy, Keith Yamamoto

363. Legislative Vote Prediction using Campaign Donations and Fuzzy Hierarchical Communities

Scott A Wahl

436. Evaluation of Event Impact on Key Performance Indicators

Qiyao Wang, Ahmed Farahat, Kosta Ristovski, Chetan Gupta, Shuai Zheng

104. Complete Rare Event Specification using StochasticTreatment: CRESST

Debanjana Banerjee

Coffee Break

(2:40 PM to 3:00 PM)

Room: Oasis Foyer

Session 16: Machine Learning on Imbalanced Data

Chair: Huanjing Wang

(3:00 PM to 4:40 PM)

Room: Royal Palm 1 & 2

19. Machine learning models to identify the risk of modern slavery in Brazilian cities

Marlu Santos, Gladston Silva, Marcelo Ladeira, Gustavo Erven

282. An Empirical Comparison of Classification Algorithms for Imbalanced Credit Scoring Datasets

Leopoldo S Melo Junior, Franco Maria Nardini, Chiara Renso, Jose Macedo

254. Deep Learning and Thresholding with Class-Imbalanced Big Data

Justin Johnson, Taghi Khoshgoftaar

338. Learning Curve Estimation with Large Imbalanced Datasets

Aaron N Richter, Taghi Khoshgoftaar

Session 17: Deep Learning Algorithms (III)

Chair: M. Arif Wani

(3:00 PM to 4:40 PM)

Room: Oasis A & B

76. PPD: Permutation Phase Defense Against Adversarial Examples in Deep Learning
Mehdi Jafarnia Jahromi, Tasmin Chowdhury, Hsin-Tai Wu, Sayandev Mukherjee

99. Multi-Adversarial Variational Autoencoder Networks
Abdullah-Al-Zubaer Imran, Demetri Terzopoulos

212. Gradient Boosted Trees with Extrapolation
Alexey Malistov, Arseniy Trushin

366. Joint Regularization on Activations and Weights for Efficient Neural Network Pruning
Qing Yang, Wei Wen, Zuoguan Wang, Hai Li

Session 18: Natural Language Processing

Chair:

(3:00 PM to 4:40 PM)

Room: Royal Palm 3

279. Natural Language Generation Using Reinforcement Learning with External Rewards
Vidhushini Srinivasan, Sashank Santhanam, Samira Shaikh

322. Language-Agnostic Syllabification with Neural Sequence Labeling
Jacob R Krantz, Maxwell Dulin, Paul De Palma

332. Investigating Input and Output Units in Diacritic Restoration
Sawsan A Alqahtani

432. Feature Separation and Selective Fusion for Aspect Term Extraction Based on Multi-Task Neural Networks
Hongwei Liang, Yuan Rao, Yinong Xun

259. P-Net: Convolutional Neural Network for Multi-Task Semantic Segmentation with Uncertain Label
Jin-woo Lee

Session 19: Machine Learning for Self Driving

Chair: Huanjing Wang

(4:45 PM to 6:00 PM)

Room: Royal Palm 1 & 2

56. Ensemble Bayesian Decision Making with Redundant Deep Perceptual Control Policies
Keuntaek Lee, Ziyi Wang, Bogdan Vlahov, Harleen Brar, Evangelos Theodorou

73. Automatic CNN Compression System for Autonomous Driving
Daichi Murata, Toru Motoya, Hiroaki Ito

84. Discretionary Lane Change Decision Making using Reinforcement Learning with Model-based Exploration
Songan Zhang

345. Colorectal Polyp Segmentation by U-Net with Dilation Convolution
Xinzi Sun, Pengfei Zhang, Dechun Wang, Yu Cao, Benyuan Liu

Session 20: Machine Learning on Acoustic Data

Chair:

(4:45 PM to 6:00 PM)

Room: Oasis A & B

419. Predicting Music Popularity Using Music Charts
Carlos V Soares Araujo, Marco Cristo, Rafael Giusti

196. Classifying Humpback Whale Calls to Song and Non-Song Vocalizations using Bag of Words Descriptor on Acoustic Data
Hamed Mohebbi-Kalkhoran, Chenyang Zhu, Matthew Schinault, Purnima Ratilal

209. Acoustic Scene Classification Using Deep Mixture of Pre-trained Convolutional Neural Networks
Truc Thi Kim Nguyen, Franz Pernkopf

Session 21: Machine Learning Applications

Chair:

(4:45 PM to 6:00 PM)

Room: Royal Palm 3

174. Predictive and Prescriptive Analytics for Performance Optimization: Framework and a Case Study on a Large-Scale Enterprise System

Indu John, Ravikumar Karumanchi, Shalabh Bhatnagar

193. Hydropower Optimization Using Split-Window, Meta-Heuristic and Genetic Algorithms

Jivitesh Sharma, Bernt Viggo Matheussen, Ole-Christoffer Granmo, Sondre Glimsdal

186. T-REC: Towards Accurate Bug Triage for Technical Groups

Cícero A De Lara Pahins, Fabrício Marinho, Thiago Marques, Larissa M Almeida, Arthur Batista

CONFERENCE BANQUET
(6:45 PM to 9:00 PM)
Invited Speaker: Daniel Flynn
FAU VP for Research
Room: Oasis Ballroom

Day 3: December 18, 2019

Conference Registration (7:00 AM to 6:00 PM)

Room: Oasis Foyer

Light Breakfast (7:00 AM to 8:00 AM)

Room: Oasis Foyer

Keynote Speaker (8:30 AM to 9:30 AM)

Chair: Taghi M. Khoshgoftaar

Title: Declarative Machine Learning

Speaker: Flavio Villanustre, LexisNexis Risk Solutions

Room: Oasis Ballroom

Coffee Break (9:30 AM to 9:45 AM)

Room: Oasis Foyer

Session 22: Machine Learning Algorithms (II)

Chair: Huanjing Wang

(9:45 AM to 12:00 PM)

Room: Royal Palm 1 & 2

383. FlexAdapt: Flexible Cycle-Consistent Adversarial Domain Adaptation
Akhil Mathur, Anton Isopoussu, Fahim Kawsar, Nadia Berthouze, Nicholas D. Lane

340. Distill-to-Label: Weakly Supervised Instance Labeling Using Knowledge Distillation
Jayaraman J. Thiagarajan, Satyananda Kashyap, Alexandros Karargyris

318. Adapting Standard External Clustering Metrics for Repetitive, Noisy Observations
Dan Ventura

138. Prune and Replace NAS
Kevin A. Laube

329. Fuzzy-Rough Cognitive Networks: Building Blocks and Their Contribution to Performance
Marnick Vanloffelt, Gonzalo Nápoles, Koen Vanhoof

288. Performance Effectiveness of Multimedia Information Search Using the Epsilon-Greedy Algorithm
Lijing Kuang, Clement Leung

287. A Robust, Dual-Output Deep Neural Network for Bug Triaging to Teams and Developers.
Christopher A Choquette-Choo, David Sheldon, John Alphonso-Gibbs, Jonny Proppe

Session 23: Machine Learning on Healthcare and Medical Data

Chair: Dingding Wang

(9:50 AM to 12:00 PM)

Room: Oasis A & B

103. Non-Linear Feature Selection for Prediction of Hospital Length of Stay
Sadaf Kabir, Leily Farrokhvar

387. Deep Ensemble Network for Quantification and Severity Assessment of Knee Osteoarthritis
mohammed A Bany, Ashraf Moinuddin, Ming Ta Michael Lee, Yanfei Zhang, Vida Abedi, Ramin Zand, Mohammed Yeasin

78. Data-Driven Target Controlled Infusion Algorithm for Norepinephrine to Prevent Hypotension Associated with Labour Epidural: A Reinforcement Learning Approach
Sherwin Davoud, Weinan Gao, Efrain Riveros-Perez

130. Optic-Net: A Novel Convolutional Neural Network for Diagnosis of Retinal Diseases from Optical Tomography Images
Sharif Amit Kamran, Sourajit Saha, Ali Shihab Sabbir, Alireza Tavakkoli

7. Multi-Resolution 3D Dual Path Squeeze and Excitation Network for Pulmonary Nodule Classification
Enqing Dong, Wenshuo Xiong

Session 24: Anomaly Detection

Chair: Richard Bauder

(9:50 AM to 12:00 PM)

Room: Royal Palm 3

59. AudiDoS: Real-Time Denial-of-Service Adversarial Attacks on Deep Audio Models
Taesik Gong, Alberto Ramos, Akhil Mathur, Sourav Bhattacharya, Fahim Kawsar

344. On the Impact of Object and Sub-Component Level Segmentation Strategies for Supervised Anomaly Detection within X-ray Security Imagery
Neelanjan Bhowmik, Yona Falinie A. Gaus, Samet Akcay, Jack Barker, Toby Breckon

424. A Deep Learning Approach to Distributed Anomaly Detection for Edge Computing
Okwudili M Ezeme, Qusay Mahmoud, Akramul Azim

225. Time Series Anomaly Detection from a Markov Chain Perspective
Iman Vasheghani Farahani, Russell E King, Michael Kay, Brad Klenz, Alex Chien

237. An Encoder-Decoder Based Approach for Anomaly Detection with Application in Additive Manufacturing
Baihong Jin, Yingshui Tan, Yuxin Chen, Alexander Nettekoven, Ufuk Topcu, Yisong Yue, Alberto L Sangiovanni-Vincentelli

269. Evaluating Unsupervised Anomaly Detection Models to Detect Faults in Heavy Haul Railway Operations
David F N Oliveira, Lucio F. Vismari, Jorge Rady Almeida Junior, Paulo S. Cugnasca, João B. Camargo Junior, Eduardo Marreto, Debora Doimo, Leandro Almeida, Rafael Gripp, Marcelo Neves

117. Detection of False Data Injection Attacks in Cyber-Physical Systems using Dynamic Invariants

Kiyoshi Nakayama, Nikhil Muralidhar, Chenrui Jin, Ratnesh Sharma

Industry and Government Invited Speaker

Chair: Flavio Villanustre

(9:45 AM to 12:05 PM)

Room: Oasis C

Speaker 1: Roger Dev

(9:45 AM to 10:25 AM)

Title: TextVectors – Machine Learning for Textual Data

Speaker 2: Dan Camper

(10:25 AM to 10:55 AM)

Title: Efficient Levenshtein Matching in HPC Systems

Speaker 3: Roger Dev

(10:55 AM to 11:35 AM)

Title: Improving Accuracy with ML Decision Trees

Speaker 4: David deHilster

(11:35 AM to 12:05 PM)

Title: Extracting Rich Data Points from unstructured Text for Machine Learning Using NLP++

Lunch (Provided by the Conference)

(12:00 PM to 1:00 PM)

Room: Oasis Ballroom

Special Session Presentations

Session 1: Predictive Models in Engineering Applications I

Chair: Shadi Bani Taan

(1:00 PM to 3:00 PM)

Room: Royal Palm 1 & 2

446. Semi-Supervised Discriminative Transfer Learning in Cross-Language Text Classification.
Mingon Kang, Ashis Biswas, Kim Dongchul, Jean Gao

474. Inducing Embeddings for Rare Words through Morphological Decomposition, Stemming and Bidirectional Translation.
Xiaotao Li, Shujuan You, Wai Chen

476. A Study on Software Metric Selection for Software Fault Prediction.
Huanjing Wang, Taghi Khoshgoftaar

480. Naive Bayes with Correlation Factor for Text Classification Problem.
Jiangning Chen, Zhibo Dai

481. Semantic Label Prediction of Mammography Based on CC and MLO Views.
Xiaomeng Wang, Jiyun Li, Chen Qian

486. Mining the Highway-Rail Grade Crossing Crash Data: A Text Mining Approach.
Samira Soleimani, Ali Mohammadi, Jianhua Chen, Michael Leitner

Session 2: Topological Data Analysis in Machine Learning I

Chair: Juan Ramirez Jr. & Ryan Kramer

(1:00 PM to 3:00 PM)

Room: Oasis A & B

585. Exposition and Interpretation of the Topology of Neural Networks.
Rickard Brüel Gabrielsson

599. Path Homologies of Deep Networks.
Thomas Gebhart, Steve Huntsman, Samir Chowdhury

579: A Notion of Harmonic Clustering in Simplicial Complexes.

Stefania Ebli, Gard Spreemann

657: Multiscale Geometric Data Analysis via Laplacian Eigenvector Cascading.

Joshua Mike, Jose Perea

491: Mapper Based Classifier.

Jacek Cyranka, Alexander Georges, David Meyer

681: Hyperparameter Optimization of Topological Features for Machine Learning Applications.

Francis Motta, Chris Tralie

685: Adaptive Template System: Data-Driven Feature Selection for Learning with Persistence Diagrams.

Luis Polanco, Jose A. Perea

Session 3: Machine and Deep Learning in Cybersecurity and Privacy Issues I

Chair: Seref Sagiroglu

(1:00 PM to 3:00 PM)

Room: Royal Palm 3

542. A Survey of Intrusion Detection Techniques.

Deepthi Hassan Lakshminarayana, Nasseh Tabrizi

545. Web User Authentication Using Chosen Word Keystroke Dynamics

Khandaker Rahman, Deepak Neupane, Abdulrahman Zaiter, Md S Hossain

611. Online EM monitoring of 802.11n networks using Self Adaptive Kernel Machine

Jonathan Villain, Anthony Fleury

556. Augmentation Anomaly Dataset Using the Sequence Generate Models.

SungUk Shin, Inseop Lee, Changhee Choi

549. PcapGAN: Packet Capture File Generator by Style-Based Generative Adversarial Networks.

Dowoo Baik, Yujin Jung, Changhee Choi

618. Exploring Adversaries to Defend Audio CAPTCHA.

Heemany Shekhar, Melody Moh, Teng-Sheng Moh

632. Towards the Integration of a Post-hoc Interpretation Step into the Machine Learning Workflow for IoT Botnet Detection.

Alejandro Guerra Manzanares, Sven Nomm

Coffee Break

(3:00 PM to 3:15 PM)

Room: Oasis Foyer

Session 4: Predictive Models in Engineering Applications II

Chair: Shadi Bani Taan

(3:15 PM to 4:45 PM)

Room: Royal Palm 1 & 2

487. Dimensionality Reduction for Low-Latency High-Throughput Fraud Detection on Datastreams.

Cristian Axenie, Radu Tudoran, Stefano Bortoli, Mohamad Al Hajj Hassan, Carlos Salort Sanchez, Goetz Brasche

493. Software Fault Prediction Based on Fault Probability and Impact.

Salim Moudache, Badri Mourad

495. How Can Automated Machine Learning Help Business Data Science Teams?

Ashkan Ebadi, Yvan Gauthier, Stéphane Tremblay, Patrick Paul

496. Ranking Clusters of Postal Codes to Improve Recruitment in the Canadian Armed Forces.

Ryuichi Ueno

510. Urban Street Contexts Classification Using Convolutional Neural Networks and Streets Imagery.

Fahad Alhasoun, Marta C. González

638. Hyperparameters Search Methods for Machine Learning Workflows.
Klara Peskova, Roman Neruda

Session 5: Topological Data Analysis in Machine Learning II

Chair: Juan Ramirez Jr. & Ryan Kramer

(3:15 PM to 5:00 PM)

Room: Oasis A & B

602: Chatter Diagnosis in Milling using Supervised Learning and Topological Features Vector.
Melih Yesilli, Sarah Tymochko, Firas Khasawneh, Elizabeth Munch

230: Persistent Homology Machine Learning for Fingerprint Classification.
Noah Giansiracusa, Robert Giansiracusa, Chul Moon

600: Adaptive Partitioning for Template Functions on Persistence Diagrams.
Sarah Tymochko, Elizabeth Munch, Firas Khasawneh

696: A topological Approach for Motion Track Discrimination
Colin Olson, Tegan Emerson, George Stantchev, Kason Edelberg, Michael Wilson

636. Classification of Single-Lead Electrocardiograms: TDA Informed Machine Learning.
Paul Samuel Ignacio, David Uminsky

650. Bayesian Topological Learning for Brain State Classification.
Farzana Nasrin, Chistopher Oballe, David Boothe, Vasileios Maroulas

Session 6: Machine and Deep Learning in Cybersecurity and Privacy Issues II

Chair: Seref Sagiroglu

(3:15 PM to 5:00 PM)

Room: Room: Royal Palm 3

635 - An Intrusion Detection System for Multi-Class Classification based on Deep Neural Networks

Petros Toupas, Dimitra Chamou, Konstantinos M. Giannoutakis, Anastasios Drosou, Dimitrios Tzovaras

652 - One-class Classification to Continuously Authenticate Users Based on Keystroke Timing Dynamics

Rasana Manandhar, Shaya Wolf, Mike Borowczak

680 - Data Integrity of Industrial Controllers via Multi-resolution Hierarchical Time Series Clustering

Andrew Walker, Joydeep Acharya

572 - CheckNet: Secure Inference on Untrusted Devices

Marcus Comiter, Surat Teerapittayanon, H. T. Kung

714. Generation & Evaluation of Adversarial Examples for Malware Obfuscation.


Daniel Park

616. Anomaly Detection Using Supervised Learning and Multiple Statistical Methods

Watson Jia, Raj M. Shukla, Shamik Sengupta

672. An Unsupervised Framework for Anomaly Detection in a Water Treatment System

Mayra A. Macas Carrasco, Chunming Wu



Session 7: Machine and Deep Learning in Cybersecurity and Privacy Issues III

Chair: Seref Sagiroglu

(5:00 PM to 6:15 PM)

Room: Royal Palm 3

489. Deep Learning versus Conventional Learning in Data Streams with Concept Drifts.

Sid Ryan, Roberto Corizzo, Iluju Kiringa, Nathalie Japkowicz

498. A Comparison Between Statistical and Symbolic Learning Approaches for Generative Policy Models.

Graham White, Dan Cunningham, Geeth de Mel, Alessandra Russo, Mark Law, Elisa Bertino

499. Active Learning to Improve Static Analysis

Maxwell Berman, Stephen Adams, Tim Sherburne, Cody Fleming, Peter Beling

530. Machine Learning in Anomaly Detection: Example of Colluded Applications Attack in Android Devices

Igor Khokhlov, Michael Perez, Leon Reznik

539. CausalConvLSTM: Semi-Supervised Log Anomaly Detection Through Sequence Modeling.

Steven Yen, Melody Moh, Teng-Sheng Moh

CONFERENCE RECEPTION

(6:30 PM to 9:00 PM)

Room: Oasis Ballroom

Poster Presentations: ICMLA 2019 Special Sessions

(6:30 PM to 9:00 PM)

Room: Oasis Ballroom

Chair: Taghi M. Khoshgoftaar

Special Session: Machine Learning in Advanced Machine Vision

615. Image Classification of Clogs in Direct Ink Write Additive Manufacturing

Albert Chu

Special Session: Machine and Deep Learning in Cyber Security and Privacy Issues

514. Causal Discovery of Cyber Attack Phases.

Graham Mueller, Alex Memory, Kyle Bartrem

Special Session: Deep Learning

455. Exploiting Stereo Sound Channels to Boost Performance of Neural Network-Based Music Transcription.

Xian Wang, Lingqiao Liu, Qinfeng Shi

464. An Auto Regressive Deep Learning Model for Sales Tax Forecasting from Multiple Short Time Series.

Elham Buxton, Kenneth Kriz, Matthew Cromeens, Jay Kim

482. Optimizing Deep Neural Network Architecture with Enhanced Genetic Algorithm.

Ajay Shrestha, Ausif Mahmood

490. Instance Segmentation of Newspaper Elements Using Mask R-CNN.

Abdullah Almutairi, Meshal Almashan

552. Robustness Evaluation of Deep Learning Models Based on Local Prediction Consistency.

Chaoliang Zhong, Ziqiang Shi, Yasuto Yokota, Wensheng Xia, Jun Sun

565. A Fast and Light Weight Deep Convolution Neural Network Model for Cancer Disease Identification in Human Lung(s).

Siva Skandha Sanagala, Suneet K. Gupta, Vijaya Kumar Koppula, Mohit Agarwal

603. Inferring Convolutional Neural Networks' Accuracies from Their Architectural Characterizations.

Duc M. Hoang

623. Deep Learning for Flood Forecasting and Monitoring in Urban Environments.

Charalampos Karyotis, Tomasz Maniak, Faiyaz Doctor, Rahat Iqbal, Vasile Palade, Raymond Tang

664. Using Convolutional Neural Networks to Extract Keywords and Keyphrases: A Case Study for Foodborne Illnesses

Jingjing Wang, Rozita Dara

676. Collapse Resistant Deep Convolutional GAN for Multi-Object Image Generation.

Elijah Bolluyt, Cristina Comaniciu

677. Radar Gesture Recognition System in Presence of Interference using Self-Attention Neural Network.

Souvik Hazra, Avik Santra

690. Image Generation and Style Transfer using Conditional Generative Adversarial Networks.
Sharada Murali, M. R. Rajati, Somasekhar Suryadevara

726. Design of A Cost-Effective Deep Convolutional Neural Network–Based Scheme for Diagnosing Faults in Smart Grids.
Hossein Hassani, Maryam Farajzadeh-Zanjani, Roozbeh Razavi-Far, Mehrdad Saif, Vasile Palade

Special Session: Machine Learning in Health

640. Using Machine Learning to Improve Surgical Outcomes.
Sindhura Bonthu, Priscila Rodrigues Armijo, Tiffany Tanner, Qiuming Zhu

525. Improving Machine Learning Based Detection of Freezing of Gait Using Data Synthesis Methods.
Nader Naghavi, Soheil Borhani, Eric Wade

647. Understanding Early Childhood Obesity via Interpretation of Machine Learning Model Predictions.
Xueqin Pang, Christopher B. Forrest, Félice Lê-Scherban, Aaron J. Masino

511. Abnormal Gait Detection by Classifying Inertial Sensor Data using Transfer Learning.
Tejul Pandit, Harshal Nahane, Dhanshree Lade, Vaibhav Rao

577. Clinical Knowledge Graph Embedding Representation Bridging the Gap Between Electronic Health Records and Prediction Models.
Wai Chung, Jianyu Liu, Hegler Tissot

532. On Activity Identification Pipelines for a Low-Accuracy EEG Device.
Ákos Rudas, Sandor Laki

502. IoT Environmental Analyzer using Sensors and Machine Learning for Migraine Occurrence Prevention.
Rosemarie Day, Hassan Salehi, Mahsa Javadi

393. Feature Clustering Towards Gene Selection.
Hanieh Marvikhorasani, Hamid Usefi

319. Genetic Algorithms for Feature Selection in the Children and Adolescents Depression Context.

Renata Santana, Bruno Santos, Thiago Lima, Maycoln Teodoro, Saulo Pinto, Luiz Zárate, Cristiane Nobre

Special Session: Machine Learning for Predictive Models in Engineering Applications

458. Supervised Classification of EEG Signals with Score Threshold Regulation for Pseudo-Online Asynchronous Detection of Gait Intention.

S. M, Shafiul Hasan, Masudur R. Siddiquee, Ou Bai

488. An Online Incremental Clustering Framework for Real-Time Predictive Analytics on Datastreams.

Carlos Salort Sanchez, Radu Tudoran, Stefano Bortoli, Mohamad Al Hajj Hassan, Goetz Brasche, Jan Baumbach, Cristian Axenie

500. Machine learning of the Ultrasound Signal Travel Path effect in Estimating the Residual Life of the US Army Vehicles.

Ramakrishna R. Valisetty

587. Predictive Models with Resampling: A Comparative Study of Machine Learning Algorithms and Their Performances on Handling Imbalanced Datasets.

Adithi D. Chakravarthy, Sindhura Bonthu, Chen Zhengxin, Qiuming Zhu

589. Comparing the Modeling Powers of RNN and HMM.

Achille Salaün, Yohan Petetin, François Desbouvries

625. Multi-Objective Shipment Allocation using Extreme Nondominated Sorting Genetic Algorithm-III (E-NSGA-III).

Kittichai Lavangnananda, Peerasak Wangsom

630. A Deep Learning Approach to Modeling a Complex Multi-Variate, Temporal Thermal Problem.

Alvaro Blazquez de Mingo, Forrest Jehlik

644. Predictive Analytics and Statistical Learning for Waterflooding Operations in Reservoir Simulations.

Xuan Liao, Mayank Tyagi

694. ragamAI: A Network Based Recommender System to Arrange an Indian Classical Music Concert.

Arunkumar Bagavathi, Siddharth Krishnan

711. A Hybrid Collaborative Filtering Model Using Customer Search Keyword Data for Product Recommendation.

Haram Won, Yunju Lee, Jae-Seung Shim, Hyunchul Ahn

717. An Automatic Extraction Tool for Ethnic Vietnamese Thai Dances Concepts.

Salem Benferhat

Special Session: Topological Data Analysis in Machine Learning

571: Sampling Real Algebraic Varieties for Topological Data Analysis.

Parker Edwards, Jonathan Hauenstein, Emilie Dufresne, Heather Harrington

598. Characterizing the Shape of Activation Space in Deep Neural Networks.

Thomas Gebhart

540. Time-Series Data Analysis for Classification of Noisy and Incomplete Internet-of-Things Datasets.

Luke Diaz, Michael Postol, Robert Simon

568. A Topological Reading Lesson: Classification of MNIST using TDA.

Adélie Garin, Guillaume Tauzin

663. Text Classification via Network Topology: A Case Study on the Holy Quran.

Mehmet Aktas, Esra Akbasf

Day 4: December 19, 2019

Conference Registration (7:00 AM to 6:00 PM)

Room: Oasis Foyer

Light Breakfast (7:00 AM to 8:00 AM)

Room: Oasis Foyer

Tutorial 1: The Data Science landscape: foundations, tools, and practical applications

Dr. Oge Marques

Florida Atlantic University

(8:00 AM to 12:00 PM)

Room: Royal Palm 1 & 2

Session 8: Machine Learning in Health I

Chair: Ester Zumpano

(8:00 AM to 10:00 AM)

Room: Oasis C

239. An Ensemble Approach Based on Machine Learning for Stroke Screening.

Jizhi Chen, Junzhong Gu, Yongming Wang, Xiutao Cui

515. Convolutional Classification of Pathogenicity in H5 Avian Influenza Strains.

Akshay Chadha, Rozita Dara, Zvonimir Poljak

659. An Effective CNN Approach for Diabetic Retinopathy Stage Classification with Dual Inputs and Selective Data Sampling.

Jing Ni, Qilei Chen, Chang Liu, Honghao Wang, Yu Cao, Benyuan Liu

660. Scalable Deep Learning for Stress and Affect Detection on Resource-Constrained Devices.

Abhijith Ragav, Nanda H. Krishna, Naveen Narayanan, Kevin J. Thelly, Vineeth Vijayaraghavan

716. Gene Subset Selection for Transfer Learning Using Bilevel Particle Swarm Optimization.

Hassen Dhrif

403. Weakly Supervised Fine Tuning Approach for Brain Tumor Segmentation Problem.

Sergey Pavlov, Alexey Artemov, Maxim Sharaev, Alexander V. Bernstein, Evgeny Burnaev

560. Towards Real-Time Detection of Squamous Pre-Cancers from Oesophageal Endoscopic Videos.

Xiaohong W. Gao, Barbara Braden, Stephen Taylor, Wei Pang

Session 9: Deep Learning I

Chair: Vasile Palade & Arif Wani

(8:00 AM to 10:00 AM)

Room: Oasis A & B

564. CSNNs: Unsupervised, Backpropagation-Free Convolutional Neural Networks for Representation Learning.

Bonifaz Stuhr, Jürgen Brauer

271. Deep Neural Network Compression for Image Classification and Object Detection.

Eren Erdal Aksoy

478. Single-Net Continual Learning with Progressive Segmented Training (PST).

Xiaocong Du, Gouranga Charan, Frank Liu, Yu Cao

516. Parameter Continuation Methods for the Optimization of Deep Neural Networks.

Harsh Nilesh Pathak, Randy Paffenroth

550. Generation of Pedestrian Pose Structures using Generative Adversarial Networks.

James P. Spooner, Madeline Cheah, Vasile Palade, Stratis Kanarachos, Alireza Daneshkhah

559. Anomaly Detection with Conditional Variational Autoencoders.

Adrian A. Pol, Cecile Germain, Victor Berger, Gianluca Cerminara, Maurizio Pierini

570. Optimal Ensembles for Deep Learning Classification: Theory and Practice.

Wenjing Li, Randy Paffenroth

Session 10: Machine Learning in Energy Application I

Chair: Ilhami Colak

(8:00 AM to 10:00 AM)

Room: Royal Palm 3

335. SVM-Based Segmentation of Home Appliance Energy Measurements.

Marc Wenninger

567. Multi-Agent Learning for Energy-Aware Placement of Autonomous Vehicles.

Ömer Erduran, Mirjam Minor, Lars Hedrich, Ahmad Tarraf, Frederik Ruehl, Hans Schroth

569. Power Flow Approximation Based on Graph Convolutional Networks.

Valentin Bolz, Johannes Ruess, Andreas Zell

574 Hybrid Condition Monitoring for Power Electronic Systems.

Nikola Markovic, Dorothea Kolossa, Volker Staudt, Thomas Stoetzel

583. Domain Adaptation for Ageing State Recognition of Cables used in Power Systems

Nathalie Morette, Thierry Ditchi, Yacine Oussar

584. A Novel Graphical Lasso based approach towards Segmentation Analysis in Energy Game-Theoretic Frameworks.

Hari Prasanna Das, Ioannis C. Konstantakopoulos, Aummul Baneen Manasawala, Tanya Veeravalli, Huihan Liu, Costas J. Spanos

Coffee Break (10:00 AM to 10:15 AM)

Room: Oasis Foyer

Session 11: Machine Learning in Health II

Chair: Carmela Comito

(10:15 AM to 12:00 PM)

Room: Oasis C

334. 3D Deformable Convolutions for MRI Classification.

Marina Pominova, Ekaterina Kondrateva, Maxim Sharaev, Sergey Pavlov, Alexander V. Bernstein, Evgeny Burnaev

505. Radar-based Non-Intrusive Fall Motion Recognition using Deformable Convolutional Neural Network.

Yogesh Shankar, Souvik Hazra, Avik Santra

648. Knee Bone Segmentation on Three-Dimensional MRI

Rania Almajalid, Juan Shan, Ming Zhang

518. Depression Detection Using Feature Extraction and Deep Learning from sMRI Images
Marzieh Mousavian, Jianhua Chen, Steven Greening

462. Weakly Supervised Deep Learning for Detecting and Counting Dead Cells in Microscopy Images.

Siteng Chen, Ao Li, Kathleen Lasick, Julie Huynh, Linda S Powers, Janet Roveda, Andrew Paek

605. Flow Classification and Goodness Assessment of Doppler Echo Images Using Deep Learning.

Ghada A. Zamzmi

Session 12: Deep Learning II

Chair: Vasile Palade & Arif Wani

(10:15 AM to 12:00 PM)

Room: Oasis A & B

609. Enhancing Claims Handling Processes with Insurance Based Language Models.

Anuj Dimri, Suraj Yerramilli, Peng Lee, Sardar Afra, Andrew Jakubowski

628. Pattern and Anomaly Localization in Complex and Dynamic Data.

Sid Ryan, Roberto Corizzo, Iluju Kiringa, Nathalie Japkowicz

633. Sparse Super-Regular Networks.

Andrew W. E. McDonald, Ali Shokoufandeh

651. Concept Saliency Maps to Visualize Relevant Features in Deep Generative Models.

Lennart Brocki, Neo Christopher Chung

573. Deep Learning with Domain Randomization for Optimal Filtering.

Matthew L Weiss, Randy Paffenroth, Jacob Whitehill, Joshua Uzarski

622. Mask R-CNN End-to-End Text Detection and Recognition.

Rim Hantach, Philippe Calvez

719. Learnable Visual Rhythms Based on the Stacking of Convolutional Neural Networks for Action Recognition.

Helena Maia, Marcos Souza, Anderson Santos, Helio Pedrini, Hemerson Tacon, Andre Brito, Hugo Chaves, Marcelo Bernardes Vieira, Saulo Villelas

Session 13: Predictive Models in Engineering Applications III

Chair: Shadi Bani Taan

(10:15 AM to 12:00 PM)

Room: Royal Palm 3

526. Widened Learning of Index Tracking Portfolios.

Iuliia Gavriushina, Oliver Sampson, Michael Berthold, Winfried Pohlmeier, Christian Borgelt

548. A Cost-Sensitive Approach to Enhance the Use of ML Classifiers in Software Testing Efforts.

Alexandre M. Nascimento, Lucio F. Vismari, Paulo S. Cugnasca, João B. Camargo Junior, Jorge Rady Almeida Junior

557. Rare-Event Time Series Prediction: A Case Study of Solar Flare Forecasting.

Azim Ahmadzadeh, Berkay Aydin, Dustin J. Kempton, Manolis K. Georgoulis, Sushant S. Mahajan, Maxwell Hostetter, Rafal A. Angryk

563. Hierarchical Temporal Memories Prediction Performance and Robustness to Faults on Multivariate Time Series.

Mathieu Jégou, Pierre Chevaillier, Pierre De Loor

580. Comparing Learning-Based Methods for Identifying Disaster-Related Tweets.

Nasser A. Assery, Xiaohong Yuan, Sultan Almalki, Kaushik Roy, Xiuli Qu

591. Sparse Feature Extraction for Activity Detection Using Low-Resolution IR Streams.

Yordanka Karayaneva, Sara Sharifzadeh, Yanguo Jing, Kevin Chetty, Bo Tan

Lunch (Provided by the Conference)

(12:00 PM to 1:00 PM)

Room: Oasis Ballroom

Tutorial 2: Running and analyzing machine learning experiments in the cloud with AWS, Python, and R

Dr. Aaron Ritcher

Modernizing Medicine

(1:00 PM to 5:00 PM)

Room: Royal Palm 1 & 2

Session 14: Machine Learning in Health III

Chair: Carmela Comito

(1:00 PM to 2:00 PM)

Room: Oasis C

229. Comprehend Medical: A Named Entity Recognition and Relationship Extraction Web Service.

Mohammed A. Khalilia, Parminder Bhatia, Busra Celikkaya, Selvan Senthivel

272. Towards Fast and Unified Transfer Learning Architectures for Sequence Labeling.

Kristjan Arumae, Parminder Bhatia, Busra Celikkaya

544. Hypergraph Link Prediction: Learning Drug Interaction Networks Embeddings.

Maria L. Vaida

Session 15: Deep Learning III

Chair: Vasile Palade & Arif Wani

(1:00 PM to 2:00 PM)

Room: Oasis A & B

673. Hexagonal Image Processing in the Context of Machine Learning: Conception of a Biologically Inspired Hexagonal Deep Learning Framework.

Tobias Schlosser

554. A Stochastic Variance Reduced Nesterov's Accelerated Quasi-Newton Method.

Sota Yasuda, Shahrzad Mahboubi, Indrapriyadarsini Sendilkumaar, Hiroshi Ninomiya, Hideki Asai

453. Automated Stenosis Classification of Carotid Artery Sonography using Deep Neural Networks.

Tony E. Lindsey

Session 16: Predictive Models in Engineering Applications IV

Chair: Shadi Bani Taan

(1:00 PM to 2:00 PM)

Room: Royal Palm 3

691. Predictive Modeling Using Online SVM for Indoor Positioning with Sensor Data Streams.

Sheng Huang

705. The Effect of Time on the Maintenance of a Predictive Model.

Joffrey Leevy, Taghi Khoshgoftaar, Richard Bauder, Naeem Seliya

712. Utilizing Evolutionary Algorithms to Design Granular Materials for Industrial Applications

Gary W. Delaney

Coffee Break (2:00 PM to 2:15 PM)

Room: Oasis Foyer

Session 17: Machine Learning Applications in Education I

Chair: Halil Ibrahim Bulbul

(2:15 PM to 3:30 PM)

Room: Oasis C

234. Deep Knowledge Tracing On Floor/Ceiling Skills and Limited Data.

Ange Adrienne Nyamen Tato, Roger Nkambou

698. Uncertainty-aware Personalized Readability Assessments for Second Language Learners.

Yo Ehara

277. Analysis of Forest Fire Data using Neural Network Rule Extraction with Human Understandable Rules.

Osama A Elsarrar, Marjorie Darrah, Richard Devine

620. A Voice Interactive Multilingual Student Support System using IBM Watson.

Kennedy Ralston, Yuhao Chen, Haruna Isah, Farhana Zulkernine

Session 18: Machine Learning in Energy Application II

Chair: Ilhami Colak

(2:15 PM to 3:15 PM)

Room: Oasis A & B

617. Decision Tree Classification of Daily Total Photovoltaic Energy Generation Data Considering Meteorological Conditions.

Faten Faten Ayadi, Mehmet Yesilbudak, Ilhami Colak, Naci Genc

661. Coordination of PV Smart Inverters Using Deep Reinforcement Learning for Grid Voltage Regulation.

Changfu Li, Chenrui Jin, Ratnesh Sharma

678. DeepECO: Applying Deep Learning for Occupancy Detection from Energy Consumption Data.

Neelanjana Pal, Purboday Ghosh

Session 19: Predictive Models in Engineering Applications V

Chair: Shadi Bani Taan

(2:15 PM to 3:15 PM)

Room: Royal Palm 3

626. Gender Estimation from a Hybrid of Face, Upper and Full Body Images at Varying Body Poses.

Ogechukwu Iloanusi, Mbah Charles Chukwuma

520. Looking for the Best Fit of a Function Over Circadian Rhythm Data.

Fabian Fallas

645. Partially Detected Intelligent Traffic Signal Control: Reinforcement Learning Algorithms and Environmental Adaptation.

Rusheng Zhang, Romain Leteurtre, Benjamin R. Striner, Ozan Tonguz

Session 20: Machine Learning Application in Education II

Chair: Halil Ibrahim Bulbul

(3:30 PM to 4:30 PM)

Room: Oasis C

668. Exploring the Landscape of Employers for Individuals with Autism Spectrum Disorder

Kayleigh Hyde, Amy Jane Griffiths, Cristina Giannantonio, Amy Hurley-Hanson, Sneha Mathur, Erik Linstead

679. Generating Near and Far Analogies for Educational Applications: Progress and Challenges.

Mark Boger, Antonio Laverghetta, Nikolai Fetisov, John Licato

704. Investigation of Factors Affecting Ownership the Household Informatics Equipment with CHAID Algorithm

Mahmut Coskun, Halil Ibrahim Bulbul

707. A Graph-based Analysis of Similarities between Word Frequency Distributions of Various Corpora for Complex Word Identification.

Yo Ehara

Session 21: Machine Learning in Advanced Machine Vision

Chair: Steven Puttemans

(3:15 PM to 5:15 PM)

Room: Oasis A & B

465. Mass Estimation from Images using Deep Neural Network and Sparse Ground Truth.

Muhammad Hamdan

509. Anyone Here? Smart Embedded Low-Resolution Omnidirectional Video Sensor to Measure Room Occupancy

Timothy Callemeyn, Kristof Van Beeck, Toon Goedemé

524. Coarse Annotation Refinement for Segmentation of Dot-Matrix Batchcodes

Ning Jia, Christopher Holder, Stephen Bonner and Boguslaw Obara

534. Evaluation of Deep Learning for Semantic Image Segmentation in Tool Condition Monitoring.

Benjamin Lutz

546. Infrared and Visible Image Fusion via Multi-Discriminators Wasserstein Generative Adversarial Network.

Li Jing

621. Deep Diamond Re-ID.

Dries Hulens, Floris De Feyter, Toon Goedemé

649 - Fusing Visual and Textual Information to Determine Content Safety.

Rodrigo Leonardo, Amber Hu, Mohammad Uzair, Qiuqing Lu, Iris Fu, Keishin Nishiyama, Sooraj Mangalath Subrahmannian, Divyaa Ravichandran

Closing Remarks and Discussion

Taghi M. Khoshgoftaar

(5:15 PM to 6:00 PM)

Room: Oasis Ballroom
