IJCNN 2019 Final Program

Sunday, July 14

Tutorial: PHYSICS OF THE MIND
Sunday, July 14, 8:00AM-10:00AM, Room: Sofitel Bellevue 1, Instructor: Leonid I. Perlovsky, Harvard University

Tutorial: Modern Gaussian Processes: Scalable Inference and Novel Applications
Sunday, July 14, 8:00AM-10:00AM, Room: Sofitel Bellevue 2, Instructor: Edwin V. Bonilla, Data61, Australia and Maurizio Filippone, EURECOM, France

Tutorial: Task-Independent and Modality-Independent Developmental Learning Engines: From Theory to Programming (*)
Sunday, July 14, 8:00AM-10:00AM, Room: Sofitel Bellevue 3, Instructor: Juyang Weng and Juan L. Castro-Garcia, Michigan State University,

Workshop: Computational Sport Science: Human Motion Modelling and Analysis
Sunday, July 14, 10:00AM-4:00PM, Room: Panorama I, Chair: Dr. Boris Bačić, Auckland University of Technology, New Zealand

Coffee Break
Sunday, July 14, 10:00AM-10:20AM, Room: Sofitel Coffee break area

Tutorial: Beyond Deep Learning: How to get Fast, Interpretable and Highly Accurate Classifiers
Sunday, July 14, 10:20AM-12:20PM, Room: Sofitel Bellevue 1, Instructor: Plamen Angelov, Lancaster University, UK

Tutorial: Deep Learning for Graphs
Sunday, July 14, 10:20AM-12:20PM, Room: Sofitel Bellevue 2, Instructor: Davide Bacciu (Università di Pisa)

Tutorial: Theory and Methodology of Transfer Learning
Sunday, July 14, 10:20AM-12:20PM, Room: Sofitel Bellevue 3, Instructor: Pierre-Alexandre Murena, AgroParisTech And France and Antoine Cornuejols, Télécom ParisTech Antoine Cornuejols and AgroParisTech

Lunch Break
Sunday, July 14, 12:20PM-1:30PM, Room: Various locations in the area

Tutorial: Deep Learning: Artificial Neural Networks and Kernel based Models
Sunday, July 14, 1:30PM-3:30PM, Room: Sofitel Bellevue 1, Instructor: Siamak Mehrkanoon, DKE, Maastricht University, Johan A. K. Suykens, ESAT-STADIUS, KU Leuven, Belgium

Tutorial: Machine Learning methods in Spiking Neural Networks for classification problems
*Sunday, July 14, 1:30PM-3:30PM, Room: Sofitel Bellevue 2, Instructor: Abeegithan Jeyasothy (Nanyang Technological University, Singapore), Savitha Ramasamy (Institute for Infocomm Research, A*STAR), Suresh Sundaram (Nanyang Technological University, Singapore)*

Tutorial: Universal Turing Machines and How They Emerge from DN Network
Sunday, July 14, 1:30PM-3:30PM, Room: Sofitel Bellevue 3, Instructor: Juyang Weng, Michigan State University

Coffee Break
Sunday, July 14, 3:30PM-3:50PM, Room: Sofitel Coffee break area

Tutorial Tut10: Tensor Decompositions for Big Data Analytics: Trends and Applications
Sunday, July 14, 3:50PM-5:50PM, Room: Sofitel Bellevue 1, Instructor: Danilo P. Mandic, Ilia Kisil and Giuseppe G. Calvi,, Imperial College London

Tutorial Tut12: Non-Iterative Learning Methods for Classification and Forecasting
Sunday, July 14, 3:50PM-5:50PM, Room: Sofitel Bellevue 3, Instructor: P. N. Suganthan, Technological University, Singapore.

Welcome Reception Sunday, July 14, 18:30 Intercontinental

Monday, July 15

Session D1_BIa: 1l: Deep neural networks, Cellular Computational Networks
Monday, July 15, 8:10AM-9:30AM, Room: Ballroom I, Chair: Vanika Singhal

8:10AM Age and Gender Estimation via Deep Dictionary Learning Regression [#19486]
Vanika Singhal and Angshul Majumdar
IIITD, India

8:30AM The Impact of Image Resolution on Facial Expression Analysis with CNNs [#19635]
Asad Abbas and Stephan Chalup

The University of Newcastle, Australia

8:50AM Fast and Efficient Text Classification with Class-based Embeddings [#19584]
Jonatas Wehrmann, Camila Kolling and Rodrigo Barros
PUCRS, Brazil

9:10AM Hardening Deep Neural Networks via Adversarial Model Cascades [#19213]
Deepak Vijaykeerthy, Anshuman Suri, Sameep Mehta and Ponnurangam Kumaraguru
IBM Research, India; IIIT Delhi, India

Session D1_BIIa: 2e: Deep learning
Monday, July 15, 8:10AM-9:30AM, Room: Ballroom II, Chair: Martin Pilat

8:10AM Road Detection via Deep Residual Dense U-Net [#19735]
Xiaofei Yang, Xutao Li, Yunming Ye, Xiaofeng Zhang, Haijun Zhang, Xiaohui Huang and Bowen Zhang
Harbin Institute of Technology, Shenzhen, China; School of Information Engineering East China Jiaotong University, China

8:30AM Using Local Convolutional Units to Defend Against Adversarial Examples [#20328]
Matej Kocian and Martin Pilat
Charles University, Faculty of Mathematics and Physics, Czech Republic

8:50AM Sparsity as the Implicit Gating Mechanism for Residual Blocks [#20428]
Shaeke Salman and Xiuwen Liu
Florida State University, United States

9:10AM Agile Domain Adaptation [#19077]
Jingjing Li, Mengmeng Jing, Yue Xie, Ke Lu and Zi Huang
University of Electronic Science and Technology of China, China; The University of Queensland, Australia

Session D1_BIIIa: 8a: Applications of deep networks
Monday, July 15, 8:10AM-9:30AM, Room: Ballroom III, Chair: Plamen Angelov

8:10AM Syntax Tree Aware Adversarial Question Rewriting for Answer Selection [#19990]
Shuang Qin, Wenge Rong, Libin Shi, Jianxin Yang, Haodong Yang and Zhang Xiong
Beihang University, China; Microsoft, China

8:30AM Paraphrase Generation with Collaboration between the Forward and the Backward Decoder [#19669]
Wang Qianlong and Ren Jiangtao
Sun Yat-sen University, China

8:50AM Seq-DNC-seq: Context aware dialog generation system through external memory [#20383]
Donghyun Kang and Minho Lee

School of Electronics Engineering, Kyungpook National Universty, Korea (South)

9:10AM Robust and Accurate Short-Term Load Forecasting: A Cluster Oriented Ensemble Learning Approach [#20052]

Fateme Fahiman, Sarah M. Erfani and Christopher Leckie

The University of Melbourne, Australia

Session D1_DIa: 1h: Spiking neural networks

Monday, July 15, 8:10AM-9:30AM, Room: Duna Salon I, Chair: Kaushik Roy

8:10AM A Comprehensive Analysis on Adversarial Robustness of Spiking Neural Networks [#20338]

Saima Sharmin, Priyadarshini Panda, Syed Shakib Sarwar, Chankyu Lee, Wachirawit Ponghiran and Kaushik Roy

Purdue University, United States

8:30AM Multi-layered Spiking Neural Network with Target Timestamp Threshold Adaptation and STDP [#20266]

Pierre Falez, Pierre Tirilly, Ioan Marius Bilasco, Philippe Devienne and Pierre Boulet

Univ. Lille, CNRS, Centrale Lille, UMR 9189 -- CRIStAL -- Centre de Recherche en Informatique, Signal et Automatique de Lille, F-59000, Lille, France, France; Univ. Lille, CNRS, Centrale Lille, UMR 9189 -- CRIStAL -- Centre de Recherche en Informatique, Signal et Automatique de Lille, IMT Lille Douai, F-59000, Lille, France, France

8:50AM Neural Population Coding for Effective Temporal Classification [#19925]

Zihan Pan, Jibin Wu, Yansong Chua, Malu Zhang and Haizhou Li

National University of Singapore, Singapore; Institute for Infocomm Research, Agency for Science, Technology and Research, Singapore, Singapore

9:10AM Competitive STDP-based Feature Representation Learning for Sound Event Classification [#19448]

Jibin Wu, Yansong Chua, Malu Zhang and Haizhou Li

National University of Singapore, Singapore; Institute for Infocomm Research, A*STAR, Singapore

Session D1_DIIa: 1n: Other topics in artificial neural networks

Monday, July 15, 8:10AM-9:30AM, Room: Duna Salon II, Chair: Alexander Makarenko

8:10AM Tensor Ring Restricted Boltzmann Machines [#20289]

Maolin Wang, Chenbin Zhang, Yu Pan, Jing Xu and Zenglin Xu

SMILE Lab, School of Computer Science and Engineering, University of Electronic Science and Technology of China, China

8:30AM Multiple-Valued Artificial Neural Networks [#19527]

Alexander Makarenko

Institute for Applied System Analysis at National Technical University of Ukraine "KPI", Ukraine

8:50AM Convolutional Neural Network Architecture Design by the Tree Growth Algorithm Framework [#20310]
Ivana Strumberger, Eva Tuba, Nebojsa Bacanin, Raka Jovanovic and Milan Tuba
Singidunum University, Serbia and Montenegro; Hamad bin Khalifa University, Qatar

9:10AM Encoding robust representation for graph generation [#20350]
Dongmian Zou and Gilad Lerman
University of Minnesota, United States

Session D1_DIIIa: 2a: Supervised learning
Monday, July 15, 8:10AM-9:30AM, Room: Duna Salon III, Chair: Jacek Mandziuk

8:10AM Who should bid higher, NS or WE, in a given Bridge deal? [#20098]
Jacek Mandziuk and Jakub Suchan
Warsaw University of Technology, Faculty of Mathematics and Information Science, Poland

8:30AM A Count-sketch to Reduce Memory Consumption when Training a Model with Gradient Descent [#19170]
Wissam Siblini, Frank Meyer and Pascale Kuntz
University of Nantes (LS2N) & Worldline, France; Orange Labs, France; University of Nantes (LS2N), France

8:50AM AX-DBN: An Approximate Computing Framework for the Design of Low-Power Discriminative Deep Belief Networks [#20401]
Ian Colbert, Ken Kreutz-Delgado and Srinjoy Das
UC San Diego, United States

9:10AM Dimensionality Reduction in Multilabel Classification with Neural Networks [#19679]
Jacek Mandziuk and Adam Zychowski
Warsaw University of Technology, Poland

Session D1_PIa: 1a: Feedforward neural networks
Monday, July 15, 8:10AM-9:30AM, Room: Panorama I, Chair: Debasmit Das

8:10AM Zero-shot Image Recognition Using Relational Matching, Adaptation and Calibration [#19040]
Debasmit Das and C. S. George Lee
Purdue University, United States

8:30AM Non-negative Autoencoder with Simplified Random Neural Network [#19231]
Yonghua Yin and Erol Gelenbe
Imperial College London, United Kingdom

8:50AM The Cramming, Softening and Integrating Learning Algorithm with Parametric ReLU Activation Function for Binary Input/Output Problems [#19652]

Yu-Han Tsai, Yu-Jie Jheng and Rua-Huan Tsaih

Dept. of Management Information Systems, National Chengchi University, Taiwan

9:10AM Mutual Information Generation for Improving Generalization and Interpretation in Neural Network [#19886]

Ryotaro Kamimura

Tokai University, Japan

Session D1_PIIa: 1l: Deep neural networks, Cellular Computational Networks
Monday, July 15, 8:10AM-9:30AM, Room: Panorama II, Chair: Nils Schaetti

8:10AM Behaviors of Reservoir Computing Models for Textual Documents Classification [#19907]

Nils Schaetti

University of Neuchatel, Switzerland

8:30AM Encoding of a Chaotic Attractor in a Reservoir Computer: A Directional Fiber Investigation [#19346]

Sanjukta Krishnagopal, Garrett Katz, Michelle Girvan and James Reggia

University of Maryland, United States; Syracuse University, United States

8:50AM Ensembling 3D CNN Framework for Video Recognition [#19148]

Ruolin Huang, Hongbin Dong, Guisheng Yin and Qiang Fu

Harbin Engigeering University, China

9:10AM Response Characterization for Auditing Cell Dynamics in Long Short-term Memory Networks [#19265]

Ramin Hasani, Alexander Amini, Mathias Lechner, Felix Naser, Radu Grosu and Daniela Rus

Technische Universitat Wien (TU Wien), Austria; Massachusetts Institute of Technology (MIT), United States; Institute of Science and Technology (IST) Austria, Austria

Session D1_PIIIa: Neural Network Models
Monday, July 15, 8:10AM-9:30AM, Room: Panorama III, Chair: Thar Baker

8:10AM Simple 1-D Convolutional Networks for Resting-State fMRI Based Classification of Psychiatric Disorders [#20481]

Ahmed Al Gazzar, Leonardo Cerliani, Guido Van Wingen and Rajat Mani Thomas

AMC, University of Amsterdam, Netherlands

8:30AM Projectron - A Shallow and Interpretable Network for Classifying Medical Images [#19461]

Aditya Sriram, Shivam Kalra and Hamid Tizhoosh

University of Waterloo, Canada

8:50AM A Fast Feature Extraction Algorithm for Image and Video Processing [#19608]

Sadiq H. Abdulhussain, Abd Rahman Ramli, Basheera M. Mahmmod, M. Iqbal Saripan, S.A.R. Al-Haddad, Thar Baker, Wameedh N. Flayyih and Wissam A. Jassim

University of Baghdad, Iraq; Universiti Putra Malaysia, Malaysia; Liverpool John Moores University, United Kingdom; University of Dublin, Ireland

9:10AM Emotion helps Sentiment: A Multi-task Model for Sentiment and Emotion Analysis [#19685]

Abhishek Kumar, Asif Ekbal, Daisuke Kawahra and Sadao Kurohashi

IIT Patna, India; Kyoto University, Japan

Session D1_PIVa: S01: Information Theory and Deep Learning

Monday, July 15, 8:10AM-9:30AM, Room: Panorama IV, Chair: Jose C. Principe

8:10AM Feature selection for orthogonal broad learning system based on mutual information [#19661]

Liu Zhicheng, Chen Bao, Xie Bingxue, Huang Pingqiang and Zhu Ziqi

Wuhan University of Science and Technology, China

8:30AM A Low-Memory Learning Formulation for a Kernel-and-Range Network [#19479]

Huiping Zhuang, Zhiping Lin and Kar-Ann Toh

Nanyang Technological University, Singapore; Yonsei University, Korea (South)

8:50AM Entropy-Constrained Training of Deep Neural Networks [#19375]

Simon Wiedemann, Arturo Marban, Klaus-Robert Mueller and Wojciech Samek

Fraunhofer Heinrich Hertz Institute, Germany; Technical University of Berlin, Germany

9:10AM Sparse Binary Compression: Towards Distributed Deep Learning with minimal Communication [#19378]

Felix Sattler, Simon Wiedemann, Klaus-Robert Mueller and Wojciech Samek

Fraunhofer Heinrich Hertz Institute, Germany; Technical University of Berlin, Germany

Competition Comp1: Challenge UP: Multimodal Fall Detection

Monday, July 15, 8:10AM-9:30AM, Room: Panorama V, Chair: Lourdes Martínez-Villaseñor, León Palafox, Karina Pérez Hiram Ponce

Coffee Break

Monday, July 15, 9:30AM-10:00AM, Room: Pre-function area Intercontinental

Plenary Talk Ple1: Isabelle Guyon, IRI France

Monday, July 15, 10:00AM-11:00AM, Room: Ballroom I + II +II, Chair: Hava Siegelmann

Plenary Talk Ple2: Ichiro Tsuda, Chubu University
Monday, July 15, 11:00AM-12:00PM, Room: Ballroom I + II +II, Chair: George Kampis

Lunch Break
Monday, July 15, 12:00PM-1:30PM, Room: Various locations in the area

Session D1_BIb: 1l: Deep neural networks, Cellular Computational Networks
Monday, July 15, 1:30PM-3:30PM, Room: Ballroom I, Chair: Changsheng Lu

1:30PM Depth-Controllable Very Deep Super-Resolution Network [#19412]
Dohyun Kim, Joongheon Kim, Junseok Kwon and Tae-Hyung Kim
Chung-Ang University, Korea (South); KT AI Tech Center, Korea (South)

1:50PM Sequencing the musical sections with deep learning [#19078]
Xuange Cui, Mingxue Liao, Pin Lv and Changwen Zheng
Institute of Software, Chinese Academy of Sciences, China

2:10PM Deeper Capsule Network for Complex Data [#19261]
Yi Xiong, Guiping Su, Shiwei Ye, Yuan Sun and Yi Sun
University of Chinese Academy of Sciences, China; National Institute of Informatics, Japan

2:30PM PointDoN: A Shape Pattern Aggregation Module for Deep Learning on Point Cloud [#19106]
Shuxin Zhao, Chaochen Gu, Changsheng Lu, Ye Huang, Kaijie Wu and Xinping Guan
Shanghai Jiao Tong University, China

2:50PM Learning Adaptive Weight Masking for Adversarial Examples [#19433]
Yoshimasa Kubo, Michael Traynor, Thomas Trappenberg and Sageev Oore
Dalhousie University, Canada; Dalhousie University and Vector Institute for Artificial Intelligence, Canada

3:10PM Structured Pruning for Efficient ConvNets via Incremental Regularization [#20431]
Huan Wang, Qiming Zhang, Yuehai Wang, Lu Yu and Haoji Hu
Zhejiang University, China; University of Sydney, Australia

Session D1_BIIb: 2e: Deep learning
Monday, July 15, 1:30PM-3:30PM, Room: Ballroom II, Chair: Hojung Lee

1:30PM Local Critic Training of Deep Neural Networks [#19646]
Hojung Lee and Jong-Seok Lee
Yonsei University, Korea (South)

1:50PM Stable Network Morphism [#19274]
Tao Wei, Changhu Wang and Chang Wen Chen

State University of New York at Buffalo, United States; ByteDance AI Lab, China; The Chinese University of Hong Kong, Shenzhen, China

2:10PM Cross-Domain Car Detection Using Unsupervised Image-to-Image Translation: From Day to Night [#19615]

Vinicius F. Arruda, Thiago M. Paixao, Rodrigo F. Berriel, Alberto F. De Souza, Claudine Badue, Nicu Sebe and Thiago Oliveira-Santos

Universidade Federal do Espirito Santo, Brazil; Instituto Federal do Espirito Santo, Brazil; University of Trento, Italy

2:30PM Reference-oriented Loss for Person Re-identification [#19653]

Mingyang Yu, Zhigang Chang, Qin Zhou, Shibao Zheng and Tai Pang Wu

Institute of Image Communication and Network Engineering, Shanghai Jiao Tong University, China; Artificial Intelligence Center-City Brain, Alibaba Cloud, China; 1000 Video Technology Co. Limited, Suzhou, China

2:50PM Double Transfer Learning for Breast Cancer Histopathologic Image Classification [#19840]

Jonathan de Matos, Alceu de S. Britto Jr, Luiz S. Oliveira and Alessandro L. Koerich

Ecole de Technologie Superieure, Canada; Pontifical Catholic University of Parana, Brazil; Federal University of Parana, Brazil

3:10PM Multiple Fake Classes GAN for Data Augmentation in Face Image Dataset [#20152]

Adamu Ali-Gombe, Elyan Eyad and Jayne Chrisina

Robert Gordon University, United Kingdom; Oxford Brookes University, United Kingdom

Session D1_BIIIb: 8a: Applications of deep networks

Monday, July 15, 1:30PM-3:30PM, Room: Ballroom III, Chair: Wang Chen

1:30PM Dog Identification using Soft Biometrics and Neural Networks [#19996]

Kenneth Lai, Xinyuan Tu and Svetlana Yanushkevich

University of Calgary, Canada; Beijing Institute of Technology, China

1:50PM Adversarial Collaborative Auto-encoder for Top-N Recommendation [#19693]

Feng Yuan, Lina Yao and Boualem Benatallah

University of New South Wales, Australia

2:10PM Improving Route Choice Models by Incorporating Contextual Factors via Knowledge Distillation [#20456]

Qun Liu, Supratik Mukhopadhyay, Ravindra Gudishala, Yimin Zhu, Sanaz Saeidi and Alimire Nabijiang

Louisiana State University, United States

2:30PM Abstractive Summarization with Keyword and Generated Word Attention [#19057]

Qianlong Wang and Jiangtao Ren

Sun Yat-sen University, China

2:50PM Utilizing Generative Adversarial Networks for Recommendation based on Ratings and Reviews [#19676]

Wang Chen, Hai-Tao Zheng, Yang Wang, Wei Wang and Rui Zhang

Tsinghua-Southampton Web Science Laboratory Graduate School at Shenzhen, Tsinghua University, China; University of Melbourne, Australia

3:10PM Gated Neural Network with Regularized Loss for Multi-label Text Classification [#19665]

Yunlai Xu, Xiangying Ran, Wei Sun, Xiangyang Luo and Chongjun Wang

Nanjing University, China

Session D1_DIb: 1b: Recurrent neural networks

Monday, July 15, 1:30PM-3:30PM, Room: Duna Salon I, Chair: Jinlei Xu

1:30PM Context Gating with Short Temporal Information for Video Captioning [#19970]

Jinlei Xu, Ting Xu, Xin Tian, Chunping Liu and Yi Ji

Soochow University, China

1:50PM Deep learning long-range information in undirected graphs with wave networks [#20288]

Matthew Matlock, Arghya Datta, Na Le Dang, Kevin Jiang and S Joshua Swamidass

Washington University in Saint Louis, United States

2:10PM A Memory-Based STDP Rule for Stable Attractor Dynamics in Boolean Recurrent Neural Networks [#20311]

Jeremie Cabessa and Alessandro Villa

University Paris 2, France; University of Lausanne, Switzerland

2:30PM Personalizing Session-based Recommendation with Dual Attentive Neural Network [#19949]

Tianan Liang, Yuhua Li, Ruixuan Li, Xiwu Gu, Olivier Habimana and Yi Hu

Huazhong University of Science and Technology, China; Huazhong University of Science and Technology, Rwanda

2:50PM Automatic Source Code Summarization with Extended Tree-LSTM [#19288]

Yusuke Shido, Yasuaki Kobayashi, Akihiro Yamamoto, Atsushi Miyamoto and Tadayuki Matsumura

Graduate School of Informatics, Kyoto University, Japan; Center for Exploratory Research, Hitachi, Ltd., Japan

3:10PM Programming Style Analysis with Recurrent Neural Network to Automatic Pull Request Approval [#20375]

Lucas Roque, Altino Dantas and Celso G. Camilo-Junior

Universidade Federal de Goias, Brazil

Session D1_DIIb: 2a: Supervised learning

Monday, July 15, 1:30PM-3:30PM, Room: Duna Salon II, Chair: Teresa Ludermir

1:30PM Analyzing the impact of data representations in classification problems using clustering [#20364]

Felipe Farias, Teresa Ludermir, Carmelo Bastos-Filho and Flavio Oliveira

Universidade Federal de Pernambuco, Brazil; UNIVERSIDADE FEDERAL DE PERNAMBUCO, Brazil; Universidade de Pernambuco, Brazil; Instituto Federal de Educacao, Ciencia e Tecnologia de Pernambuco, Brazil

1:50PM k-Entropy Based Restricted Boltzmann Machines [#19063]

Leandro Aparecido Passos, Marcos Cleison Santana, Thierry Moreira and Joao Paulo Papa

Federal University of Sao Carlos - UFSCar, Brazil; Sao Paulo State University - UNESP, Brazil

2:10PM Active Learning with Interpretable Predictor [#19162]

Yusuke Taguchi, Keisuke Kameyama and Hideitsu Hino

University of Tsukuba, Japan; The Institute of Statistical Mathematics/RIKEN AIP, Japan

2:30PM Exploring Machine Learning and Deep Learning Frameworks for Task-Oriented Dialogue Act Classification [#20037]

Tulika Saha, Saurabh Srivastava, Mauajama Firdaus, Sriparna Saha, Asif Ekbal and Pushpak Bhattacharyya

IIT Patna, India

2:50PM Hierarchical Capsule Based Neural Network Architecture for Sequence Labeling [#20447]

Saurabh Srivastava, Puneet Agarwal, Gautam Shroff and Lovekesh Vig

TCS Research, India

3:10PM Guessing the Code: Learning Encoding Mappings Using the Back Propagation Algorithm [#20422]

Amrutha Machireddy and Shayan Srinivasa Garani

Indian Institute of Science, India

Session D1_DIIIb: 2b: Unsupervised learning and clustering, (including PCA, and ICA)

Monday, July 15, 1:30PM-3:30PM, Room: Duna Salon III, Chair: Laura Muzzarelli

1:30PM Multi-Hierarchy Attribute Relationship Mining Based Outlier Detection for Categorical Data [#19713]

Xiaoyu Hu, Yijie Wang and Li Cheng

National University of Defense Technology, China

1:50PM Unsupervised Representation Adversarial Learning Network: from Reconstruction to Generation [#19365]

Yuqian Zhou, Kuangxiao Gu and Thomas Huang

ECE Department of UIUC, United States

2:10PM Matrix Product Operator Restricted Boltzmann Machines [#20160]

Cong Chen, Kim Batselier, Ching-yun Ko and Ngai Wong

The University of Hong Kong, Hong Kong; Delft University of Technology, Netherlands

2:30PM Rank Selection in Non-negative Matrix Factorization: systematic comparison and a new MAD metric [#19395]

Laura Muzzarelli, Susanne Weis, Simon B. Eickhoff and Kaustubh R. Patil

Forschungszentrum Juelich and HHU Duesseldorf, Germany

2:50PM Qualitative data clustering: a new Integer Linear Programming model [#19227]

Luiz Henrique Nogueira Lorena, Marcos Goncalves Quiles, Luiz Antonio Nogueira Lorena, Andre C. P. L. F. de Carvalho and Juliana Garcia Cespedes

Federal University of Sao Paulo, Brazil; National Institute for Space Research, Brazil; University of Sao Paulo, Brazil

3:10PM Attention-Guided Generative Adversarial Networks for Unsupervised Image-to-Image Translation [#19906]

Hao Tang, Dan Xu, Nicu Sebe and Yan Yan

University of Trento, Italy; University of Oxford, England; Texas State University, United States

Session D1_PIb: 1b: Recurrent neural networks

Monday, July 15, 1:30PM-3:30PM, Room: Panorama I, Chair: Tayfun Alpay

1:30PM Question Answering with Hierarchical Attention Networks [#20465]

Tayfun Alpay, Stefan Heinrich, Michael Nelskamp and Stefan Wermter

University of Hamburg, Germany

1:50PM SSA: A More Humanized Automatic Evaluation Method for Open Dialogue Generation [#19838]

Zhiqiang Zhan, Zifeng Hou, Qichuan Yang, Jianyu Zhao, Yang Zhang and Changjian Hu

University of Chinese Academy of Sciences; Institute of Computing Technology, Chinese Academy of Sciences, China; Beihang University, China; Lenovo Research, China

2:10PM Multi-turn Intent Determination for Goal-oriented Dialogue systems [#20235]

Waheed Ahmed Abro, Guilin Qi, Huan Gao, Muhammad Asif Khan and Zafar Ali

Southeast University, China

2:30PM Multi-task Learning with Bidirectional Language Models for Text Classification [#19495]

Qi Yang and Lin Shang

Nanjing University, China

2:50PM Attention-based Multi-instance Neural Network for Medical Diagnosis from Incomplete and Low Quality Data [#19659]

Zeyuan Wang, Josiah Poon, Sun Shiding and Simon Poon

The University of Sydney, Australia; Renmin University of China, China

3:10PM Reduced-Gate Convolutional LSTM Architecture for Next-Frame Video Prediction Using Predictive Coding [#19159]

Nelly Elsayed, Anthony S. Maida and Magdy Bayoumi

University of Louisiana at Lafayette, United States

Session D1_PIIb: 1c: Self-organizing maps (including neural gas, etc.)

Monday, July 15, 1:30PM-3:30PM, Room: Panorama II, Chair: Lyes Khacef

1:30PM Integer Self-Organizing Maps for Digital Hardware [#20091]

Denis Kleyko, Evgeny Osipov, Daswin De Silva, Urban Wiklund and Damminda Alahakoon

Lulea University of Technology, Sweden; La Trobe University, Australia; Umea University, Sweden

1:50PM A Multi-Application, Scalable and Adaptable Hardware SOM Architecture [#20041]

Mehdi Abadi, Slavisa Jovanovic, Khaled Ben Khalifa, Serge Weber and Mohamed Hedi Bedoui

UMR 7198, Institut Jean Lamour, Universite de Lorraine, Nancy, France; LR12ES06, Laboratoire de Technologie et Imagerie Medicale, Universite de Monastir, Monastir, Tunisia

2:10PM Self-organizing neurons: toward brain-inspired unsupervised learning [#19097]

Lyes Khacef, Benoit Miramond, Diego Barrientos and Andres Upegui

Universite Cote d'Azur, CNRS, LEAT, France; InIT, hepia, University of Applied Sciences of Western Switzerland, Switzerland

2:30PM A Semi-Supervised Self-Organizing Map with Adaptive Local Thresholds [#20380]

Pedro Braga and Hansenclever Bassani

Universidade Federal de Pernambuco, Brazil

2:50PM A Gaussian Process-based Self-Organizing Incremental Neural Network [#20369]

Xiaoyu Wang, Giona Casiraghi, Yan Zhang and Jun-ichi Imura

Tokyo Institute of Technology, Japan; ETH Zurich, Switzerland

3:10PM Distant Supervised Why-Question Generation with Passage Self-Matching Attention [#19529]

Jiaxin Hu, Zhixu Li, Renshou Wu, Hongling Wang, An Liu, Jiajie Xu, Pengpeng Zhao and Lei Zhao

Soochow University, Neusoft Corporation, China; Soochow University, IFLYTEK Research, China; Soochow University, China

Session D1_PIIIb: S31: Intelligent Vehicle and Transportation Systems and Other Applications

Monday, July 15, 1:30PM-3:30PM, Room: Panorama III, Chair: Yi Lu Murphey

1:30PM Removing Movable Objects from Grid Maps of Self-Driving Cars Using Deep Neural Networks [#20317]

Ranik Guidolini, Raphael V. Carneiro, Claudine Badue, Thiago Oliveira-Santos and Alberto F. De Souza

Universidade Federal do Espirito Santo UFES, Brazil

1:50PM Traffic Light Recognition Using Deep Learning and Prior Maps for Autonomous Cars [#20432]

Lucas C. Possatti, Ranik Guidolini, Vinicius B. Cardoso, Rodrigo F. Berriel, Thiago M. Paixao, Claudine Badue, Alberto F. De Souza and Thiago Oliveira-Santos

Universidade Federal do Espirito Santo, Brazil; Instituto Federal do Espirito Santo, Brazil

2:10PM Bio-Inspired Foveated Technique for Augmented-Range Vehicle Detection Using Deep Neural Networks [#20424]

Pedro Azevedo, Sabrina Panceri, Ranik Guidolini, Vinicius B. Cardoso, Claudine Badue, Thiago Oliveira-Santos and Alberto F. De Souza

Universidade Federal do Espirito Santo, Brazil

2:30PM Attention-Driven Driving Maneuver Detection System [#20003]

Xishuai Peng, Ava Zhao, Song Wang, Yi Lu Murphey and Yuanxiang Li

University of Michigan-Dearborn, United States; Shanghai Jiao Tong University, China

2:50PM Generative Adversarial Network for Radar Signal Generation [#20214]

Thomas Truong and Svetlana Yanushkevich

University of Calgary, Canada

3:10PM An Improved Recurrent Neural Network Language Model for Programming Language [#19237]

Liwei Wu, Youhua Wu, Fei Li and Tao Zheng

Nanjing University, China

Session D1_PIVb: 1a: Feedforward neural networks, 2k, 2m

Monday, July 15, 1:30PM-3:30PM, Room: Panorama IV, Chair: Gabriel Terejanu

1:30PM Approximate Bayesian Neural Network Trained with Ensemble Kalman Filter [#19924]

Chao Chen, Lin Xiao, Yuan Huang and Gabriel Terejanu

University of South Carolina, United States; University of North Carolina at Charlotte, United States

1:50PM Ensemble Attention For Text Recognition In Natural Images [#20462]

Hongchao Gao, Yujia Li, Xi Wang, Jizhong Han and Ruixuan Li

IIE.AC.CN, China

2:10PM Multilayer Perceptron for Sparse Functional Data [#20267]

Qiyao Wang, Shuai Zheng, Ahmed Farahat, Susumu Serita, Takashi Saeki and Chetan Gupta

Industrial AI Lab, Hitachi America, Ltd. R&D, United States

2:30PM AdaBoost with Neural Networks for Yield and Protein Prediction in Precision Agriculture [#19689]

Amy Peerlinck, John Sheppard and Jacob Senecal

Montana State University, United States

2:50PM Parallelizing Basis Pursuit Denoising [#19919]

Cory Kromer-Edwards, Suely Oliveira and David Stewart

Dept of Computer Science, University of Iowa, United States; Dept of Mathematics, University of Iowa, United States

3:10PM Group k-Sparse Temporal Convolutional Neural Networks: Unsupervised Pretraining for Video Classification [#20243]

Zoltan A. Milacski, Barnabas Poczos and Andras Lorincz

Faculty of Informatics, ELTE Eotvos Lorand University, Hungary; Machine Learning Department, Carnegie Mellon University, United States

Competition Comp2: L2RPN: Learning to run a power network
Monday, July 15, 1:30PM-3:30PM, Room: Panorama V, Chair: Isabelle Guyon, Antoine Marot, Balthazar Donon, Benjamin Donnot

Coffee Break
Monday, July 15, 3:30PM-4:00PM, Room: Pre-function area Intercontinental

Plenary Talk Ple8: Erkki Oja, Aalto University, School of Science and Technology.
Monday, July 15, 4:00PM-5:00PM, Room: Ballroom I + II +II, Chair: Danilo Mandic

Session D1_BIc: 1l: Deep neural networks, Cellular Computational Networks
Monday, July 15, 5:30PM-7:30PM, Room: Ballroom I, Chair: Prof. S. Das

5:30PM Directional Attention based Video Frame Prediction using Graph Convolutional Networks [#19890]

Prateep Bhattacharjee and Sukhendu Das

Indian Institute of Technology Madras, India

5:50PM Training Deep Neural Networks with Adversarially Augmented Features for Small-scale Training Datasets [#19134]

Masato Ishii and Atsushi Sato

NEC, Japan

6:10PM DAGCN: Dual Attention Graph Convolutional Networks [#19706]

Fengwen Chen, Shirui Pan, Jing Jiang, Huan Huo and Guodong Long

Centre for Artificial Intelligence, FEIT, University of Technology Sydney, Australia; Faculty of Information Technology, Monash University, Australia; School of software, FEIT, University of Technology Sydney, Australia

6:30PM Efficient Convolutional Neural Networks for Multi-Spectral Image Classification [#19045]

Jacob Senecal, John Sheppard and Joseph Shaw

Montana State University, United States

6:50PM From Face Recognition to Facial Pareidolia: Analysing Hidden Neuron Activations in CNNs for Cross-Depiction Recognition [#19966]
Asad Abbas and Stephan Chalup
The University of Newcastle, Australia

7:10PM Image Captioning Based On Sentence-Level And Word-Level Attention [#19749]
Haiyang Wei, Zhixin Li, Canlong Zhang, Tao Zhou and Yu Quan
Guangxi Normal University, China

Session D1_BIIc: 2e: Deep learning
Monday, July 15, 5:30PM-7:30PM, Room: Ballroom II, Chair: Andrew Skabar

5:30PM Restricted Boltzmann Machines: an EigenCentrality-based Approach [#19109]
Andrew Skabar
Department of Computer Science and Information Technology, La Trobe University, Australia

5:50PM Adversarial Domain Adaptation via Category Transfer [#19337]
Lusi Li, Haibo He, Jie Li and Guang Yang
University of Rhode Island, United States; Chongqing University of Science and Technology, China; Zhongnan University of Economics and Law, China

6:10PM Deep Diffusion Autoencoders [#20156]
Sara Dorado, Angela Fernandez and Jose R. Dorronsoro
Autonomous University of Madrid, Spain

6:30PM Deep Multi-view Learning from Sequential Data without Correspondence [#19143]
Tung Doan and Atsuhiro Takasu
SOKENDAI (The Graduate University for Advanced Studies), Japan; National Institute of Informatics, Japan

6:50PM Deep Q-Learning for Illumination and Rotation invariant Face Detection [#20347]
Ariel Ruiz-Garcia, Vasile Palade, Ibrahim Almakky and Mark Elshaw
Coventry University, United Kingdom

7:10PM Synthetic-to-Real Domain Adaptation for Object Instance Segmentation [#19338]
Hui Zhang, Yonglin Tian, Kunfeng Wang, Haibo He and Fei-Yue Wang
Institute of Automation, Chinese Academy of Sciences, China; University of Science and Technology of China, China; University of Rhode Island, United States

Session D1_BIIIc: 8a: Applications of deep networks
Monday, July 15, 5:30PM-7:30PM, Room: Ballroom III, Chair: Reda Al-Bahrani

5:30PM Towards A Deep Learning Question-Answering Specialized Chatbot for Objective Structured Clinical Examinations [#20058]

Julia El Zini, Yara Rizk, Mariette Awad and Jumana Antoun

American University of Beirut, Lebanon

5:50PM To Comprehend the New: On Measuring the Freshness of a Document [#20232]

Tirthankar Ghosal, Abhishek Shukla, Asif Ekbal and Pushpak Bhattacharyya

IIT Patna, India; IIIT Kalyani, India

6:10PM Peak Area Detection Network for Directly Learning Phase Regions from Raw X-ray Diffraction Patterns [#19901]

Dipendra Jha, Aaron Gilad Kusne, Reda Al-Bahrani, Nam Nguyen, Wei-keng Liao, Alok Choudhary and Ankit Agrawal

Northwestern University, United States; National Institute of Standards and Technology, United States

6:30PM On the Discriminative Power of Learned vs. Hand-Crafted Features for Crowd Density Analysis [#20479]

Mohamed Amine Marnissi, Hajer Fradi and Jean-Luc Dugelay

Laboratory of Advanced Technology and Intelligent Systems (LATIS) University of Sousse, Tunisia; EURECOM, France

6:50PM Emotion Intensity Estimation from Video Frames using Deep Hybrid Convolutional Neural Networks [#19700]

Selvarajah Thuseethan, Sutharshan Rajasegarar and John Yearwood

PhD Student, Deakin University, Australia, Australia; Senior Lecturer, Deakin University, Australia, Australia; Professor, Deakin University, Australia, Australia

7:10PM GANemotion: Increase Vitality of Characters in Videos by Generative Adversary Networks [#20002]

Muhammad Hassan, Yutong Liu, Linghe Kong, Ziming Wang and Guihai Chen

Shanghai Jiao Tong University, China

Session D1_DIc: 1h: Spiking neural networks

Monday, July 15, 5:30PM-7:30PM, Room: Duna Salon I, Chair: Federico Corradi

5:30PM A Spiking Network for Inference of Relations Trained with Neuromorphic Backpropagation [#19546]

Johannes Christian Thiele, Olivier Bichler, Antoine Dupret, Sergio Solinas and Giacomo Indiveri

CEA/LIST, France; ETH Zurich and University of Zurich, Switzerland

5:50PM A Spiking Neural Network with Distributed Keypoint Encoding for Robust Sound Recognition [#20001]

Yanli Yao, Qiang Yu, Longbiao Wang and Jianwu Dang

Tianjin University, China

6:10PM eSPANNet: Evolving Spike Pattern Association Neural Network for Spike-based Supervised Incremental Learning and Its Application for Single-trial Brain Computer Interfaces [#20017]

Kaushalya Kumarasinghe, Denise Taylor and Nikola Kasabov

Auckland University of Technology, New Zealand

6:30PM Intelligent Reservoir Generation for Liquid State Machines using Evolutionary Optimization [#19926]
John J. M. Reynolds, James S. Plank and Catherine D. Schuman
University of Tennessee, Knoxville, United States; Oak Ridge National Laboratory, United States

6:50PM ECG-based Heartbeat Classification in Neuromorphic Hardware [#19235]
Federico Corradi, Pande Sandeep, Jan Stuijt, Ning Qiao, Siebren Schaafsma, Giacomo Indiveri and Francky Catthoor
Stichting IMEC Nederland, High Tech Campus 31, Eindhoven 5656 AE, Netherlands; Institute of Neuroinformatics, University of Zurich and ETH Zurich, Switzerland; IMEC Leuven, Kapeldreef 75, 3001 Heverlee, Belgium

7:10PM A Modular Approach to Construction of Spiking Neural Networks [#19158]
Kyunghee Lee and Hongchi Shi
Pyeongtaek University, Korea (South); Texas State University, United States

Session D1_DIIc: 2a: Supervised learning
Monday, July 15, 5:30PM-7:30PM, Room: Duna Salon II, Chair: Vladimir Cherkassky,

5:30PM Group Learning for High-Dimensional Sparse Data [#20438]
Vladimir Cherkassky, Hsiang-Han Chen and Han-Tai Shiao
University of Minnesota, Twin Cities, United States

5:50PM Data complexity measures in feature selection [#19688]
Lucas Okimoto and Ana Carolina Lorena
Universidade Federal de Sao Paulo, Brazil; Instituto Tecnologico de Aeronautica, Brazil

6:10PM Learning Minority Class prior to Minority Oversampling [#19632]
Payel Sadhukhan
Indian Statistical Institute Kolkata, India

6:30PM Selective Hypothesis Transfer for Lifelong Learning [#19915]
Diana Benavides-Prado, Yun Sing Koh and Patricia Riddle
The University of Auckland, New Zealand

6:50PM Are Traditional Neural Networks Well-Calibrated? [#20280]
Ulf Johansson and Patrick Gabrielsson
Jonkoping University, Sweden; University of Boras, Sweden

7:10PM Supervised Kernel Transform Learning [#19488]
Jyoti Maggu and Angshul Majumdar
IIITD, India

Session D1_DIIIc: 2f: Online learning
Monday, July 15, 5:30PM-7:30PM, Room: Duna Salon III, Chair: Pawel Wawrzynski

5:30PM Efficient on-line learning with diagonal approximation of loss function Hessian [#19186]

Pawel Wawrzynski

Warsaw University of Technology, Poland

5:50PM Pruned Sets for Multi-Label Stream Classification without True Labels [#20346]

Joel Costa Junior, Elaine Faria, Jonathan Silva, Joao Gama and Ricardo Cerri

Departament of Computer Science - Federal University of Sao Carlos, Brazil; Federal University of Uberlandia, Brazil; Federal University of Mato Grosso do Sul, Brazil; Institute for Systems and Computer Engineering, Technology and Science, Portugal

6:10PM Sparse and online null proximal discriminant analysis for one class learning in large-scale datasets [#19819]

Franck Dufrenois and Denis Hamad

Laboratoire d'Informatique du Signal et des Images de la Cote d'opale, France

6:30PM Multi-Source Transfer Learning for Non-Stationary Environments [#19525]

Honghui Du, Leandro Minku and Huiyu Zhou

University of Leicester, United Kingdom; University of Birmingham, United Kingdom

6:50PM GMM-VRD: A Gaussian Mixture Model for Dealing With Virtual and Real Concept Drifts [#19437]

Gustavo Oliveira, Leandro Minku and Adriano Oliveira

Centro de Informatica, Brazil; School of Computer Science, United Kingdom

7:10PM A Discretization-based Ensemble Learning Method for Classification in High-Speed Data Streams [#19585]

Joao Bertini

University of Campinas, Brazil

Session D1_PIc: 2e: Deep learning

Monday, July 15, 5:30PM-7:30PM, Room: Panorama I, Chair: TBC

5:30PM HDL: Hierarchical Deep Learning Model based Human Activity Recognition using Smartphone Sensors [#19656]

Tongtong Su, Huazhi Sun, Chunmei Ma, Lifen Jiang and Tongtong Xu

School of Computer and Information Engineering, Tianjin Normal University, China

5:50PM An MCTS-based Adversarial Training Method for Image Recognition [#19244]

Yi-Ling Liu and Alessio Lomuscio

Imperial College London, United Kingdom

6:10PM A Deep Neural Network Model for Predicting User Behavior on Facebook [#20292]

Hanen Ameur, Salma Jamoussi and Abdelmajid Ben Hamadou

Multimedia InfoRmation system and Advanced Computing Laboratory, Tunisia

6:30PM Analyzing Multi-Channel Networks for Gesture Recognition [#19976]

Pradyumna Narayana, Ross Beveridge and Bruce Draper

Colorado State University, United States

6:50PM Image Captioning with Partially Rewarded Imitation Learning [#19336]
Xintong Yu, Tszhang Guo, Kun Fu, Lei Li, Changshui Zhang and Jianwei Zhang
Tsinghua University, China; University of Hamburg, Germany

7:10PM Siamese Deep Dictionary Learning [#19643]
Vanika Singhal, Angshul Majumdar, Mayank Vatsa and Richa Singh
IIITD, India

Session D1_PIIc: 8a: Applications of deep networks
Monday, July 15, 5:30PM-7:30PM, Room: Panorama II, Chair: Jacek Mandziuk

5:30PM DeepIQ: A Human-Inspired AI System for Solving IQ Test Problems [#19108]
Jacek Mandziuk and Adam Zychowski
Warsaw University of Technology, Poland

5:50PM MIDS: End-to-End Personalized Response Generation in Untrimmed Multi-Role Dialogue [#19197]
QIchuan Yang, Zhiqiang He, Zhiqiang Zhan, Jianyu Zhao, Yang Zhang and Changjian Hu
Beihang University, China; Chinese Academy of Sciences, Beihang University,Lenovo Ltd., China; Chinese Academy of Sciences, China; Lenovo Ltd., China

6:10PM Cyberthreat Detection from Twitter using Deep Neural Networks [#20231]
Nuno Dionisio, Fernando Alves, Pedro M. Ferreira and Alysson Bessani
LASIGE, Faculty of Sciences, University of Lisbon, Portugal

6:30PM Evaluation of a Dual Convolutional Neural Network Architecture for Object-wise Anomaly Detection in Cluttered X-ray Security Imagery [#20461]
Yona Falinie A. Gaus, Neelanjan Bhowmik, Samet Akcay, Guillen-Garcia Paolo M., Barker Jack W. and Breckon Toby P.
Durham University, United Kingdom; Universidad Politecnica de Chiapas, Mexico

6:50PM Single View Distortion Correction using Semantic Guidance [#20269]
Szabolcs-Botond Lorincz, Szabolcs Pavel and Lehel Csato
Faculty of Mathemetics and Informatics, Babes-Bolyai University of Cluj-Napoca, Romania

7:10PM SpreadOut: A Kernel Weight Initializer for Convolutional Neural Networks [#20223]
Matheus Hertzog, Ricardo Araujo and Ulisses Correa
Federal University of Pelotas, Brazil

Session D1_PIIIc: 1g: Fuzzy Neural Networks
Monday, July 15, 5:30PM-7:30PM, Room: Panorama III, Chair: Jaishri Waghmare

5:30PM Unbounded Recurrent Fuzzy Min-Max Neural Network for Pattern Classification [#19092]

Jaishri Waghmare and Uday Kulkarni

SGGS Institute of Engineering and Technology, Nanded, India

5:50PM Modulation of Activation Function in Triangular Recurrent Neural Networks for Time Series Modeling [#19682]

Shyamala Sivakumar and Seshadri Sivakumar

Saint Mary's University, Canada; Pasumai EnergyTech LLC, United States

6:10PM A Neural Field Model for Supervised and Unsupervised Learning of the MNIST Dataset [#19645]

Michael Brady

AUCA, Kyrgyzstan

6:30PM FigureNet : A Deep Learning model for Question-Answering on Scientific Plots [#19291]

Revanth Gangi Reddy, Rahul Ramesh, Ameet Deshpande and Mitesh M. Khapra

Indian Institute of Technology, Madras, India

6:50PM Reconfiguration of Electric Power Distribution Networks using Unineuron and Nullneuron [#20325]

Mariane Santana, Pyramo Costa, Maury Gouvea and Fabricio Lucas

Pontificia Universidade Catolica de Minas Gerais, Brazil

7:10PM RIT2FIS: A Recurrent Interval Type 2 Fuzzy Inference System and its Rule Base Estimation [#19245]

Subhrajit Samanta, Andre Hartanto, Mahardhika Pratama, Suresh Sundaram and Narasimalu Srikanth

Nanyang Technological University, Singapore; Indian Institute of Science, Bengaluru, India

Session D1_PIVc: S24: Evolving Machine Learning and Deep Learning Models for Computer Vision

Monday, July 15, 5:30PM-7:30PM, Room: Panorama IV, Chair: Li Zhang

5:30PM Weather Based Photovoltaic Energy Generation Prediction Using LSTM Networks [#20092]

Sahar Arshi, Li Zhang and Rebecca Strachan

Faculty of Engineering and Environment University of Northumbria, United Kingdom

5:50PM Integrating Social Circles and Network Representation Learning for Item Recommendation [#19943]

Yonghong Yu, Qiang Wang, Li Zhang, Can Wang, Sifan Wu, Boyu Qi and Xiaotian Wu

Nanjing University of Posts and Telecommunications, China; Northumbria University, United Kingdom; Griffith University, Australia

6:10PM Evolving and Ensembling Deep CNN Architectures for Image Classification [#20188]

Ben Fielding, Tom Lawrence and Li Zhang

Northumbria University, United Kingdom

6:30PM Actively Semi-Supervised Deep Rule-based Classifier Applied to Adverse Driving Scenarios [#20197]
Eduardo Soares, Plamen Angelov, Bruno Costa and Marcos Castro
Lancaster University, United Kingdom; Ford Motor Company, United States

6:50PM Distant Pedestrian Detection in the Wild using Single Shot Detector with Deep Convolutional Generative Adversarial Networks [#20250]
Ranjith Dinakaran, Li Zhang and Richard Jiang
Computer Science, Northumbria Univ, United Kingdom

7:10PM Predicting Performance using Approximate State Space Model for Liquid State Machines [#20283]
Ajinkya Gorad, Vivek Saraswat and Udayan Ganguly
Indian Institute of Technology Bombay, India

Panel Session Pan1: Funding Opportunities in Neural Networks and Biologically Inspired AI Research
Monday, July 15, 5:30PM-7:30PM, Room: Panorama V, Chair: Robert Kozma

Tuesday, July 16

Session D2_BIa: 1l: Deep neural networks, Cellular Computational Networks
Tuesday, July 16, 8:10AM-9:30AM, Room: Ballroom I, Chair: Shiv Ram Dubey

8:10AM A Performance Evaluation of Convolutional Neural Networks for Face Anti Spoofing [#19041]
Chaitanya Nagpal and Shiv Ram Dubey
Indian Institute of Information Technology, Sri City, India

8:30AM Convolutional LSTM Network with Hierarchical Attention for Relation Classification in Clinical Texts [#19637]
Li Tang, Fei Teng, Zheng Ma, Lufei Huang, Ming Xiao and Xuan Li
School of Information Science and Technology, Southwest Jiaotong University, China; The Third People's Hospital of Chengdu, China; School of Electrical Engineering, KTH Royal Institute of Technology, Sweden

8:50AM Aggregation Connection Network For Tiny Face Detection [#19441]
Chan Zhang, Tao Li, Song Guo, Ning Li, YingQi Gao and Kai Wang
Nankai University, China

9:10AM Prediction Intervals With LSTM Networks Trained By Joint Supervision [#20262]
Nicolas Cruz, Luis G Marin and Doris Saez
University of Chile, Chile

Session D2_BIIa: 2e: Deep learning
Tuesday, July 16, 8:10AM-9:30AM, Room: Ballroom II, Chair: Manuel Roveri

8:10AM Learning a Domain-Invariant Embedding for Unsupervised Person Re-identification [#20150]

Nan Pu, Theodoros Georgiou, Erwin Bakker and Michael Lew

LIACS Media Lab,Leiden University, Netherlands

8:30AM Image Retrieval and Pattern Spotting using Siamese Neural Network [#19876]

Kelly L. Wiggers, Alceu S. Britto Jr., Laurent Heutte, Alessandro L. Koerich and Luiz S. Oliveira

Pontifical Catholic University of Parana, Brazil; Normandie Univ, France; Ecole de Technologie Superieure, Canada; Federal University of Parana, Brazil

8:50AM Abstractive Text Summarization with Multi-Head Attention [#19655]

Jinpeng Li, Chuang Zhang, Xiaojun Chen, Yanan Cao, Pengcheng Liao and Peng Zhang

Institute of Information Engineering, Chinese Academy of Sciences. School of Cyber Security, University of Chinese Academy of Sciences, China; Institute of Information Engineering, Chinese Academy of Sciences, China

9:10AM Learning Convolutional Neural Networks in presence of Concept Drift [#20303]

Simone Disabato and Manuel Roveri

Politecnico di Milano, Dipartimento di Elettronica, Informazione e Bioingegneria, Italy

Session D2_BIIIa: 8a: Applications of deep networks

Tuesday, July 16, 8:10AM-9:30AM, Room: Ballroom III, Chair: Binyi Yin

8:10AM Face Attribute Prediction in Live Video using Fusion of Features and Deep Neural Networks [#19703]

Sudarsini Tekkam Gnanasekar and Svetlana Yanushkevich

University of Calgary, Canada

8:30AM On the Influence of the Color Model for Image Boundary Detection Algorithms based on Convolutional Neural Networks [#19565]

Tiago Jose dos Santos, Carlos Alexandre Barros de Mello, Cleber Zanchettin and Thiago Vinicius Machado de Souza

Universidade Federal de Pernambuco, Brazil

8:50AM Context-Aware Network for 3D Human Pose Estimation from Monocular RGB Image [#20270]

Binyi Yin, Dongbo Zhang, Shuai Li, Aimin Hao and Hong Qin

Beihang University, China; Stony Brook University, United States

9:10AM Music Artist Classification with Convolutional Recurrent Neural Networks [#19893]

Zain Nasrullah and Yue Zhao

Department of Computer Science, University of Toronto, Canada

Session D2_DIa: 2c: Reinforcement learning and adaptive dynamic programming

Tuesday, July 16, 8:10AM-9:30AM, Room: Duna Salon I, Chair: Samuele Tosatto

8:10AM Adversarial Imitation Learning via Random Search [#19367]
MyungJae Shin and Joongheon Kim
Chung-Ang University, Korea (South)

8:30AM Accelerating the Deep Reinforcement Learning with Neural Network Compression [#19150]
Hongjie Zhang, Zhuocheng He and Jing Li
University of Science and Technology of China, China

8:50AM Exploration Driven By an Optimistic Bellman Equation [#19157]
Samuele Tosatto, Carlo D'Eramo, Joni Pajarinen, Marcello Restelli and Jan Peters
Technische Universitaet Darmstadt, Germany; Politecnico di Milano, Italy

9:10AM Event-triggered Adaptive Control for Discrete-Time Zero-Sum Games [#19578]
Ziyang Wang, Qinglai Wei, Derong Liu and Yanhong Luo
University of Science and Technology Beijing, China; Chinese Academy of Sciences, China; Guangdong University of Technology, China; Northeastern University, China

Session D2_DIIa: 2d: Semi-supervised learning
Tuesday, July 16, 8:10AM-9:30AM, Room: Duna Salon II, Chair: Suely Oliveira

8:10AM Automatic Image Annotation based on Co-Training [#19139]
Zhixin Li, Lan Lin, Canlong Zhang, Huifang Ma and Weizhong Zhao
Guangxi Normal University, China; Northwest Normal University, China; Central China Normal University, China

8:30AM Fast segmentation for large and sparsely labeled coral images [#19934]
Xi Yu, Ying Ma, Stephanie Farrington, John Reed, Bing Ouyang and Jose C Principe
University of Florida, United States; Florida Atlantic University, United States

8:50AM Metric Learning based Framework for Streaming Classification with Concept Evolution [#20213]
Zhuoyi Wang, Hemeng Tao, Kong Zelun, Swarup Chandra and Latifur Khan
University of Texas at Dallas, United States

9:10AM Interpretable Variational Autoencoders for Cognitive Models [#20248]
Mariana Curi, Geoffrey Converse, Jeff Hajewski and Suely Oliveira
Unversity of Sao Paulo, Brazil; The University of Iowa, United States

Session D2_DIIIa: S07: Advanced Machine Learning Methods for Big Graph Analytics
Tuesday, July 16, 8:10AM-9:30AM, Room: Duna Salon III, Chair: Shirui Pan

8:10AM Feature-Dependent Graph Convolutional Autoencoders with Adversarial Training Methods [#19801]
Di Wu, Ruiqi Hu, Yu Zheng, Jing Jiang, Nabin Sharma and Michael Blumenstein

University of Technology Sydney, Australia; Northwest A&F University, China

8:30AM Community Detection with Indirect Neighbors based on Granular Computing in Social Networks [#19670]

Naiyue Chen, Jie He, Xiang Wang, Zhiyuan Zhang, Ping Yang and Yanping Fu

School of Computer and Information Technology, Beijing Jiaotong University, China; CETC Big Data Research Institute Co.,Ltd., China; Signal and Communication Research Institute, China Academy of Railway Sciences, China; School of Electronic and Information Engineering, Beijing Jiaotong University,, China

8:50AM Deep Structure Learning for Rumor Detection on Twitter [#20148]

Qi Huang, Chuan Zhou, Jia Wu, Mingwen Wang and Bin Wang

Institute of Information Engineering,Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences;, China; Institute of Information Engineering, Chinese Academy of Sciences, China; Department of Computing, Faculty of Science and Engineering, Macquarie University, Australia; School of Computer and Information Engineering, Jiangxi Normal University, China; Xiaomi AI Lab, China

9:10AM Beyond the Power of Mere Repetition: Forms of Social Communication on Twitter through the Lens of Information Flows and Its Effect on Topic Evolution [#19284]

Yunwei Zhao, Can Wang, Chi-Hung Chi, Willem-Jan van den Heuvel, Kwok-Yan Lam and Min Shu

CN-CERT, China; Griffith University, Australia; CSIRO, Australia; Tilburg University, Netherlands; Nanyang Technological University, Singapore

Session D2_PIa: Neural Network Models

Tuesday, July 16, 8:10AM-9:30AM, Room: Panorama I, Chair: Yan Zhihuan

8:10AM A Preprocessing Layer in Spiking Neural Networks - Structure, Parameters, Performance Criteria [#19450]

Mikhail Kiselev and Andrey Lavrentyev

Chuvash State University, Russian Federation; Kaspersky Lab, Russian Federation

8:30AM Evaluating the Stability of Recurrent Neural Models during Training with Eigenvalue Spectra Analysis [#20512]

Priyadarshini Panda, Efstathia Soufleri and Kaushik Roy

Purdue University, United States

8:50AM Enhance knowledge graph embedding via fake triples [#19226]

Yan Zhihuan, Peng Rong, Wang Yaqian and Li Weidong

Wuhan University, China

9:10AM Neural Network Based Inverse System Identification from Small Data Sets [#19026]

Chathura Wanigasekara, Akshya Swain, Sing Kiong Nguang and B. Gangadhara Prusty

The University of Auckland, New Zealand; University of New South Wales, Australia

Session D2_PIIa: 2d: Semi-supervised learning
Tuesday, July 16, 8:10AM-9:30AM, Room: Panorama II, Chair: Min Peng

8:10AM A Data Stratification Process for Instances Selection in Semi-Supervised Learning [#19684]
Karliane M. O. Vale, Anne Magaly de P. Canuto, Cainan T. Alves, Arthur C. Gorgonio, Flavius L. Gorgonio, Amarildo J. F. Lucena and Araken M. Santos
Federal University of Rio Grande do Norte (UFRN), Brazil; Federal Rural University of Semi-Arido (UFERSA), Brazil

8:30AM Unsupervised Domain Adaptation using Graph Transduction Games [#20296]
Sebastiano Vascon, Sinem Aslan, Alessandro Torcinovich, Twan van Laarhoven, Elena Marchiori and Marcello Pelillo
Ca' Foscari University of Venice, Italy; Open University of the Netherlands, Netherlands; Radboud University Nijmegen, Netherlands

8:50AM Discriminative Regularization with Conditional Generative Adversarial Nets for Semi-Supervised Learning [#19317]
Qianqian Xie, Min Peng, Jimin Huang, Bin Wang and Hua Wang
School of Computer Science, Wuhan University, China; Computer Science, Wuhan University, China; Xiaomi Incorporation, China; Victoria University, Australia

9:10AM Lifting 2d Human Pose to 3d : A Weakly Supervised Approach [#20454]
Sandika Biswas, Sanjana Sinha, Kavya Gupta and Brojeshwar Bhowmick
TCS Research, Tata Consultancy Services, India

Session D2_PIIIa: 1l: Deep neural networks, Cellular Computational Networks
Tuesday, July 16, 8:10AM-9:30AM, Room: Panorama III, Chair: Asim Iqbal

8:10AM Decoding Neural Responses in Mouse Visual Cortex through a Deep Neural Network [#19491]
Asim Iqbal, Phil Dong, Christopher Kim and Heeun Jang
UZH/ETH Zurich, Switzerland; Icahn School of Medicine at Mount Sinai, United States; National Institutes of Health, United States; Buck Institute for Research on Aging, United States

8:30AM Bidirectional Learning for Robust Neural Networks [#19072]
Sidney Pontes-Filho and Marcus Liwicki
Oslo Metropolitan University, Norway; Lulea University of Technology, Sweden

8:50AM Learning Syntactic and Dynamic Selective Encoding for Document Summarization [#19200]
Haiyang Xu, Yahao He, Kun Han, Junwen Chen and Xiangang Li
Didi Chuxing Co., Ltd., China

9:10AM Gaining Extra Supervision via Multi-task learning for Multi-Modal Video Question Answering [#19667]

Junyeong Kim, Minuk Ma, Kyungsu Kim, Sungjin Kim and Chang D. Yoo

Korea Advanced Institute of Science and Technology, Korea (South); Samsung Electronics, Korea (South)

Session D2_PIVa: 2a: Supervised learning

Tuesday, July 16, 8:10AM-9:30AM, Room: Panorama IV, Chair: Francesca Cipollini

8:10AM Hybrid Model for Cavitation Noise Spectra Prediction [#19020]

Francesca Cipollini, Miglianti Fabiana, Luca Oneto, Giorgio Tani and Michele Viviani

UNIGE, Italy

8:30AM Identifying Mislabeled Instances in Classification Datasets [#19751]

Nicolas Mueller and Karla Markert

Fraunhofer AISEC, Germany

8:50AM Vulnerability of Covariate Shift Adaptation Against Malicious Poisoning Attacks [#19981]

Muhammad Umer, Christopher Fredericson and Robi Polikar

Rowan University, United States

9:10AM Comparison of Probabilistic Models and Neural Networks on Prediction of Home Sensor Events [#19341]

Flavia Dias Casagrande, Jim Toerresen and Evi Zouganeli

OsloMet - Oslo Metropolitan University, Norway; University of Oslo, Norway

Doctoral Consortium

Tuesday, July 16, 8:10AM-9:30AM, Room: Panorama V, Speaker: Marcus Liwicki

Coffee Break

Tuesday, July 16, 9:30AM-10:00AM, Room: Pre-function area Intercontinental

Plenary Talk Ple4: Lee Giles, Pennsylvania State University

Tuesday, July 16, 10:00AM-11:00AM, Room: Ballroom I + II +II, Chair: Robert Kozma

Plenary Talk Ple5: Wolf Singer, Ernst Strungmann Institute

Tuesday, July 16, 11:00AM-12:00PM, Room: Ballroom I + II +II, Chair: Barbara Hammer

Meet the Experts Lunch

Tuesday, July 16, 12:00PM-1:30PM, Room: Sofitel TBC, Speaker: Chrisina Jayne and Marcus Liwicki

Lunch Break
Tuesday, July 16, 12:00PM-1:30PM, Room: Various locations in the area

Session D2_BIb: 1l: Deep neural networks and artificial neural networks
Tuesday, July 16, 1:30PM-3:30PM, Room: Ballroom I, Chair: Balthazar Donon

1:30PM Graph Neural Solver for Power Systems [#19349]
Balthazar Donon, Benjamin Donnot, Isabelle Guyon and Marot Antoine
RTE R&D, UPSud/INRIA Universite Paris-Saclay, France; UPSud/INRIA Universite Paris-Saclay, France; RTE R&D, France

1:50PM Deep Domain Adaptation for Vulnerable Code Function Identification [#19347]
Van Nguyen, Trung Le, Tue Le, Khanh Nguyen, Olivier DeVel, Paul Montague, Lizhen Qu and Dinh Phung
Monash University, Australia; Deakin University, Australia; Defence Science and Technology Group, Australia; Data61 Group, Australia

2:10PM Language Modeling through Long-Term Memory Network [#20010]
Anupiya Nugaliyadde, Kok Wai Wong, Ferdous Sohel and Hong Xie
Murdoch University, Australia

2:30PM Exploiting Randomness in Deep Learning Algorithms [#20333]
Seyed Hamed Fatemi Langroudi, Cory Merkel, Humza Syed and Dhireesha Kudithipudi
Rochester Institute of Technology, United States

2:50PM A Model Based on Siamese Neural Network for Online Transaction Fraud Detection [#19385]
Xinxin Zhou, Zhaohui Zhang, Lizhi Wang and Pengwei Wang
Donghua University, China

3:10PM Gate-Layer Autoencoders with Application to Incomplete EEG Signal Recovery [#19303]
Heba El-Fiqi, Kathryn Kasmarik, Anastasios Bezerianos, Kay Chen Tan and Hussein A. Abbass
UNSW-Canberra, Canberra, Australia; National University of Singapore, Singapore, Singapore; City University of Hong Kong, Kowloon, Hong Kong

Session D2_BIIb: 2e: Deep learning
Tuesday, July 16, 1:30PM-3:30PM, Room: Ballroom II, Chair: Lesort Timothee

1:30PM Learning Semantic Coherence for Machine Generated Spam Text Detection [#19674]
Mengjiao Bao, Jianxin Li, Jian Zhang, Hao Peng and Xudong Liu
Beihang University, China

1:50PM Generative Models from the perspective of Continual Learning [#19555]
Lesort Timothee, Caselles-Dupre Hugo, Garcia-Ortiz Michael, Stoian Andrei and Filliat David

Ensta-Paristech, Thales, France; Ensta-Paristech, Softbank, France; Softbank, France; Thales, France; Ensta-Paristech, France

2:10PM Deep Networks with Adaptive-Nystrom Approximation [#20319]

Luc Giffon, Stephane Ayache, Thierry Artieres and Hachem Kadri

Aix Marseille Universite, Universite de Toulon, CNRS, LIS, Marseille, France, France

2:30PM Dynamic Unit Surgery for Deep Neural Network Compression and Acceleration [#20378]

Minsam Kim and James Kwok

Hong Kong University of Science and Technology, Hong Kong

2:50PM Looking back at Labels: A Class based Domain Adaptation Technique [#19969]

Vinod Kumar Kurmi and Vinay P Namboodiri

Indian Institute of Technology Kanpur, India

3:10PM Underwater Fish Detection with Weak Multi-Domain Supervision [#19534]

Dmitry A. Konovalov, Alzayat Saleh, Michael Bradley, Mangalam Sankupellay, Simone Marini and Marcus Sheaves

James Cook University, Australia; National Research Council of Italy, Italy

Session D2_BIIIb: 8a: Applications of deep networks

Tuesday, July 16, 1:30PM-3:30PM, Room: Ballroom III, Chair: Austin Okray

1:30PM Music Classification using an Improved CRNN with Multi-Directional Spatial Dependencies in Both Time and Frequency Dimensions [#20443]

Zhen Wang, Suresh Muknahallipatna, Maohong Fan, Austin Okray and Chao Lan

University of Wyoming, United States

1:50PM A Multi-granularity Neural Neural Net work for Answer Sentence Selection [#19511]

Zhang Chenggong, Zhang Weijuan, Zha Daren, Ren Pengjie and Mu Nan

State Key Laboratory of Information Security, Institute of Information Engineering, Chinese Academy of Sciences, China; School of Computer and Technology,Shandon University, China

2:10PM Generalized PatternAttribution for Neural Networks with Sigmoid Activations [#20307]

Jiamei Sun and Alexander Binder

Singapore University of Technology and Design, Singapore

2:30PM Collaborative Multi-key Learning with an Anonymization Dataset for a Recommender System [#19049]

Linh Nguyen and Tsukasa Ishigaki

Tohoku University, Japan

2:50PM A Methodology Based on Deep Learning for the Classification of Power Quality Events Using Convolutional Network and Long Short-Term Memory [#20300]

Wilson Rodrigues Junior, Fabbio Borges, Ricardo Rabelo, Bruno Lima and Jose Alencar

Federal University of Piaui (UFPI), Brazil; Federal Institute of Maranhao (IFMA), Brazil

3:10PM A Method based on Convolutional Neural Networks for Fingerprint Segmentation [#20286]

Paulo Serafim, Aldisio Medeiros, Paulo Rego, Gilvan Maia, Fernando Trinta, Marcio Maia, Jose Macedo and Aloisio Lira

Federal University of Ceara, Brazil; Brazilian Federal Highway Police, Brazil

Session D2_DIb: 2t: Topics in machine learning

Tuesday, July 16, 1:30PM-3:30PM, Room: Duna Salon I, Chair: Khan Iftekharuddin

1:30PM Compact Cluster-based Balanced Distribution Adaptation for Transfer Learning [#19991]

Xu Zhang, Zuyu Zhang and Haeyoung Bae

Chongqing University of Posts and Telecommunications, China; Inha University, Korea (South)

1:50PM Combining Self-reported Confidences from Uncertain Annotators to Improve Label Quality [#20236]

Christoph Sandrock, Marek Herde, Adrian Calma, Daniel Kottke and Bernhard Sick

University of Kassel, Germany

2:10PM Neural Regression Trees [#20345]

Shahan Ali Memon, Wenbo Zhao, Bhiksha Raj and Rita Singh

Carnegie Mellon University, United States

2:30PM Collaborative and Privacy-Preserving Machine Teaching via Consensus Optimization [#19896]

Yufei Han, Yuzhe Ma, Christopher Gates, Kevin Roundy and Yun Shen

Symantec Research Labs, France; University of Wisconsin-Madison, United States; Symantec Research Labs, United States; Symantec Research Labs, United Kingdom

2:50PM A Proof of Local Convergence for the Adam Optimizer [#20268]

Sebastian Bock and Martin Weiss

OTH Regensburg, Germany

3:10PM Dimension Estimation and Topological Manifold Learning [#19673]

Tasaki Hajime, Lenz Reiner and Chao Jinhui

Chuo University, Japan

Session D2_DIIb: Neuroengineering

Tuesday, July 16, 1:30PM-3:30PM, Room: Duna Salon II, Chair: Sheng-Yang Sun

1:30PM Neuromemristive Multi-Layer Random Projection Network with On-Device Learning [#19492]

Abdullah Zyarah and Dhireesha Kudithipudi

Rochester Institute of Technology, United States

1:50PM Epilepsy detection using multiclass classifier based on spectral features [#19539]
Jefferson Oliva and Joao Luis Rosa
University of Sao Paulo, Brazil

2:10PM Design Space Evaluation of a Memristor Crossbar Based Multilayer Perceptron for Image Processing [#19931]
Chris Yakopcic, B. Rasitha Fernando and Tarek Taha
University of Dayton, United States

2:30PM Nested Hardware Architecture for Self-Organizing Map [#20464]
Hiroomi Hikawa
Kansai University, Japan

2:50PM Cascaded Neural Network for Memristor based Neuromorphic Computing [#19204]
Sheng-Yang Sun, Hui Xu, Jiwei Li, Haijun Liu and Qingjiang Li
National University of Defense Technology, China

3:10PM Hyperspectral Image Classification for Remote Sensing Using Low-Power Neuromorphic Hardware [#20074]
Vivek Parmar, Jung-Ho Ahn and Manan Suri
Indian Insitute of Technology Delhi, India; NEPES Corporation, Korea (South); Indian Institute of Technology Delhi, India

Session D2_DIIIb: 8k: Signal processing, image processing, and multi-media
Tuesday, July 16, 1:30PM-3:30PM, Room: Duna Salon III, Chair: Nelson Enrique Yalta Soplin

1:30PM Edge Focused Super-Resolution of Thermal Images [#19505]
Yannick Zoetgnande, Jean-Louis Dillenseger and Javad Alirezaie
Universite Rennes 1, France; Ryerson Univeristy, Canada

1:50PM Weakly-Supervised Deep Recurrent Neural Networks for Basic Dance Step Generation [#19803]
Nelson Enrique Yalta Soplin, Shinji Watanabe, Kazuhiro Nakadai and Tetsuya Ogata
Waseda University, Japan; Johns Hopkins University, United States; Honda Research Institute Japan, Japan

2:10PM On Class Imbalance and Background Filtering in Visual Relationship Detection [#19547]
Alessio Sarullo and Tingting Mu
University of Manchester, United Kingdom

2:30PM Boosted GAN with Semantically Interpretable Information for Image Inpainting [#19062]
Li Ang, Qi Jianzhong, Zhang Rui and Kotagiri Ramamohanarao
The University of Melbourne, Australia

2:50PM Visual Relationship Attention for Image Captioning [#19421]

Zongjian Zhang, Qiang Wu, Yang Wang and Fang Chen

University of Technology Sydney, Australia

3:10PM What's in a Word? Detecting Partisan Affiliation from Word Use in Congressional Speeches [#20327]

Ulya Bayram, John Pestian, Daniel Santel and Ali Minai

University of Cincinnati and Cincinnati Children's Hospital, United States; Cincinnati Children's Hospital, United States; University of Cincinnati, United States

Session D2_PIb: 8a: Applications of deep networks

Tuesday, July 16, 1:30PM-3:30PM, Room: Panorama I, Chair: Alvaro S. Hervella

1:30PM A Novel Neural Approach for News Reprint Prediction [#19760]

Riheng Yao, Qiudan Li, Lei Wang and Daniel Dajun Zeng

Institute of Automation, Chinese Academy of Sciences;University of Chinese Academy of Sciences, China; Institute of Automation, Chinese Academy of Sciences, China; Beijing Wenge Technology Co., Ltd., China

1:50PM Self-Supervised Deep Learning for Retinal Vessel Segmentation Using Automatically Generated Labels from Multimodal Data [#20055]

Alvaro S. Hervella, Jose Rouco, Jorge Novo and Marcos Ortega

Universidade da Coruna, Spain

2:10PM Deep Multimodal Reconstruction of Retinal Images Using Paired or Unpaired Data [#20220]

Alvaro S. Hervella, Jose Rouco, Jorge Novo and Marcos Ortega

Universidade da Coruna, Spain

2:30PM Adversarial Attacks on Remote User Authentication Using Behavioural Mouse Dynamics [#19711]

Yi Xiang Marcus Tan, Alfonso Iacovazzi, Ivan Homoliak, Yuval Elovici and Alexander Binder

ST Engineering Electronics-SUTD Cyber Security Laboratory, Singapore

2:50PM Predicting Parkinson's Disease using Latent Information extracted from Deep Neural Networks [#19909]

Ilianna Kollia, Andreas-Georgios Stafylopatis and Stefanos Kollias

IBM Hellas, Greece; National Technical University of Athens, Greece; University of Lincoln, United Kingdom

3:10PM Joint Graph Based Embedding and Feature Weighting for Image Classification [#20116]

Ruifeng Zhu, Fadi Dornaika and Yassine Ruichek

Laboratory of Electronics, Information and Image(LE2I), CNRS,University of Bourgogne Franche-Comte, Belfort, France, France; Faculty of Computer Science, University of Basque Country San Sebastian, Spain, Spain

Session D2_PIIb: 2e: Deep learning

Tuesday, July 16, 1:30PM-3:30PM, Room: Panorama II, Chair: Ricardo Araujo

1:30PM Combining Street-level and Aerial Images for Dengue Incidence Rate Estimation [#20173]

Virginia Andersson, Cristian Cechinel and Ricardo Araujo

PPGC-UFPel, Brazil

1:50PM Vehicle Re-identification: an Efficient Baseline Using Triplet Embedding [#20382]

Ratnesh Kumar, Edwin Weill, Farzin Aghdasi and Parthasarathy Sriram

NVIDIA, United States

2:10PM ConvTimeNet: A Pre-trained Deep Convolutional Neural Network for Time Series Classification [#20439]

Kathan Kashiparekh, Jyoti Narwariya, Pankaj Malhotra, Lovekesh Vig and Gautam Shroff

BITS-Pilani Goa Campus, Goa, India; TCS Research, New Delhi, India

2:30PM Exploring Transferability in Deep Neural Networks with Functional Data Analysis and Spatial Statistics [#19869]

Richard McAllister and John Sheppard

Montana State University, United States

2:50PM Towards Optimizing Convolutional Neural Networks for Robotic Surgery Skill Evaluation [#20109]

Dayvid Castro, Danilo Pereira, Cleber Zanchettin, David Macedo and Byron Bezerra

Federal University of Pernambuco, Brazil; University of Pernambuco, Brazil

3:10PM Improving Universal Language Model Fine-Tuning using Attention Mechanism [#20204]

Flavio Santos, Karina Guevara, David Macedo and Cleber Zanchettin

Universidade Federal de Pernambuco, Brazil

Session D2_PIIIb: S03: Computational/Artificial Intelligence in Earth, Space, and Environmental Sciences

Tuesday, July 16, 1:30PM-3:30PM, Room: Panorama III, Chair: Vladimir Krasnopolsky

1:30PM Classification of Stars using Stellar Spectra collected by the Sloan Digital Sky Survey [#19482]

Michael Brice and Razvan Andonie

Central Washington University, United States

1:50PM Machine Learning Approaches for Predicting the 10.7 cm Radio Flux from Solar Magnetogram Data [#19557]

Julio J. Valdes, Ljubomir Nikolic and Kenneth Tapping

National Research Council Canada, Canada; Natural Resources Canada, Canada

2:10PM A Deep Learning based architecture for rainfall estimation integrating heterogeneous data sources [#20255]

Folino Gianluigi, Guarascio Massimo, Chiaravalloti Francesco and Gabriele Salvatore

ICAR-CNR, Italy; IRPI-CNR, Italy

2:30PM Unsupervised Change Detection in Satellite Images Using Convolutional Neural Networks [#19124]
Kevin Louis de Jong and Anna Sergeevna Bosman
University of Pretoria, South Africa

2:50PM Deep Reinforcement Learning with Dual Targeting Algorithm [#20200]
Naoki Kodama, Taku Harada and Kazuteru Miyazaki
Tokyo University of Science, Japan; National Institution for Academic Degrees and Quality Enhancement of Higher Education, Japan

3:10PM Fine-Grained Road Mining from Satellite Images with Bilateral Xception and DeepLab [#19272]
Lele Cao
Activision Blizzard Group, Sweden

Session D2_PIVb: 2p: Feature selection, extraction, and aggregation
Tuesday, July 16, 1:30PM-3:30PM, Room: Panorama IV, Chair: Robi Pollikar

1:30PM Feature Selection via Mutual Information: New Theoretical Insights [#19832]
Mario Beraha, Alberto Maria Metelli, Matteo Papini, Andrea Tirinzoni and Marcello Restelli
Politecnico di Milano \\ Universit\`a degli Studi di Bologna, Italy; Politecnico di Milano, Italy

1:50PM Locality Preserving Projection via Deep Neural Network [#19191]
Tianhang Long, Junbin Gao, Mingyan Yang, Yongli Hu and Baocai Yin
Beijing University of Technology, China; The University of Sydney, Australia; Xi'an Jiaotong University, China; Dalian University of Technology, China

2:10PM Probabilistic Margin-Aware Multi-Label Feature Selection by Preserving Spatial Consistency [#20394]
Yu Yin, Shuai An, Jun Wang, Jinmao Wei and Jianhua Ruan
College of Computer Science, Nankai University, China; Smart Supply Chain Y Bu, JD.com, China; College of Mathematics and Statistics Science,Ludong University, China; College of Computer Science, KLMDASR, Nankai University, China; Department of Computer Science, University of Texas at San Antonio, United States

2:30PM Efficient Estimation of Node Representations in Large Graphs using Linear Contexts [#20321]
Tiago Pimentel, Rafael Castro, Adriano Veloso and Nivio Ziviani
Kunumi, Brazil; Universidade Federal de Minas Gerais, Brazil

2:50PM A Kernel Discriminant Information Approach to Non-linear Feature Selection [#19938]
Hou Zejiang and Kung Sun-Yuan
Princeton University, United States

3:10PM Distributed and Randomized Tensor Train Decomposition for Feature Extraction [#20320]

Krzysztof Fonal and Rafal Zdunek
Wroclaw University of Science and Technology, Poland

Competition: AutoML Rematch
Tuesday, July 16, 1:30PM-3:30PM, Room: Panorama V, Chair: Wei-Wei Tu, Yao Quanming, Wang Mengshuo, Hugo Jair Escalante, Isabelle Guyon

Coffee Break
Tuesday, July 16, 3:30PM-4:00PM, Room: Pre-function area Intercontinental

Plenary Talk Ple6: Vera Kurkova, Institute of Computer science, Czech academy of sciences
Tuesday, July 16, 4:00PM-5:00PM, Room: Ballroom I + II +II, Chair: Irwin King

Session D2_BIc: 1n: Other topics in artificial neural networks
Tuesday, July 16, 5:30PM-7:30PM, Room: Ballroom I, Chair: Xiao Li

5:30PM Fusion Strategies for Learning User Embeddings with Neural Networks [#19537]
Philipp Blandfort, Tushar Karayil, Federico Raue, Joern Hees and Andreas Dengel
TUK and DFKI, Germany; DFKI, Germany

5:50PM Gated Sequential Recommendation with Dynamic Memory Network [#19267]
Yunxiao Li, Jiaxing Song, Xiao Li and Weidong Liu
Computer science and Technology Department of Tsinghua University, China

6:10PM Preempting Catastrophic Forgetting in Continual Learning Models by Anticipatory Regularization [#19508]
Alaa El Khatib and Fakhri Karray
University of Waterloo, Canada

6:30PM Faster Training by Selecting Samples Using Embeddings [#19361]
Santiago Gonzalez, Joshua Landgraf and Risto Miikkulainen
University of Texas at Austin, United States

6:50PM Detecting Adversarial Perturbations Through Spatial Behavior in Activation Spaces [#20169]
Ziv Katzir and Yuval Elovici
Department of Software and Information Systems Engineering, Ben-Gurion University of the Negev, Israel

7:10PM An Ultra-Low Loss Quantization Method for DNN Compression [#19298]
Cheng Gong, Tao Li, Ye Lu, Cong Hao, Xiaofan Zhang, Deming Chen and Yao Chen
Nankai University, China; University of Illinois at Urbana-Champaign, United States; Advanced Digital Sciences Center, Singapore

Session D2_BIIc: 2e: Deep learning
Tuesday, July 16, 5:30PM-7:30PM, Room: Ballroom II, Chair: Arijit Ukil

5:30PM A Robust Embedding Method for Anomaly Detection on Attributed Networks [#19252]
Zhang Le, Yuan Jun, Liu Zeyi, Pei Yang and Wang Lei
Institute of Information Engineering, Chinese Academy of Sciences, China

5:50PM DyReg-FResNet: Unsupervised Feature Space Amplified Dynamic Regularized Residual Network for Time Series Classification [#20075]
Arijit Ukil, Soma Bandyopadhyay and Arpan Pal
Tata Consultancy Services, India

6:10PM A Crowdsourcing based Human-in-the-Loop Framework for Denoising UUs in Relation Extraction Tasks [#19795]
Mengting Li, Jing Yang, Wen Wu, Liang He, Yan Yang and Jian Jin
East China Normal University, China

6:30PM Attention-based Adversarial Training for Seamless Nudity Censorship [#20360]
Gabriel Simoes, Jonatas Wehrmann and Rodrigo C. Barros
PUCRS, Brazil

6:50PM Bagging Adversarial Neural Networks for Domain Adaptation in Non-Stationary EEG [#20039]
Haider Raza and Spyridon Samothrakis
School of Computer Science and Electronics Engineering, University of Essex, United Kingdom

7:10PM Quantum-Inspired Neural Architecture Search [#20215]
Daniela Szwarcman, Daniel Civitarese and Marley Vellasco
PUC-Rio, IBM-Research, Brazil; IBM-Research, Brazil; PUC-Rio, Brazil

Session D2_BIIIc: 8a: Applications of deep networks
Tuesday, July 16, 5:30PM-7:30PM, Room: Ballroom III, Chair: Tarek Taha

5:30PM Image steganography using texture features and GANs [#19445]
Jinjing Huang, Shaoyin Cheng, Songhao Lou and Fan Jiang
University of Science and Technology of China, China

5:50PM Spatial-Temporal Attention Network for Malware Detection Using Micro-architecture Features [#19638]
Fang Li, Jinrong Han, Ziyuan Zhu and Dan Meng
Institute of Information Engineering, Chinese Academy of Sciences;School of Cyber Security, University of Chinese Academy of Sciences, China; Institute of Information Engineering, Chinese Academy of Sciences, China

6:10PM An Attention-based Hybrid LSTM-CNN Model for Arrhythmias Classification [#19473]
Fan Liu, Xingshe Zhou, Tianben Wang, Jinli Cao, Zhu Wang, Hua Wang and Yanchun Zhang

Northwestern Polytechnical University, China; La Trobe University, Australia; Victoria University, Australia; Victoria Universiry, Australia

6:30PM Pain Assessment From Facial Expression: Neonatal Convolutional Neural Network (N-CNN) [#20348]

Ghada Zamzmi, Rahul Paul, Dmitry Goldgof, Rangachar Kasturi and Yu Sun

University of South Florida, United States

6:50PM A Hierarchical Convolutional Neural Network for Malware Classification [#20312]

Daniel Gibert, Carles Mateu and Jordi Planes

University of Lleida, Spain

7:10PM Novel Ceiling Neuron Model and its Applications [#19105]

Rama Murthy Garimella, Dileep Munugoti and Anil Rayala

Mahindra Ecole Centrale, India; IIT Guwahati, India; IIIT Hyderabad, India

Session D2_DIc: 2t: Topics in machine learning

Tuesday, July 16, 5:30PM-7:30PM, Room: Duna Salon I, Chair: Tayo Obafemi-Ajayi

5:30PM Visualizing Time Series Data with Temporal Matching Based t-SNE [#20452]

Kwan-yeung Wong and Fu-lai Chung

Dept. of Computing, Hong Kong Polytechnic University, Hong Kong

5:50PM Subword Semantic Hashing for Intent Classification on Small Datasets [#19329]

Kumar Shridhar, Ayushman Dash, Amit Sahu, Gustav Grund Pihlgren, Pedro Alonso, Vinaychandran Pondenkandath, Gyorgy Kovacs, Foteini Simistira and Marcus Liwicki

Technical University Kaiserslautern, Germany; MindGarage, Germany; Lulea Technical University, Sweden; University of Fribourg, Switzerland

6:10PM A Methodology for Neural Network Architectural Tuning Using Activation Occurrence Maps [#20206]

Rafael Garcia, Alexandre Xavier Falcao, Alexandru C. Telea, Bruno Castro da Silva, Jim Torresen and Joao Luiz Dihl Comba

Universidade Federal do Rio Grande do Sul, Brazil; Universidade de Campinas, Brazil; University of Groningen, Netherlands; University of Oslo, Norway

6:30PM Stochastic Resonance Enables BPP/log* Complexity and Universal Approximation in Analog Recurrent Neural Networks [#19260]

Emmett Redd, A. Steven Younger and Tayo Obafemi-Ajayi

Missouri State University, United States

6:50PM Accelerate Mini-batch Machine Learning Training With Dynamic Batch Size Fitting [#19462]

Liu Baohua, Shen Wenfeng, Li Peng and Zhu Xin

Shanghai University, China; The University of Aizu, Japan

7:10PM Online Estimation of Multiple Dynamic Graphs in Pattern Sequences [#19335]

Jimmy Gaudreault, Arunabh Saxena and Hideaki Shimazaki

Polytechnique Montreal, Canada; Indian Institute of Technology Bombay, India; Kyoto University / Honda Research Institute Japan, Japan

Session D2_DIIc: Neuroengineering and Bio-inspired Systems
Tuesday, July 16, 5:30PM-7:30PM, Room: Duna Salon II, Chair: Malte Schilling

5:30PM Numerical Analysis on Wave Dynamics in a Spin-Wave Reservoir for Machine Learning [#20170]
Ryosho Nakane, Gouhei Tanaka and Akira Hirose
The University of Tokyo, Japan

5:50PM Setup of a Recurrent Neural Network as a Body Model for Solving Inverse and Forward Kinematics as well as Dynamics for a Redundant Manipulator [#20222]
Malte Schilling
Center of Excellence `Cognitive Interaction Technology', Bielefeld University, Germany

6:10PM Unsupervised Feature Learning for Visual Place Recognition in Changing Environments [#20281]
Dongye Zhao, Bailu Si and Fengzhen Tang
State Key Laboratory of Robotics, Shenyang Institute of Automation, Chinese Academy of Sciences, China; School of Systems Science, Beijing Normal University, China

6:30PM Transparent Machine Education of Neural Networks for Swarm Shepherding Using Curriculum Design [#19140]
Alexander Gee and Hussein Abbass
University of New South Wales, Australia

6:50PM A QoS-oriented Scheduling and Autoscaling Framework for Deep Learning [#19960]
Sikai Xing, Shiyou Qian, Bin Cheng, Jian Cao, Guangtao Xue, Jiadi Yu, Yanmin Zhu and Minglu Li
Shanghai Jiao Tong University, China

7:10PM BCI and Multimodal Feedback Based Attention Regulation for Lower Limb Rehabilitation. [#19716]
Jiaxing Wang, Weiqun Wang, Zeng-Guang Hou, Weiguo Shi, Xu Liang, Shixin Ren, Liang Peng and Yanjie Zhou
State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, China

Session D2_DIIIc: 8k: Signal processing, image processing, and multi-media
Tuesday, July 16, 5:30PM-7:30PM, Room: Duna Salon III, Chair: Hui Yu

5:30PM A Super-Resolution Generative Adversarial Network with Simplified Gradient Penalty and Relativistic Discriminator [#19507]
Hui Yu, Haitao Sa, Dafang Zou, Jiafa Mao and Weiguo Sheng

Zhejiang University of Technology, China; Junku (Shanghai) Information Technology Co.,Ltd., China; Hangzhou Normal University, China

5:50PM Unsupervised Synthesis of Anomalies in Videos: Transforming the Normal [#19897]

Abhishek Joshi and Vinay P. Namboodiri

IIT Kanpur, India

6:10PM Viewpoint-robust Person Re-identification via Deep Residual Equivariant Mapping and Fine-grained Features [#20221]

Liang Yang, Xiao-yuan Jing, Fulin He, Fei Ma and Li Cheng

Wuhan University, China; Yunkang Technology co., Ltd., China

6:30PM Two-stage Unsupervised Video Anomaly Detection using Low-rank based Unsupervised One-class Learning with Ridge Regression [#19905]

Jingtao Hu, En Zhu, Siqi Wang, Siwei Wang, Xinwang Liu and Jianping Yin

National University of Defense Technology, China; Dongguan University of Technology, China

6:50PM Deep Salient Object Detection with Fuzzy Superpixel Extraction and Controlled Filter Convolution [#19087]

Yang Liu, Bo Wu and Bo Lang

Beihang University, China

7:10PM Prostate Segmentation using 2D Bridged U-net [#19872]

Wanli Chen, Yue Zhang, Junjun He, Yu Qiao, Yifan Chen, Hongjian Shi, Xiaoying Tang and Ed X. Wu

Southern University of Science and Technology, China; The University of Hong Kong, Hong Kong; Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China; The University of Waikato, New Zealand

Session D2_PIc: Computational Neuroscience

Tuesday, July 16, 5:30PM-7:30PM, Room: Panorama I, Chair: Robert Kozma

5:30PM Predictable Uncertainty-Aware Unsupervised Deep Anomaly Segmentation [#20412]

Kazuki Sato, Kenta Hama, Takashi Matsubara and Kuniaki Uehara

Kobe University, Japan

5:50PM An undercomplete autoencoder to extract muscle synergies for motor intention detection [#20297]

Domenico Buongiorno, Cristian Camardella, Giacomo Donato Cascarano, Luis Pelaez Murciego, Michele Barsotti, Irio De Feudis, Antonio Frisoli and Vitoantonio Bevilacqua

DEI - Polytechnic University of Bari, Bari / Apulian Bioengineering s.r.l. Modugno (BA), Italy; Percro Laboratory, Tecip Institute, Scuola Superiore Sant'Anna, Pisa, Italy

6:10PM Temporal Learning of Dynamics in Complex Neuron Models using Backpropagation [#20071]

Christian Jarvers, Daniel Schmid and Heiko Neumann

Ulm University, Germany

6:30PM Transfer Entropy Based Connectivity Estimation of Spontaneously Firing Hippocampal Cultures on Multi Electrode Arrays [#20057]

Nikesh Lama, Alan Hargreaves, Bob Stevens and T.M. McGinnity

Nottingham Trent University, United Kingdom

6:50PM AnxietyDecoder: An EEG-based Anxiety Predictor using a 3-D Convolutional Neural Network [#19344]

Yi Wang, Brendan McCane, Neil McNaughton, Zhiyi Huang, Shabah Shadli and Phoebe Neo

University of Otago, New Zealand

7:10PM A Three-Modules Scenario in An Interpretation of Visual Hallucination in Dementia With Lewy Bodies and Preliminary Results of Computer Experiments [#19243]

Shigetoshi Nara, Hiroshi Fujii, Hiromichi Tsukada and Ichiro Tsuda

Okayama University, Japan; Kyoto Sangyo University, Japan; Okinawa Institute of Science and Technology Graduate University, Japan; Chubu University, Japan

Session D2_PIIc: Neural Models of Perception, Cognition and Action

Tuesday, July 16, 5:30PM-7:30PM, Room: Panorama II, Chair: Hua Zheng

5:30PM Biploar fuzzy rough cognitive network [#20525]

Hua Zheng

School of Information Science, Beijing Language and Culture University, China

5:50PM Retina-inspired Visual Module for Robot Navigation in Complex Environments [#20254]

Hans Lehnert, Maria-Jose Escobar and Mauricio Araya

Department of Electronic Engineering, Universidad Tecnica Federico Santa Maria, Chile

6:10PM Visual Cue Integration for Small Target Motion Detection in Natural Cluttered Backgrounds [#19188]

Hongxin Wang, Jigen Peng, Qinbing Fu, Huatian Wang and Shigang Yue

University of Lincoln, United Kingdom; Guangzhou University, China

6:30PM A computational model of multi-sensory perception and its application to investigating the controversy around learning styles [#19630]

A. Ravishankar Rao

Fairleigh Dickinson University, United States

6:50PM Neuro-Robotic Haptic Object Classification by Active Exploration on a Novel Dataset [#20190]

Matthias Kerzel, Erik Strahl, Connor Gaede, Emil Gasanov and Stefan Wermter

University of Hamburg, Department of Informatics, Germany

7:10PM Hierarchical Multi-dimensional Attention Model for Answer Selection [#20008]

Wei Liu, Lei Zhang, Longxuan Ma, Pengfei Wang and Feng Zhang

School of Computer Science, Beijing University of Posts and Telecommunications, China; Graduate School, Beijing University of Posts and Telecommunications, China; Information Science Academy, China Electronics Technology Group Corporation, China

Session D2_PIIIc: 8l: Temporal data analysis, prediction, and forecasting; time series analysis
Tuesday, July 16, 5:30PM-7:30PM, Room: Panorama III, Chair: Cheng Peng, Nurilla Avazov

5:30PM CLEverReg: A CNN-LSTM based Linear Regression Technique for Temporal Fire Event Modelling [#20501]
Syed Adnan Yusuf, Abdul Samad and David James Garrity
IntelliMon Pvt Ltd, United Kingdom; NED university of Engineering and Technology, Pakistan

5:50PM Deep Neural Network Ensembles for Time Series Classification [#19263]
Hassan Ismail Fawaz, Germain Forestier, Jonathan Weber, Lhassane Idoumghar and Pierre-Alain Muller
University of Haute-Alsace, France

6:10PM Periodic Neural Networks for Multivariate Time Series Analysis and Forecasting [#20342]
Nurilla Avazov, Jiamou Liu and Bakhadyr Khoussainov
The University of Auckland, New Zealand

6:30PM Adversarial attacks on deep neural networks for time series classification [#19532]
Hassan Ismail Fawaz, Germain Forestier, Jonathan Weber, Lhassane Idoumghar and Pierre-Alain Muller
University of Haute-Alsace, France

6:50PM NAO Index Prediction using LSTM and ConvLSTM Networks Coupled with Discrete Wavelet Transform [#19772]
Bin Mu, Jing Li, Shijin Yuan, Xiaodan Luo and Guokun Dai
Tongji University, China; Fudan University, China

7:10PM ENSO Forecasting over Multiple Time Horizons Using ConvLSTM Network and Rolling Mechanism [#19743]
Bin Mu, Cheng Peng, Shijin Yuan and Lei Chen
Tongji University, China; Shanghai Central Meteorological Observatory, China

Session D2_PIVc: Neural Models of Perception, Cognition and Neurodynamics
Tuesday, July 16, 5:30PM-7:30PM, Room: Panorama IV, Chair: Huaping Liu

5:30PM Probability Density Computation Neural Network for Time Series Data [#19160]
H M Dipu Kabir, Parham M Kebria, Abbas Khosravi and Saeid Nahavandi
Institute for Intelligent Systems Research and Innovation (IISRI), Deakin University, Australia

5:50PM Zero-shot Object Detection for Indoor Robots [#19639]

Abdalwhab Abdalwhab and Huaping Liu

Tsinghua University, China

6:10PM Pinning Control for Synchronization of Drive-Response Memristive Neural Networks with Nonidentical Parameters [#19494]

Yueheng Li, Biao Luo, Derong Liu, Zhe Dong and Zhanyu Yang

School of Automation and Electrical Engineering, University of Science and Technology Beijing, China; School of Automation, Central South University, China; School of Automation, Guangdong University of Technology, China; College of Electrical and Control Engineering, North China University of Technology, China; The State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences, China

6:30PM A novel hardware-efficient CPG model for a hexapod robot based on nonlinear dynamics of coupled asynchronous cellular automaton oscillators [#19758]

Takeda Kentaro and Torikai Hiroyuki

Graduate School of Science and Engineering, Hosei University, Japan

6:50PM Closed-loop Central Pattern Generator Control of Human Gaits in OpenSim Simulator [#19692]

Andrii Shachykov, Oleksandr Shuliak and Patrick Henaff

Universite de Lorraine, CNRS, Inria, LORIA, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine; National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine; Universite de Lorraine, CNRS, Inria, LORIA, France

7:10PM Depersonalized Cross-Subject Vigilance Estimation with Adversarial Domain Generalization [#19827]

Bo-Qun Ma, He Li, Yun Luo and Bao-Liang Lu

Shanghai Jiao Tong University, China

Panel Session Pan2: NSF Career Award Winners in Intelligent and Adaptive Systems

Tuesday, July 16, 5:30PM-7:30PM, Room: Panorama V, Chair: Anthony Kuh, NSF; Robi Polikar, Rowan University; Haibo He, University of Rhode Island

Wednesday, July 17

Session D3_BIa: S11: Learning Representations for Structured Data

Wednesday, July 17, 8:00AM-10:00AM, Room: Ballroom I, Chair: Alessandro Sperduti

8:00AM Large-Margin Multiple Kernel Learning for Discriminative Features Selection and Representation Learning [#19212]

Babak Hosseini and Barbara Hammer

Bielefeld University-CITEC, Germany

8:20AM Autoregressive Models for Sequences of Graphs [#20455]

Daniele Zambon, Daniele Grattarola, Lorenzo Livi and Cesare Alippi

Universita della Svizzera italiana, Switzerland; University of Exeter, United Kingdom

8:40AM Universal Readout for Graph Convolutional Neural Networks [#20249]
Nicolo' Navarin, Dinh Van Tran and Alessandro Sperduti
University of Padova, Italy; University of Freiburg, Germany

9:00AM An Attention-Based Model for Learning Dynamic Interaction Networks [#19750]
Sandro Cavallari, Vincent W Zheng, Hongyun Cai, Soujanya Poria and Erik Cambria
NTU, Singapore; ADSC, Singapore

9:20AM Bayesian Tensor Factorisation for Bottom-up Hidden Tree Markov Models [#20162]
Daniele Castellana and Davide Bacciu
Universita' di Pisa, Italy

9:40AM A Novel End-to-End Multiple Tagging Model for Knowledge Extraction [#20164]
Yunhua Song, Hongyun Bao, Zhineng Chen and Jianquan Ouyang
Xiangtan University, China; Institute of Automation Chinese Academy of Sciences, China

Session D3_BIIa: S12: Automatic Machine Learning and S13: Extreme Learning Machines (ELM)
Wednesday, July 17, 8:00AM-10:00AM, Room: Ballroom II, Chair: Donald Wunsch

8:00AM RPR-BP: A Deep Reinforcement Learning Method for Automatic Hyperparameter Optimization [#19320]
Jia Wu, SenPeng Chen and XiuYun Chen
University of Electronic Science and Technology of Chin, China

8:20AM On the Performance of Differential Evolution for Hyperparameter Tuning [#20115]
Mischa Schmidt, Shahd Safarani, Julia Gastinger, Tobias Jacobs, Sebastien Nicolas and Anett Schuelke
NEC Laboratories Europe GmbH, Germany

8:40AM FERNN: A Fast and Evolving Recurrent Neural Network Model for Streaming Data Classification [#19410]
Monidipa Das, Mahardhika Pratama, Andri Ashfahani and Subhrajit Samanta
Nanyang Technological University (NTU), Singapore

9:00AM Physical Activity Recognition Using Multi-Sensor Fusion and Extreme Learning Machines [#20351]
Honggang Wang, WeiZhong Yan and Shaopeng Liu
GE Global Research, United States

9:20AM Multi-Grained Cascade AdaBoost Extreme Learning Machine for Feature Representation [#19738]
Hongwei Ge, Weiting Sun, Mingde Zhao, Kai Zhang, Liang Sun and Chao Yu

Dalian University of Technology, China; McGill University, Canada

9:40AM Automatic Configuration of Deep Neural Networks with Parallel Efficient Global Optimization [#20111]

Bas van Stein, Hao Wang and Thomas B\"ack

University Leiden, Netherlands

Session D3_BIIIa: S15: Machine Learning and Deep Learning Methods applied to Vision and Robotics (MLDLMVR)

Wednesday, July 17, 8:00AM-10:00AM, Room: Ballroom III, Chair: Jose Garcia-Rodriguez

8:00AM Adversarial Action Data Augmentation for Similar Gesture Action Recognition [#20029]

Di Wu, Junjun Chen, Nabin Sharma, Shirui Pan, Guodong Long and Michael Blumenstein

University of Technology Sydney, Australia; Beijing University of Chemical Technology, China; Monash University, Australia

8:20AM TactileGCN: A Graph Convolutional Network for Predicting Grasp Stability with Tactile Sensors [#19871]

Alberto Garcia-Garcia, Brayan S. Zapata-Impata, Sergio Orts-Escolano, Pablo Gil and Jose Garcia-Rodriguez

University of Alicante, Spain

8:40AM Modulation Based Transfer Learning of Motivational Cues in Developmental Robotics [#20129]

Alejandro Romero, Jose A. Becerra, Francisco Bellas and Richard J. Duro

Universidade da Coruna, Spain

9:00AM Adaptive Model Learning of Neural Networks with UUB Stability for Robot Dynamic Estimation [#19319]

Pedram Agand and Mahdi Aliyari Shoorehdeli

K. N. Toosi University of Technology, Iran

9:20AM Multilevel Classification using a Taxonomy Applied to Recognizing Diptera Images [#19035]

Javier Navarrete, Francisco Gomez-Donoso, Diego Viejo and Miguel Cazorla

Institute for Computer Research, University of Alicante, Spain

9:40AM Network Implosion: Effective Model Compression for ResNets via Static Layer Pruning and Retraining [#19270]

Yasutoshi Ida and Yasuhiro Fujiwara

NTT Software Innovation Center, Japan

Session D3_DIa: S06: Deep and Generative Adversarial Learning

Wednesday, July 17, 8:00AM-10:00AM, Room: Duna Salon I, Chair: Ariel Ruiz-Garcia

8:00AM Targeted Black-Box Adversarial Attack Method for Image Classification Models [#20081]

Su Zheng, Jialin Chen and Lingli Wang

State Key Laboratory of ASIC & System, Fudan University, China

8:20AM Fine-grained Adversarial Image Inpainting with Super Resolution [#19282]
Yang Li, Bitao Jiang, Yao Lu and Li Shen
Beijing Institute of Remote Sensing Information, China

8:40AM The Conditional Boundary Equilibrium Generative Adversarial Network and its Application to Facial Attributes [#20167]
Marzouk Ahmed, Barros Pablo, Eppe Manfred and Wermter Stefan
University of Hamburg, Germany

9:00AM Improving Prediction Accuracy in Building Performance Models Using Generative Adversarial Networks (GANs) [#20389]
Chanachok Chokwitthaya, Edward Collier, Yimin Zhu and Supratik Mukhopadhyay
Louisiana State University, United States

9:20AM Extracting Tables from Documents using Conditional Generative Adversarial Networks and Genetic Algorithms [#19739]
Nataliya LeVine, Matthew Zeigenfuse and Mark Rowan
Swiss Re, United States; Swiss Re, Switzerland

9:40AM Detection of Typical Pronunciation Errors in Non-native English Speech Using Convolutional Recurrent Neural Networks [#19552]
Aleksandr Diment, Eemi Fagerlund, Adrian Benfield and Tuomas Virtanen
Tampere University, Finland

Session D3_DIIa: 8l: Temporal data analysis, prediction, and forecasting; time series analysis
Wednesday, July 17, 8:00AM-10:00AM, Room: Duna Salon II, Chair: Tom Gedeon

8:00AM Domain Adaptation for sEMG-based Gesture Recognition with Recurrent Neural Networks [#20309]
Istvan Ketyko, Ferenc Kovacs and Krisztian Varga
Member of technical staff, Hungary

8:20AM Competitive Feature Extraction for Activity Recognition based on Wavelet Transforms and Adaptive Pooling [#19174]
Mubarak G. Abdu-Aguye and Walid Gomaa
Egypt-Japan University of Science and Technology, Egypt

8:40AM Generalized Alignment for Multimodal Physiological Signal Learning [#19933]
Yuchi Liu, Yue Yao, Zhengjie Wang, Josephine Plested and Tom Gedeon
Australian National University, Australia

9:00AM Dynamic Network Embedding by Semantic Evolution [#19313]
Yujing Zhou, Weile Liu, Yang Pei, Lei Wang, Daren Zha and Tianshu Fu
Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China, China

9:20AM Dealing with Limited Access to Data: Comparison of Deep Learning Approaches [#19079]
Andreas Look and Stefan Riedelbauch

Phd Student, Germany; Professor, Germany

9:40AM Face Age Transformation with Progressive Residual Adversarial Autoencoder [#20435]

Xuexiang Zhang, Ping Wei and Nanning Zheng

Xi'an Jiaotong University, Xi'an, China, China

Session D3_DIIIa: 8: Other Applications

Wednesday, July 17, 8:00AM-10:00AM, Room: Duna Salon III, Chair: Vladimir Cherkassky

8:00AM Deep Neural Networks for Network Routing [#20199]

Joao Reis, Miguel Rocha, Truong Khoa Phan, David Griffin, Franck Le and Miguel Rio

University College London, United Kingdom; University of Minho, Portugal; IBM T.J. Watson Research Center, United States

8:20AM Adaptive Edge Caching based on Popularity and Prediction for Mobile Networks [#19458]

Li Li, Sarah Erfani, Chien Chan and Christopher Leckie

The University of Melbourne, Australia

8:40AM A Synchro-phasor Assisted Optimal Features Based Scheme for Fault Detection and Classification [#19866]

Homanga Bharadhwaj, Avinash Kumar and Abheejeet Mohapatra

IIT Kanpur, India

9:00AM Methodology Based on ADABOOST Algorithm Combined with Neural Network for the Location of Voltage Sag Disturbance [#20301]

Fabbio Borges, Ricardo Rabelo, Ricardo Fernandes and Marcel Araujo

Federal University of Piaui (UFPI), Brazil; Federal University of Sao Carlos (UFSCAR), Brazil; Federal Rural University of Pernambuco (UFRPE), Brazil

9:20AM A Method for Voltage Sag Source Location Using Clustering Algorithm and Decision Rule Labeling [#20302]

Jose Silva Filho, Fabbio Borges, Ricardo Rabelo and Ivan Silva

Federal University of Piaui (UFPI), Brazil

9:40AM Distantly Supervised Relation Extraction through a Trade-off Mechanism [#19163]

Jun Ni, Yu Liu, Kai Wang, Zhehuan Zhao and Quan Z. Sheng

School of Software, Dalian University of Technology, China; Department of Computing, Macquarie University, Australia

Session D3_PIa: S10: Deep learning for brain data, S14: Evolutionary NN

Wednesday, July 17, 8:00AM-10:00AM, Room: Panorama I, Chair: Tetiana Aksenova

8:00AM Decoding of Finger Activation from ECoG Data: a Comparative Study [#20139]

Guillaume Jubien, Marie-Caroline Schaeffer, Stephane Bonnet and Tetiana Aksenova

Univ. Grenoble Alpes, CEA, LETI, CLINATEC, France; Univ. Grenoble Alpes, CEA, LETI, DTBS, SEIVI, LS2P, France

8:20AM Representation of White- and Black-Box Adversarial Examples in Deep Neural Networks and Humans: A Functional Magnetic Resonance Imaging Study [#20295]

Chihye Han, Wonjun Yoon, Gihyun Kwon, Seungkyu Nam and Daeshik Kim

Korea Advanced Institute of Science and Technology, Korea (South); Hyundai Motor Company, Korea (South)

8:40AM Improved Techniques for Building EEG Feature Filters [#19971]

Yue Yao, Josephine Plested, Tom Gedeon, Yuchi Liu and Zhengjie Wang

Australian National University, Australia

9:00AM Multi-Objective Autoencoder for Fault Detection and Diagnosis in Higher-Order Data [#19513]

Ali Anaissi and Seid Miad Zandavi

The University of Sydney, Australia

9:20AM A Prior Setting that Improves LDA in both Document Representation and Topic Extraction [#19616]

Juncheng Ding and Wei Jin

University of North Texas, United States

9:40AM Optimization of a Convolutional Neural Network Using a Hybrid Algorithm [#19576]

Chia-Ling Huang, Yan-Chih Shih, Chyh-Ming Lai, Vera Yuk Ying Chung, Wen-Bo Zhu, Wei-Chang Yeh and Xiangjian He

Department of Logistics and Shipping Management, Kainan University, Taiwan; Department of Industrial Engineering and Engineering Management, National Tsing Hua University, Taiwan; Institute of Resources Management and Decision Science, Management College, National Defense University, Taiwan; School of Information Technology, University of Sydney, Australia; School of Automation, Foshan University, China; Integration and Collaboration Laboratory, Department of Industrial Engineering and Engineering Management, National Tsing Hua University, Taiwan; Computer Vision and Recognition Laboratory, Research Centre for Innovation in IT Services and Applications, University of Technology, Sydney (UTS), Australia

Session D3_PIIa: 2c: Reinforcement learning and adaptive dynamic programming

Wednesday, July 17, 8:00AM-10:00AM, Room: Panorama II, Chair: Chuxiong Sun

8:00AM Efficient and Scalable Exploration via Estimation-Error [#19176]

Chuxiong Sun, Rui Wang, Ruiying Li, Jiao Wu and XiaoHui Hu

Institute of Software Chinese Academy of Sciences(ISCAS),University of Chinese Academy of Sciences, China

8:20AM A Human-Like Agent Based on a Hybrid of Reinforcement and Imitation Learning [#20026]

Rousslan Fernand Julien Dossa, Xinyu Lian, Hirokazu Nomoto, Takashi Matsubara and Kuniaki Uehara

Graduate School of System Informatics, Kobe University, Japan; EQUOS RESEARCH Co., Ltd,, Japan

8:40AM Multi-Agent Deep Reinforcement Learning with Emergent Communication [#19388]

David Simoes, Nuno Lau and Luis Paulo Reis

DETI/UA, IEETA, LIACC, Portugal; DETI/UA, IEETA, Portugal; LIACC, DEI/FEUP, Portugal

9:00AM Parallel Transfer Learning in Multi-Agent Systems: What, when and how to transfer? [#19224]

Adam Taylor, Ivana Dusparic, Maxime Gueriau and Siobhan Clarke

Trinity College Dublin, Ireland

9:20AM Learning Distributed Coordinated Policy in Catching Game with Multi-Agent Reinforcement Learning [#19070]

Xiangyu Liu and Ying Tan

Peking University, China; Peking Univeristy, China

9:40AM Speeding Up Affordance Learning for Tool Use, Using Proprioceptive and Kinesthetic Inputs [#19228]

Khuong Nguyen, Jaewook Yoo and Yoonsuck Choe

Texas A&M University, United States

Session D3_PIIIa: S18: Neuro-Inspired Computing with Nano-electronic Devices

Wednesday, July 17, 8:00AM-10:00AM, Room: Panorama III, Chair: Saibal Mukhopadhyay

8:00AM FPCAS: In-Memory Foating Point Computations for Autonomous Systems [#20506]

Sina Sayyah Ensan and Swaroop Ghosh

Pennsylvania State University, United States

8:20AM Investigation of Neural Networks Using Synapse Arrays Based on Gated Schottky Diodes [#19992]

Suhwan Lim, Dongseok Kwon, Sung-Tae Lee, Hyeongsu Kim, Jong-Ho Bae and Jong-Ho Lee

Seoul National University, Korea (South)

8:40AM On Robustness of Spin-Orbit-Torque Based Stochastic Sigmoid Neurons for Spiking Neural Networks [#20326]

Akhilesh Jaiswal, Amogh Agrawal, Indranil Chakraborty, Deboleena Roy and Kaushik Roy

Purdue University, United States

9:00AM Improving Robustness of ReRAM-based Spiking Neural Network Accelerator with Stochastic Spike-timing-dependent-plasticity [#20239]

Xueyuan She, Yun Long and Saibal Mukhopadhyay

Georgia Institute of Technology, United States

9:20AM Improving Noise Tolerance of Mixed Signal Neural Networks [#20497]

Michael Klachko, Mohammad Mahmoodi and Dmitri Strukov

UCSB, United States

9:40AM An Electronic Neuron with Input-Specific Spiking [#19986]
Rebecca Lee and Alice Parker
University of Southern California, United States

Session D3_PIVa: S05: Deep Neural Audio Processing
Wednesday, July 17, 8:00AM-10:00AM, Room: Panorama IV, Chair: Leonardo Gabrielli

8:00AM RNN-based speech synthesis using a continuous sinusoidal model [#19454]
Mohammed Salah Al-Radhi, Tamas Gabor Csapo and Geza Nemeth
Department of Telecommunications and Media Informatics, Budapest University of Technology and Economics, Hungary

8:20AM Processing Acoustic Data with Siamese Neural Networks for Enhanced Road Roughness Classification [#20025]
Leonardo Gabrielli, Livio Ambrosini, Fabio Vesperini, Valeria Bruschi, Stefano Squartini and Luca Cattani
Universita' Politecnica delle Marche, Italy; ASK Industries SpA, Italy

8:40AM Transfer Learning for Piano Sustain-Pedal Detection [#19340]
Beici Liang, Gyorgy Fazekas and Mark Sandler
Queen Mary University of London, United Kingdom

9:00AM Cosine-similarity penalty to discriminate sound classes in weakly-supervised sound event detection [#19523]
Thomas Pellegrini and Leo Cances
UPS - IRIT, France

9:20AM Representation Learning vs. Handcrafted Features for Music Genre Classification [#19878]
Rodolfo M. Pereira, Yandre M. G. Costa, Rafael L. Aguiar, Alceu S. Britto Jr., Luiz E. S. Oliveira and Carlos N. Silla Jr.
Pontifical Catholic University of Parana and Federal Institute of Parana - Pinhais, Brazil; State University of Maringa, Brazil; Pontifical Catholic University of Parana, Brazil; Federal University of Parana, Brazil

9:40AM Audio-based Recognition of Bipolar Disorder Utilising Capsule Networks [#19242]
Shahin Amiriparian, Arsany Awad, Maurice Gerczuk, Lukas Stappen, Alice Baird, Sandra Ottl and Bjoern Schuller
University of Augsburg, Germany

Competition Comp4: AIML Contest 2019
Wednesday, July 17, 8:00AM-10:00AM, Room: Panorama V, Chair: Juyang Weng, Juan L. Castro-Garcia, Xiang Wu.

Coffee Break
Wednesday, July 17, 10:00AM-10:30AM, Room: Pre-function area Intercontinental

Plenary Talk Ple7: Nik Kasabov, KEDRI, Auckland University of Technology
Wednesday, July 17, 10:30AM-11:30AM, Room: Ballroom I + II +II, Chair: Marley Vellasco

Plenary Talk Ple3: Danil Prokhorov, Toyota R&D
Wednesday, July 17, 11:30AM-12:30PM, Room: Ballroom I + II +II, Chair: Asim Roy

TNNLS lunch meeting
Wednesday, July 17, 12:30PM-2:00PM, Room: Sofitel TBC, Speaker: Haibo He

Lunch Break
Wednesday, July 17, 12:30PM-2:00PM, Room: Various locations in the area

Session D3_BIb: S09: Metrology of AI: blessing of dimensionality, tolerance and fits
Wednesday, July 17, 2:00PM-4:00PM, Room: Ballroom I, Chair: Danil Prokhorov

2:00PM Do Fractional Norms and Quasinorms Help to Overcome the Curse of Dimensionality? [#19331]
Evgeny M. Mirkes, Jeza Allohibi and Alexander N. Gorban
University of Leicester, Lobachevsky State University, United Kingdom; University of Leicester, United Kingdom

2:20PM Practical Stochastic Separation Theorems for Product Distributions [#19556]
Bogdan Grechuk
University of Leicester, United Kingdom

2:40PM Toward Next Generation of Autonomous Systems with AI [#19912]
Danil Prokhorov
Toyota, United States

3:00PM Estimating the effective dimension of large biological datasets using Fisher separability analysis [#19814]
Luca Albergante, Jonathan Bac and Andrei Zinovyev
Institut Curie, France; Paris Diderot University, France

3:20PM Kernel Stochastic Separation Theorems and Separability Characterizations of Kernel Classifiers [#20219]
Ivan Y. Tyukin, Alexander N. Gorban, Bogdan Grechuk and Stephen Green
Univerity of Leicester, United Kingdom

3:40PM Deep Learning of p73 Biomarker Expression in Rectal Cancer Patients [#19612]
Tuan Pham, Chuanwen Fan, Hong Zhang and Xiao-Feng Sun
Linkoping University, Sweden; Orebro University, Sweden

Session D3_BIIb: S22: Artificial Intelligence and Security (AISE)
Wednesday, July 17, 2:00PM-4:00PM, Room: Ballroom II, Chair: Francesco Mercaldo

2:00PM Keystroke Analysis for User Identification using Deep Learning Networks [#20334]
Mario Bernardi, Marta Cimitile, Fabio Martinelli and Francesco Mercaldo
Giustino Fortunato University, Italy; Unitelma Sapienza University, Italy; Institute for Informatics and Telematics, National Research Council of Italy (CNR), Italy

2:20PM NeuralAS: Deep Word-Based Spoofed URLs Detection Against Strong Similar Samples [#19132]
Jing Ya, Tingwen Liu, Panpan Zhang, Jinqiao Shi, Li Guo and Zhaojun Gu
University of Chinese Academy of Sciences, China; Chinese Academy of Sciences, China; Civil Aviation University of China, China

2:40PM TrustSign: Trusted Malware Signature Generation in Private Clouds Using Deep Feature Transfer Learning. [#19744]
Daniel Nahmias, Aviad Cohen, Nir Nissim and Yuval Elovici
Ben-Gurion University, Israel

3:00PM Social Network Polluting Contents Detection through Deep Learning Techniques [#19517]
Martinelli Fabio, Mercaldo Francesco and Santone Antonella
IIT-CNR, Italy; University of Molise, Italy

3:20PM Cascade Learning for Mobile Malware Families Detection through Quality and Android Metrics [#19516]
Fasano Fausto, Martinelli Fabio, Mercaldo Francesco and Santone Antonella
University of Molise, Italy; IIT-CNR, Italy

3:40PM An Adversarial Perturbation Approach Against CNN-based Soft Biometrics Detection [#20376]
Stefano Marrone and Carlo Sansone
University of Naples Federico II, Italy

Session D3_BIIIb: Deep Reinforcement Learning for Autonomous Driving
Wednesday, July 17, 2:00PM-4:00PM, Room: Ballroom III, Chair: Qichao Zhang

2:00PM Deep Learning for System Trace Restoration [#20119]
Ilia Sucholutsky, Apurva Narayan, Matthias Schonlau and Sebastian Fischmeister
University of Waterloo, Canada

2:20PM Clustering-enhanced PointCNN for Point Cloud Classification Learning [#19248]
Yikuan Yu, Fei Li, Yu Zheng, Min Han and Xinyi Le
Shanghai Jiao Tong University, China; Beijing Institute of Electronic System Engineering,, China; Dalian University of Technology, China

2:40PM Learning Private Neural Language Modeling with Attentive Aggregation [#19564]

Shaoxiong Ji, Shirui Pan, Guodong Long, Xue Li, Jing Jiang and Zi Huang

The University of Queensland, Australia; Monash University, Australia; University of Technology Sydney, Australia

3:00PM Model-Free Temporal Difference Learning for Non-Zero-Sum Games [#19422]

Liming Wang, Yongliang Yang, Dawei Ding, Yixin Yin, Zhishan Guo and Donald Wunsch

University of Science and Technology Beijing, China; University of Central Florida, United States; Missouri University of Science and Technology, United States

3:20PM Lane Change Decision-making through Deep Reinforcement Learning with Rule-based Constraints [#20518]

Junjie Wang, Qichao Zhang, Dongbin Zhao and Yaran Chen

Institute of Automation, Chinese Academy of Sciences, China

3:40PM Model-Free Reinforcement Learning based Lateral Control for Lane Keeping [#20514]

Qichao Zhang, Rui Luo, Dongbin Zhao, Chaomin Luo and Dianwei Qian

Institute of Automation, Chinese Academy of Sciences, China; North China Electric Power University, China; Department of Electrical and Computer Engineering, University of Detroit Mercy, United States; School of Control and Computer Engineering, North China Electric Power Unverisity, China

Session D3_DIb: 8n: Data mining and knowledge discovery

Wednesday, July 17, 2:00PM-4:00PM, Room: Duna Salon I, Chair: Erik Cambria

2:00PM MMF: Attribute Interpretable Collaborative Filtering [#19130]

Yixin Su, Sarah Monazam Erfani and Rui Zhang

The University of Melbourne, Australia

2:20PM Collecting Indicators of Compromise from Unstructured Text of Cybersecurity Articles using Neural-Based Sequence Labelling [#19774]

Long Zi, Tan Lianzhi, Zhou Shengping, He Chaoyang and Liu Xin

Tencent, China

2:40PM LambdaGAN: Generative Adversarial Nets for Recommendation Task with Lambda Strategy [#19697]

Yang Wang, Hai-tao Zheng, Wang Chen and Rui Zhang

Tsinghua-Southampton Web Science Laboratory Graduate School at Shenzhen, Tsinghua University, China, China; University of Melbourne, Australia

3:00PM ST-RNet: A Time-aware Point-of-interest Recommendation Method based on Neural Network [#19945]

Lu Gao, Yuhua Li, Ruixuan Li, Zhenlong Zhu, Xiwu Gu and Olivier Habimana

Huazhong University of Science and Technology, China; Huazhong University of Science and Technology, Rwanda

3:20PM Transfer Learning for Network Classification [#20421]

Bowen Dong, Charu C Aggarwal and Philip S. Yu

University of Illinois at Chicago, United States; IBM T. J. Watson Research Center, United States

3:40PM Personalized Point-of-Interest Recommendation on Ranking with Poisson Factorization [#19113]

Yijun Su, Xiang Li, Wei Tang, Daren Zha, Ji Xiang and Neng Gao

Institute of Information Engineering, Chinese Academy of Sciences, China

Session D3_DIIb: S08: Dynamics, Applications, and Hardware Implementation of Reservoir Computing

Wednesday, July 17, 2:00PM-4:00PM, Room: Duna Salon II, Chair: Yoshihiko Horio

2:00PM Chaotic Neural Network Reservoir [#19290]

Yoshihiko Horio

Tohoku University, Japan

2:20PM Reservoir Computing Based on Dynamics of Pseudo-Billiard System in Hypercube [#20372]

Yuichi Katori, Hakaru Tamukoh and Takashi Morie

Future University Hakodate, Japan; Kyushu Institute of Technology, Japan

2:40PM A Chaotic Boltzmann Machine Working as a Reservoir and Its Analog VLSI Implementation [#20163]

Masatoshi Yamaguchi, Yuichi Katori, Daichi Kamimura, Hakaru Tamukoh and Takashi Morie

Kyushu Institute of Technology, Japan; Future University Hakodate, Japan

3:00PM Short-term Prediction of Hyper Chaotic Flow Using Echo State Network [#20022]

Aren Shinozaki, Kota Shiozawa, Kazuki Kajita, Takaya Miyano and Yoshihiko Horio

Ritsumeikan University, Japan; Tohoku University, Japan

3:20PM Analysis on Characteristics of Multi-Step Learning Echo State Networks for Nonlinear Time Series Prediction [#19193]

Takanori Akiyama and Gouhei Tanaka

The University of Tokyo, Japan

3:40PM Quantitative Analysis of Dynamical Complexity in Cultured Neuronal Network Models for Reservoir Computing Applications [#20275]

Satoshi Moriya, Hideaki Yamamoto, Ayumi Hirano-Iwata, Shigeru Kubota and Shigeo Sato

Tohoku University, Japan; Yamagata University, Japan

Session D3_DIIIb: 8: Other Applications

Wednesday, July 17, 2:00PM-4:00PM, Room: Duna Salon III, Chair: Hui Liu

2:00PM Ensemble Application of Transfer Learning and Sample Weighting for Stock Market Prediction [#19019]

Simone Merello, Andrea Picasso Ratto, Luca Oneto and Erik Cambria

University of Genova, Italy; Nanyang Technological University, Singapore

2:20PM Stealing Knowledge from Protected Deep Neural Networks Using Composite Unlabeled Data [#20502]
Itay Mosafi, Eli David and Nathan Netanyahu
Bar-Ilan University, Israel

2:40PM Intranet User-Level Security Traffic Management with Deep Reinforcement Learning [#19787]
Qiuqing Jin and Liming Wang
Institute of Information Engineering, University of Chinese Academy of Sciences, China; Institute of Information Engineering, Chinese Academy of Sciences, China

3:00PM Robust Neuro-adaptive Asymptotic Consensus for a Class of Uncertain Multi-agent systems: An Edge-based Paradigm [#19047]
Dongdong Yue, Qi Li, Jinde Cao and Xuegang Tan
Southeast University, China

3:20PM Collaboration of Machines and Robots in Cyber Physical Systems based on Evolutionary Computation Approach [#20006]
Fu-Shiung Hsieh
Chaoyang University of Technology, Taiwan

3:40PM A Novel Deep Learning-Based Encoder-Decoder Model for Remaining Useful Life Prediction [#19657]
Hui Liu, Zhenyu Liu, Weiqiang Jia and Xianke Lin
State Key Laboratory of CAD&CG, Zhejiang University, China; Department of Mechanical Engineering, University of Ontario Institute of Technology, Canada

Session D3_PIb: 8a: Applications of deep networks
Wednesday, July 17, 2:00PM-4:00PM, Room: Panorama I, Chair: Donald Wunsch

2:00PM Transfer Learning Using Ensemble Neural Networks for Organic Solar Cell Screening [#20448]
Arindam Paul, Dipendra Jha, Reda Al-Bahrani, Wei-keng Liao, Alok Choudhary and Ankit Agrawal
Northwestern University, United States

2:20PM MetODeep: A Deep Learning Approach for Prediction of Methionine Oxidation Sites in Proteins [#19899]
Guillermo Lopez-Garcia, Jose M. Jerez, Daniel Urda and Francisco J. Veredas
Universidad de Malaga, Spain; Universidad de Cadiz, Spain

2:40PM Fully Automatic Dual-Guidewire Segmentation for Coronary Bifurcation Lesion [#19577]
Yanjie Zhou, Xiaoliang Xie, Guibin Bian, Zengguang Hou, Yudong Wu, Shiqi Liu, Xiaohu Zhou and Jiaxing Wang
Institute of Automation, Chinese Academy of Sciences, China

3:00PM Spinal Stenosis Detection in MRI using Modular Coordinate Convolutional Attention Networks [#20024]
Uddeshya Upadhyay, Badrinath Singhal and Meenakshi Singh

Indian Institute of Technology Bombay, India; Synapsica Technologies, India

3:20PM JSAC: A Novel Framework to Detect Malicious JavaScript via CNNs over AST and CFG [#20132]
Hongliang Liang, Yuxing Yang, Lu Sun and Lin Jiang
Beijing University of Posts and Telecommunications, China

3:40PM Anomaly Detection for Visual Quality Control of 3D-Printed Products [#19806]
Loek Tonnaer, Jiapeng Li, Vladimir Osin, Mike Holenderski and Vlado Menkovski
Eindhoven University of Technology, Netherlands; Signify, Netherlands

Session D3_PIIb: Machine Learning and Deep Learning
Wednesday, July 17, 2:00PM-4:00PM, Room: Panorama II, Chair: Spiros Georgakopoulos

2:00PM Deep Rule-Based Aerial Scene Classifier using High-Level Ensemble Feature Descriptor [#19323]
Xiaowei Gu and Plamen Angelov
Lancaster University, United Kingdom

2:20PM Tweet Act Classification : A Deep Learning based Classifier for Recognizing Speech Acts in Twitter [#20034]
Tulika Saha, Sriparna Saha and Pushpak Bhattacharyya
IIT Patna, India

2:40PM Recurrent Network and Multi-arm Bandit Methods for Multi-task Learning without Task Specification [#19012]
Thy Nguyen and Tayo Obafemi-Ajayi
Missouri State University, United States

3:00PM Chinese Clinical Named Entity Recognition with Word-Level Information Incorporating Dictionaries [#19808]
Ningjie Lu, Jun Zheng, Wen Wu, Yan Yang, Kaiwei Chen and Wenxin Hu
East China Normal University, China; Shanghai Qiniu Information Technologies Co.,Ltd., China

3:20PM Multi-perspective Feature Generation Based on Attention Mechanism [#20470]
Ma Longxuan and Zhang Lei
Beijing University of Posts and Telecommunications, China

3:40PM Efficient Learning Rate Adaptation for Convolutional Neural Network Training [#20256]
Spiros Georgakopoulos and Vassilis Plagianakos
Department of Computer Science, University of Thessaly, Greece, Greece

Session D3_PIIIb: 2i: Support vector machines and kernel methods, 2: ML
Wednesday, July 17, 2:00PM-4:00PM, Room: Panorama III, Chair: Shigeo Abe

2:00PM Flexible Kernel Selection in Multitask Support Vector Regression [#20185]

Carlos Ruiz, Carlos Alaiz, Alejandro Catalina and Jose R. Dorronsoro
Autonomous University of Madrid, Spain

2:20PM Analyzing Minimal Complexity Machines [#19083]
Shigeo Abe
Kobe University, Japan

2:40PM A Multiple Kernel Machine with In-Situ Learning using Sparse Representation [#19855]
Ali Pezeshki, Mahmood Azimi-Sadjadi and Christopher Robbiano
Colorado State University, United States

3:00PM Mixed Variational Inference [#19769]
Nikolaos Gianniotis
Heidelberg Institute for Theoretical Studies gGmbH, Germany

3:20PM An Approach to Cross-Lingual Voice Conversion [#19463]
Sai Sirisha Rallabandi and Suryakanth V Gangashetty
IIIT-Hyderabad, India

3:40PM Twitter breaking news detector in the 2018 Brazilian presidential election using word embeddings and convolutional neural networks [#20189]
Kenzo Sakiyama, Andre Bezerra Silva and Edson Takashi Matsubara
Federal University of Mato Grosso do Sul, Brazil

Session D3_PIVb: Neural Models of Perception, Cognition and Action
Wednesday, July 17, 2:00PM-4:00PM, Room: Panorama IV, Chair: Shengping Zhou

2:00PM A Computational Model for a Multi-Goal Spatial Navigation Task inspired in Rodent Studies [#19917]
Martin Llofriu, Pablo Scleidorovich, Gonzalo Tejera, Marco Contreras, Tatiana Pelc, Jean-Marc Fellous and Alfredo Weitzenfeld
University of South Florida, United States; Universidad de la Republica, Uruguay; Universidad Mayor, Chile; University of Arizona, United States

2:20PM Understanding Language Dependency on Emotional Speech using Siamese Network [#20290]
Swaraj Kumar, Sandipan Dutta and Shaurya Chaturvedi
Netaji Subhas University of Technology, India

2:40PM Condensed Convolution Neural Network by Attention over Self-attention for Stance Detection in Twitter [#19626]
Shengping Zhou, Junjie Lin, Lianzhi Tan and Xin Liu
Tencent Technology Co., Ltd., China

3:00PM ChartNet: Visual Reasoning over Statistical Charts using MAC-Networks [#20046]
Monika Sharma, Shikha Gupta, Arindam Chowdhury and Lovekesh Vig
TCS Research Delhi, India; Indian Institute of Technology, Mandi, India

3:20PM Executing Declarative Parallel Representations of Sequences with Temporal Pooling [#20423]
Daniel Slack, Alistair Knott and Brendan McCane

Otago University, New Zealand

3:40PM A Time-Frequency based Machine Learning System for Brain States Classification via EEG Signal Processing [#20207]

Cosimo Ieracitano, Nadia Mammone, Alessia Bramanti, Silvia Marino, Amir Hussain and Francesco Carlo Morabito

University Mediterranea of Reggio Calabria, Italy; IRCCS Centro Neurolesi Bonino-Pulejo, Messina, Italy; National Research Council (CNR), Italy; Edinburgh Napier University, United Kingdom

Panel Session Pan3: Deep Learning: Hype or Hallelujah?
Wednesday, July 17, 2:00PM-4:00PM, Room: Panorama V, Chair: Vladimir Cherkassky, University of Minnesota, USA

Coffee Break
Wednesday, July 17, 4:00PM-4:30PM, Room: Pre-function area Intercontinental

Plenary Talk Ple9: Adam Miklosi, Eotvos Lorand University, Budapest
Wednesday, July 17, 4:30PM-5:30PM, Room: Ballroom I + II +II, Chair: Peter Erdi

Banquet and Awards
Wednesday, July 17, 7:30PM-11:00PM, TBC , Chair: C Jayne

Thursday, July 18

Plenary Poster Session POS1: Poster Session 1
Thursday, July 18, 8:00AM-9:40AM, Room: Ballroom I + II +II, Chair: Chrisina Jayne

P101 A Deep Learning Algorithm for Fully Automatic Brain Tumor Segmentation [#19011]

Yu Wang, Changsheng Li, Ting Zhu and Chongchong Yu

School of Computer and Information Engineering, Beijing Technology and Business University, China

P102 Distributed Adaptive Dynamic Programming Algorithm for Office Energy Control with Multiple Batteries [#19021]

Guang Shi, Chao Li, Bo Zhao, Qinglai Wei and Derong Liu

National Computer Network Emergency Response Technical Team/Coordination Center of China, China; School of Systems Science, Beijing Normal University, China; Institute of Automation, Chinese Academy of Sciences, China; Guangdong University of Technology, China

P103 Learning Image Relations with Contrast Association Networks [#19028]

Yao Lu, Zhirong Yang, Juho Kannala and Samuel Kaski

Australian National University, Australia; Norwegian University of Science and Technology, Norway; Aalto University, Finland

P104 KDSL: a Knowledge-Driven Supervised Learning Framework for Word Sense Disambiguation [#19031]

Shi Yin, Yi Zhou, Chenguang Li, Shangfei Wang, Xiaoping Chen and Ruili Wang

School of Computer Science and Technology, University of Science and Technology of China, China; Shanghai Research Center for Brain Science and Brain Inspired Intelligence, China; Institute of Natural and Mathematical Sciences, Massey University (Albany Campus), New Zealand

P105 A Method of Pedestrian Fine-grained Attribute Detection and Recognition [#19038]

Ma Xianqin, Yu Chongchong, Yang Xin, Chen Xiuxin, Chen Jianzhang and Zhou Lan

Beijing Technology and Business University, China; University of Illinois at Urbana Champaign, United States

P106 Short Text Topic Modeling with Flexible Word Patterns [#19058]

Xiaobao Wu and Chunping Li

Tsinghua University, China

P107 SOM-based Algorithm for Multi-armed Bandit Problem [#19067]

Nobuhito Manome, Shuji Shinohara, Kouta Suzuki, Kosuke Tomonaga and Shunji Mitsuyoshi

SoftBank Robotics Corp./Graduate School of Engineering, The University of Tokyo, Japan; Graduate School of Engineering, The University of Tokyo, Japan

P108 Text Classification Using Gated and Transposed Attention Networks [#19086]

He Kang and Zhu Min

East China Normal University, China

P109 Adversarially Erased Learning for Person Re-identification by Fully Convolutional Networks [#19107]

Shuangwei Liu, Yunzhou Zhang, Lin Qi, Sonya Coleman, Dermot Kerr and Shangdong Zhu

College of Information Science and Engineering, Northeastern University of China, China; Intelligent Systems Research Centre, University of Ulster, United Kingdom

P110 Training a V1 Like Layer Using Gabor Filters in Convolutional Neural Networks [#19114]

Jun Bai, Yi Zeng, Yuxuan Zhao and Feifei Zhao

Institute of Automation, Chinese Academy of Sciences, China

P111 ShuffleNASNets: Efficient CNN models through modified Efficient Neural Architecture Search [#19117]

Kevin Alexander Laube and Andreas Zell

Cognitive Systems Group, University of Tuebingen, Germany

P112 Parameter Reduction For Deep Neural Network Based Acoustic Models Using Sparsity Regularized Factorization Neurons [#19122]

Hoon Chung, Euisok Chung, Jeon Gue Park and Ho-Young Jung
Electronics and Telecommunications Research Institute, Korea (South)

P113 isAnon: Flow-Based Anonymity Network Traffic Identification Using Extreme Gradient Boosting [#19137]
Zhenzhen Cai, Bo Jiang, Zhigang Lu, Junrong Liu and Pingchuan Ma
Institute of Information Engineering, Chinese Academy of Sciences, China

P114 Label Distribution Feature Selection Based on Mutual Information in Fuzzy Rough Set Theory [#19138]
Yingyao Wang and Jianhua Dai
Tianjin University, China; Hunan Normal University, China

P115 A new Spectral-Spatial Pseudo-3D Dense Network for Hyperspectral Image Classification [#19147]
Ailin Li and Zhaowei Shang
Chongqing university, China

P116 Clustering interval-valued data with automatic variables weighting [#19149]
Sara Rodriguez and Francisco de Carvalho
Universidade Federal de Pernambuco - UFPE, Brazil

P117 On Correlation of Features Extracted by Deep Neural Networks [#19161]
Babajide Ayinde, Tamer Inanc and Jacek Zurada
University of Louisville, United States

P118 Learning Similarity: Feature-Aligning Network for Few-shot Action Recognition [#19168]
Shaoqing Tan and Ruoyu Yang
Nanjing University, China

P119 A Multiple Granularity Co-Reasoning Model for Multi-choice Reading Comprehension [#19172]
Hang Miao, Ruifang Liu and Sheng Gao
Beijing University of Post and Telecommunications, China

P120 A Deep Bidirectional Highway Long Short-Term Memory Network Approach to Chinese Semantic Role Labeling [#19177]
Qi Xia, Chung-Hsing Yeh and Xiang-Yu Chen
Southeast University, China; Monash University, Australia

P121 Mending is Better than Ending: Adapting Immutable Classifiers to Nonstationary Environments using Ensembles of Patches [#19179]
Sebastian Kauschke, Lukas Fleckenstein and Johannes Fuernkranz
TU Darmstadt, Germany

P122 ECG Segmentation by Neural Networks: Errors and Correction [#19185]
Iana Sereda, Sergey Alekseev, Aleksandra Koneva, Roman Kataev and Grigory Osipov
Nizhny Novgorod State University, Russian Federation

P123 Seq2Seq Deep Learning Models for Microtext Normalization [#19199]
Ranjan Satapathy, Yang Li, Sandro Cavallari and Erik Cambria

Nanyang Technological University, Singapore; Northwestern Polytechnical University, China

P124 Generating Natural Video Descriptions using Semantic Gate [#19205]
Hyungmin Lee and Il-Koo Kim
Samsung Electronics, Korea (South)

P125 Patching Deep Neural Networks for Nonstationary Environments [#19207]
Sebastian Kauschke, David Hermann Lehmann and Johannes Fuernkranz
TU Darmstadt, Germany

P126 Feature selection based on feature curve of subclass problem [#19209]
Lei Liu, Bing Zhang, Shidong Wang, Shuangjie Li, Kaixiang Zhang and Shuqin Wang
College of Computer and Information Engineering, Tianjin Normal University, China

P127 Incremental Learning Based Subspace Modeling for Distributed Parameter Systems [#19219]
Zhi Wang and Han-Xiong Li
City University of Hong Kong, China

P128 DNN-based Acoustic-to-Articulatory Inversion using Ultrasound Tongue Imaging [#19221]
Dagoberto Porras, Alexander Sepulveda and Tamas Gabor Csapo
Universidad Industrial de Santander, Colombia; Budapest University of Technology and Economics, Hungary

P129 Two-Stream Convolution Neural Network with Video-stream for Action Recognition [#19281]
Wei Dai, Yimin Chen, Chen Huang, Mingke Gao and Xinyu Zhang
School of Computer Engineering and Science,Shanghai University, China; China Electronics Technology Group Corporation, China

P130 Generative Adversarial Networks for Road Crack Image Segmentation [#19293]
Ziping Gao, Bo Peng, Tianrui Li and Cong Gou
Southwest Jiaotong University, China

P131 Dilated Convolutional Networks Incorporating Soft Entity Type Constraints for Distant Supervised Relation Extraction [#19301]
Min Peng, Weilong Hu, Gang Tian, Bin Wang, Hua Wang and Gang Wang
Wuhan University, China; Xiaomi Inc, China; Victoria University, Australia

P132 A New Feature Selection Method based on Monarch Butterfly Optimization and Fisher Criterion [#19308]
Xiaodong Qin, Xiabi Liu and Said Boumaraf
Beijing Institute of Technology, China; Beijing Institute of Technology, Algeria

P133 A Position-aware Transformation Network for Aspect-level Sentiment Classification [#19318]
Tao Jiang, Jiahai Wang, Youwei Song and Yanghui Rao
Sun Yat-sen University, China

P134 Impromptu Accompaniment of Pop Music using Coupled Latent Variable Model with Binary Regularizer [#19356]

Bijue Jia, Jiancheng Lv, Yifan Pu and Xue Yang

Sichuan University, China

P135 Correlation Filter Tracking Method via Metric Learning and Adaptive Multi-stage Appearance [#19363]

Yan Hong, Jing Li, Yafu Xiao, Wenfan Zhang, Chengfang Song and Shan Xue

Wuhan University, China; Macquarie University, Australia

P136 Unsupervised state representation learning with robotic priors: a robustness benchmark [#19377]

Timothî Lesort, Mathieu Seurin, Xinrui Li, Natalia D*z-Rodr0uez and David Filliat, ENSTA ParisTech & Thales, France; INRIA Lille, France; ENSTA ParisTech & INRIA Flowers, France

P137 Multiple Back Propagation Network and Metric Fusion for Person Re-identification [#19380]

Si-Bao Chen, Feng Luo, Bin Luo, Chris Ding and Yi Liu

Anhui University, China; University of Texas at Arlington, United States; Peking University Shenzhen Institute, China

P138 SRAGAN: Generating Colour Landscape Photograph from Sketch [#19381]

Si-Bao Chen, Peng-Cheng Wang, Bin Luo, Chris Ding and Jian Zhang

Anhui University, China; University of Texas at Arlington, United States; Peking University Shenzhen Institute, China

P139 A Multi-Attentive Pyramidal Model for Visual Sentiment Analysis [#19401]

Xiaohao He, Huijun Zhang, Ningyun Li, Ling Feng and Feng Zheng

Tsinghua University, China; Southern University of Science and Technology, China

P140 Deep Feature Analysis in a Transfer Learning-based Approach for the Automatic Identification of Diabetic Macular Edema [#19415]

Joaquim de Moura, Jorge Novo and Marcos Ortega

University of A Coruna, Spain

P141 Using Winning Lottery Tickets in Transfer Learning for Convolutional Neural Networks [#19417]

Ryan Van Soelen and John Sheppard

Johns Hopkins University, United States; Montana State University, United States

P142 Neural Networks Applied in the Prediction of Top Oil Temperature of Transformer [#19442]

Wenxia Pan, Kun Zhao, Tianao Gao and Congchuang Gao

College of Energy and Electrical Engineering, Hohai University; Research Center for Renewable Energy Generation Engineering of Ministry of Education, Hohai University, China; College of Energy and Electrical Engineering, Hohai University, China; Jiangsu Guoxin Liyang Pumped Storage Power Generation Co., Ltd., China

P143 An End-to-End Joint Unsupervised Learning of Deep Model and Pseudo-Classes for Remote Sensing Scene Representation [#19446]

Zhiqiang Gong, Ping Zhong, Weidong Hu, Fang Liu and BingWei Hui

National University of Defense Technology, China

P144 Bacteria shape classification by the use of region covariance and Convolutional Neural Network [#19459]

Dawid Polap and Marcin Wozniak

Institute of Mathematics, Silesian University of Technology, Poland

P145 Latent Space Embedding for Unsupervised Feature Selection via Joint Dictionary Learning [#19465]

Yang Fan, Jianhua Dai and Qilai Zhang

Tianjin University, China; Hunan Normal University, China

P146 LMLSTM: Extract Event-Oriented Keyphrase From News Stream [#19467]

Lin Zhao, Longtao Huang, Liangjun Zang, Jizhong Han and Songlin Hu

Institute of Information Engineering,University of Chinese Academy of Sciences, China; Institute of Information Engineering, China

P147 Approximating Binarization in Neural Networks [#19485]

Caglar Aytekin, Francesco Cricri, Jani Lainema, Emre Aksu and Miska Hannuksela

Nokia Technologies, Finland

P148 Convolutional Recurrent Neural Networks for Text Classification [#19512]

Ruishuang Wang, Zhao Li, Jian Cao, Tong Chen and Lei Wang

Big Data Engineering Technology Research Center of E-Government,Shandong, China; Qilu University of Technology(Shandong Academy of Sciences), Shandong Computer Science Center(National Supercomputer Center in Jinan), China

P149 Improving the quality of enzyme prediction by using feature selection and dimensionality reduction [#19542]

Luis Brito, Ana Lara, Luis Zarate and Cristiane Nobre

Pontifical Catholic University of Minas Gerais, Brazil

P150 TCoD:A Traveling Companion Discovery Method Based on Clustering and Association Analysis [#19548]

Ruihong Yao, Fei Wang and Shuhui Chen

National University of Defense Technology, China

P151 Model Based on Deep Feature Extraction for Diagnosis of Alzheimer's Disease [#19554]

Iago Silva, Gabriela Silva, Rodrigo Souza, Wellington Santos and Roberta Fagundes

University of Pernambuco, Brazil; Federal University of Pernambuco, Brazil

P152 A Composite Extended Nearest Neighbor Model for Day-Ahead Load Forecasting [#19562]

Md. Rashedul Haq and Zhen Ni

South Dakota State Unviersity, United States

P153 Intrusion Detection Method based on Information Gain and ReliefF Feature Selection [#19591]

Zhang Yong, Ren Xuezhen and Zhang Jie

Liaoning Normal University, China

P154 Noise-Aware Network Embedding for Multiplex Network [#19593]

Xiaokai Chu, Xinxin Fan, Di Yao, Chenlin Zhang, Jianhui Huang and Jingping Bi

Institute of Computing Technology Chinese Academy of Sciences, University of Chinese Academy of Sciences, China; Institute of Computing Chinese Academy of Sciences, China; Institute of Computing Chinese Academy of Sciences, University of Chinese Academy of Sciences, China; National Key Laboratory for Novel Software Technology, Nanjing University, China

P155 A Hybrid Convolutional Approach for Parking Availability Prediction [#19606]

Hadi Jomaa, Josif Grabocka and Lars Schmidt-thieme

Stiftung Universitat Hildesheim, Germany

P156 Graph Convolutional Networks with Structural Attention Model for Aspect Based Sentiment Analysis [#19610]

Junjie Chen, Hongxu Hou, Yatu Ji and Jing Gao

Inner Mongolia University, China; Inner Mongolia Agricultural University, China

P157 Extracting Prerequisite Relations Among Concepts in Wikipedia [#19629]

Yang Zhou and Kui Xiao

Hubei University, China

P158 Cross-project Defect Prediction via ASTToken2Vec and BLSTM-based Neural Network [#19631]

Hao Li, Xiaohong Li, Xiang Chen, Xiaofei Xie, Yanzhou Mu and Zhiyong Feng

Tianjin University, China; Nantong University, China; Nanyang Technological University, Singapore

P159 Event-Triggered H_{∞} Tracking Control of Nonlinear Systems via Reinforcement Learning Method [#19636]

Lili Cui, Wei Qu, Li Wang, Yanhong Luo and Zhanshan Wang

Shenyang Normal University, China; Northeastern University, China

P160 A Unified Multi-output Semi-supervised Network for 3D Face Reconstruction [#19649]

Pengrui Wang, Yi Tian, Wujun Che and Bo Xu

Institute of Automation, Chinese Academy of Sciences, Beijing, China, China

P161 Multi-Level Compare-Aggregate Model for Text Matching [#19683]

Chunlin Xu, Hui Wang, Zhiwei Lin and Shengli Wu

University of Ulster, Northern Ireland

P162 DeepShapeSketch : Generating hand drawing sketches from 3D objects [#19694]

Meijuan Ye, Shizhe Zhou and Hongbo Fu

College of Computer Science and Electronic Engineering, Hunan University, China; City University of Hong Kong, China

P163 Author Disambiguation through Adversarial Network Representation Learning [#19712]

Liwen Peng, Siqi Shen, Dongsheng Li, Jun Xu, Yongquan Fu and Huayou Su

National University of Defense Technology, China

P164 An End-to-end Network for Monocular Visual Odometry Based on Image Sequence [#19718]

Mingwei Yao and Hongyan Quan

School of Computer Science and Software Engineering East China Normal University, China

P165 Network Search for Binary Networks [#19721]

Jiajun Du, Yu Qin and Hongtao Lu

Shanghai Jiao Tong University, China

P166 A Semi-supervised Classification Using Gated Linear Model [#19724]

Yanni Ren, Weite Li and Jinglu Hu

Graduate School of Information, Product and System, Waseda University, Japan

P167 Batch Mode Active Learning with Nonlocal Self-Similarity Prior for Semantic Segmentation [#19746]

Yao Tan, Qinghua Hu and Zhibin Du

School of Computer Science and Technology,College of Intelligence and Computing,Tianjin University, China; China Automotive Technology & Research Center, China

P168 Multi-Satellite Resource Scheduling Based on Deep Neural Network [#19753]

Huan Meng, Changde Li, Weizhi Lu, Yuhan Dong, Zhipeng Zhao and Bin Wu

Tianjin University, China; Beijing Institute of Satellite Information Engineering, China

P169 A Feature Learning Siamese Model for Intelligent Control of the Dynamic Range Compressor [#19759]

Di Sheng and Gyorgy Fazekas

Queen Mary University of London, United Kingdom

P170 A Novel Recommender System using Hidden Bayesian Probabilistic Model based Collaborative Filtering [#19778]

Xin Dai, Fanzhang Li, Xiaopei Li and Helan Liang

Soochow University, China

P171 Improving Sentence Representations with Local and Global Attention for Classification [#19780]

Zesheng Liu, Xu Bai, Tian Cai, Chanjuan Chen, Wang Zhang and Lei Jiang

University of Chinese Academy of Sciences. Institute of Information Engineering, Chinese Academy of Sciences, China; Institute of Information Engineering, Chinese Academy of Sciences, China; China National Machinery Industry Corporation, China

P172 EEG-Based Motor Imagery Classification with Deep Multi-Task Learning [#19781]

Yaguang Song, Danli Wang, Kang Yue, Nan Zheng and Zuo-Jun Shen

Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China; University of California, Berkeley, United States

P173 Scene Recognition via Object-to-Scene Class Conversion: End-to-End Training [#19788]

Hongje Seong, Junhyuk Hyun, Hyunbae Chang, Suhyeon Lee, Suhan Woo and Euntai Kim

Yonsei University, Korea (South)

P174 Learning "What" and "Where": An Interpretable Neural Encoding Model [#19793]

Haibao Wang, Lijie Huang, Changde Du and Huiguang He

Research Center for Brain-Inspired Intelligence, CASIA, China

P175 FSC-CapsNet: Fractionally-Strided Convolutional Capsule Network for complex data [#19799]

Jian-wei Liu, Feng Gao, Run-kun Lu, Yuan-feng Lian, Dian-zhong Wang, Xiong-lin Luo and Chu-ran Wang

Department of Automation China University of Petroleum Beijing, Beijing, China, China; Department of Automation, China University of Petroleum , Beijing Campus (CUP), China; College of Information Science and Engineering, China University of Petroleum, Beijing Campus (CUP), China; Beijing Institute of Space Mechanics & Electricity, China; Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China, China

P176 A New Knowledge Distillation for Incremental Object Detection [#19804]

Li Chen, Chunyan Yu and Lvcai Chen

Fuzhou University, China

P177 Evaluation of Heart Disease Diagnosis Approach using ECG Images [#19810]

Marcos Aurelio A. Ferreira Junior, Mateus Valentim Gurgel, Leandro B. Marinho, Navar Medeiros M. Nascimento, Suane Pires. P. da Silva, Shara Shami A. Alves, Geraldo Luis Bezerra Ramalho and Pedro Pedrosa Reboucas Filho

Instituto Federal do Ceara, Brazil; Federal University of Ceara, Brazil

P178 Multimodal Data Enhanced Representation Learning for Knowledge Graphs [#19826]

Zikang Wang, Linjing Li, Qiudan Li and Daniel Zeng

The State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences; School of Computer and Control Engineering, University of Chinese Academy of Sciences, China; The State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences, China

P179 Integrating Dual User Network Embedding with Matrix Factorization for Social Recommender Systems [#19828]

Liying Chen, Honglei Zhang and Jun Wu

Beijing Jiaotong University, China

P180 View-Invariant Gait Recognition Based on Deterministic Learning and Knowledge Fusion [#19836]

Muqing Deng, Haonan Yang, Jiuwen Cao and Xiaoreng Feng

The Chinese University of Hong Kong, Hong Kong; Hangzhou Dianzi University, China; The University of Hong Kong, Hong Kong

P181 Deeper Monocular Depth Prediction via Long and Short Skip Connection [#19847]

Zhaokai Wang, Limin Xiao, Rongbin Xu, Shubin Su, Shupan Li and Song Yao

Beihang University, China

P182 Recurrent Layer Aggregation using LSTM [#19852]
Yu Qin, Jiajun Du, Xinyao Wang and Hongtao Lu
Shanghai JiaoTong University, China

Session D4_DIa: S25: Artificial Intelligence in Health and Medicine: from Theory to Applications
Thursday, July 18, 8:00AM-9:40AM, Room: Duna Salon I, Chair: Hissam Tawfik

8:00AM Neural Networks for Lung Cancer Detection through Radiomic Features [#19520]
Luca Brunese, Francesco Mercaldo, Alfonso Reginelli and Antonella Santone
University of Molise, Italy; IIT-CNR, Italy; University of Campania, Italy

8:20AM An Object Detection by using Adaptive Structural Learning of Deep Belief Network [#19594]
Shin Kamada and Takumi Ichimura
Hiroshima City University, Japan; Prefectural University of Hiroshima, Japan

8:40AM Machine Learning to Identify Gender via Hair Elements [#19518]
Pasquale Avino, Francesco Mercaldo, Vittoria Nardone, Ivan Notardonato and Antonella Santone
University of Molise, Italy; IIT-CNR, Italy; University of Sannio, Italy

9:00AM Heartbeat Anomaly Detection using Adversarial Oversampling [#20112]
Jefferson Lima, David Macedo and Cleber Zanchettin
Centro de Informatica - Universidade Federal de Pernambuco, Brazil

9:20AM Development of a Simulation Experiment to Investigate In-Flight Startle using Fuzzy Cognitive Maps and Pupillometry [#20521]
Abiodun Brimmo Yusuf, Ah-Lian Kor and Hissam Tawfik
Leeds Beckett University, United Kingdom

Session D4_DIIa: S29: Biologically Inspired Learning for Cognitive Robotics
Thursday, July 18, 8:00AM-9:40AM, Room: Duna Salon II, Chair: Peter Galambos

8:00AM OCSVM-based Evaluation Method for Generative Neural Networks [#19426]
Artur Istvan Karoly, Marta Takacs and Peter Galambos
Obuda University, Hungary

8:20AM Confidence Identification Based on the Combination of Verbal and Non-Verbal factors in Human Robot Interaction [#20103]
Wei-Fen Hsieh, Youdi Li, Erina Kasano, Shimokawara Eri-Sato and Toru Yamaguchi
Tokyo Metropolitan University, Japan

8:40AM Stepwise Acquisition of Dialogue Act Through Human-Robot Interaction [#20137]
Akane Matsushima, Ryosuke Kanajiri, Yusuke Hattori, Chie Fukada and Natsuki Oka

Kyoto Institute of Technology, Japan

9:00AM Curious Meta-Controller: Adaptive Alternation between Model-Based and Model-Free Control in Deep Reinforcement Learning [#20322]

Muhammad Burhan Hafez, Cornelius Weber, Matthias Kerzel and Stefan Wermter

University of Hamburg, Germany

9:20AM Spatial Map Learning with Self-Organizing Adaptive Recurrent Incremental Network [#20187]

Wei Hong Chin, Naoyuki Kubota, Chu Kiong Loo, Zhaojie Ju and Honghai Liu

Tokyo Metropolitan University, Japan; University of Malaya, Malaysia; University of Portsmouth, United Kingdom

Session D4_DIIIa: S30: Exploring Uncertainties in Big Data by Neural Fuzzy Systems

Thursday, July 18, 8:00AM-9:40AM, Room: Duna Salon III, Chair: Jie Lu

8:00AM Unsupervised Domain Adaptation with Sphere Retracting Transformation [#19271]

Zhen Fang, Jie Lu, Feng Liu and Guangquan Zhang

Centre for Artificial Intelligence FEIT, Univervisity of Technology Sydney, Australia

8:20AM Cross-domain Recommendation with Semantic Correlation in Tagging Systems [#19580]

Qian Zhang, Peng Hao, Jie Lu and Guangquan Zhang

University of Technology Sydney, Australia

8:40AM A Hybrid Incremental Regression Neural Network for Uncertain Data Streams [#19129]

Hang Yu, Jie Lu, Jialu Xu and Guangquan Zhang

University of Technology Sydney, Australia; Shanghai University, China

9:00AM RsyGAN: Generative Adversarial Network for Recommender Systems [#20451]

Ruiping Yin, Kan Li, Jie Lu and Guangquan Zhang

School of Computer Science and Technology, Beijing Institute of Technology, China; Centre for Artificial Intelligence, University of Technology Sydney, Australia

9:20AM MOR-LinUCB: A Multi-Objective and Context-Aware Ranking Approach [#20446]

Nirandika Wanigasekara, Yuxuan Liang, Ye Liu, Jospeh J. Williams and David S. Rosenblum

National University of Singapore, Singapore; University of Toronto, Canada

Session D4_PIa: Deep Learning and Applications

Thursday, July 18, 8:00AM-9:40AM, Room: Panorama I, Chair: Athanasios Davvetas

8:00AM Evidence Transfer for Improving Clustering Tasks Using External Categorical Evidence [#19014]

Athanasios Davvetas, Iraklis Angelos Klampanos and Vangelis Karkaletsis

National Centre for Scientific Research "Demokritos", Greece

8:20AM Effortless Deep Training for Traffic Sign Detection Using Templates and Arbitrary Natural Images [#19586]

Lucas Tabelini Torres, Thiago M. Paixao, Rodrigo F. Berriel, Alberto F. De Souza, Claudine Badue, Nicu Sebe and Thiago Oliveira-Santos

Universidade Federal do Espirito Santo, Brazil; Instituto Federal do Espirito Santo, Brazil; University of Trento, Italy

8:40AM A Distant Supervised Relation Extraction Model with Two Denoising Strategies [#20145]

Zikai Zhou, Yi Cai, Jingyun Xu, Jiayuan Xie, Qing Li and Haoran Xie

South China University of Technology, China; Guangdong University of Technology, China; The Hong Kong Polytechnic University, Hong Kong; The Education University of Hong Kong, Hong Kong

9:00AM Multi-scale Stepwise Training Strategy of Convolutional Neural Networks for Diabetic Retinopathy Severity Assessment [#20096]

Fangjun Li, Dongfeng Yuan, Mingqiang Zhang, Cong Liang, Xiaotian Zhou and Haixia Zhang

Shandong University, China

9:20AM Spontaneous Facial Micro-Expression Recognition using 3D Spatiotemporal Convolutional Neural Networks [#20241]

Sai Prasanna Teja Reddy, Surya Teja Karri, Shiv Ram Dubey and Snehasis Mukherjee

Indian Institute of Information Technology, Sri City, India

Session D4_PIIa: Applications and Data Mining

Thursday, July 18, 8:00AM-9:40AM, Room: Panorama II, Chair: Ao Feng

8:00AM DICENet: Fine-Grained Recognition via Dilated Iterative Contextual Encoding [#20246]

Abhishek Pal, Gautham Krishnan, Manav Moorthy, Narasimha Yadav, Adithya R Ganesh and Sree Sharmila

Sri Sivasubramaniya Nadar College of Engineering, India

8:20AM Embeddings and Convolution, Is That the Best You can Do with Sentiment Features? [#19833]

Ao Feng, Zhenghao Chen, Shuang Zhou and Xi Wu

Chengdu University of Information Technology, China

8:40AM 3D Room Reconstruction from A Single Fisheye Image [#19993]

Mingyang Li, Yi Zhou, Ming Meng, Yuehua Wang and Zhong Zhou

Beihang University, China; Bigview Technology Co. Ltd., China; Texas A&M University-Commerce, United States

9:00AM Incorporating Human Knowledge in Neural Relation Extraction with Reinforcement Learning [#19409]

Bing Liu, Guilin Qi, Lu Pan, Shangfu Duan and Tianxing Wu

Southeast University, China; Baidu Inc., China; Nanyang Technological University, Singapore

9:20AM Knowledge Adaptive Neural Network for Natural Language Inference [#19930]

Zhang Qi, Yang Yan, Chen Chengcai, He Liang and Yu Zhou

Department of Computer Science and Technology, East China Normal University, China; Xiaoi Robot Technology Co., Ltd, China; Computer Science Department, University of California, Davis, United States

Session D4_PIIIa: Extreme Learning Machines (ELM) and Machine Learning
Thursday, July 18, 8:00AM-9:40AM, Room: Panorama III, Chair: WeiZhong Yan

8:00AM Continuous Modeling of Power Plant Performance with Regularized Extreme Learning Machine [#19540]

Rui Xu and WeiZhong Yan

GE Global Research, United States

8:20AM Semi-Supervised Online Elastic Extreme Learning Machine with Forgetting Parameter to deal with concept drift in data streams [#20125]

Carlos Silva and Renato Krohling

Federal University of Espirito Santo, Brazil

8:40AM A Hardware/Software Extreme Learning Machine Solution for Improved Ride Comfort in Automobiles [#20134]

Oscar Mata-Carballeira, Ines del Campo, Victoria Martinez and Javier Echanobe

University of the Basque Country (UPV/EHU), Spain

9:00AM Informative Instance Detection for Active Learning on Imbalanced Data [#19236]

Xu Jian, Wang Xinyue, Cai Zixin, Yang Liu and Jing Liping

Beijing Jiaotong University, China; TianJin University, China

9:20AM Evolutionary Neural Architecture Search for Image Restoration [#19238]

Gerard Jacques van Wyk and Anna Sergeevna Bosman

University of Pretoria, South Africa

Session D4_PIVa: S17: Biologically Inspired Computational Vision and S19: Ensemble Learning and Applications
Thursday, July 18, 8:00AM-9:40AM, Room: Panorama IV, Chair: Khan Iftekharuddin

8:00AM 3D Skeleton Estimation and Human Identity Recognition Using Lidar Full Motion Video [#20332]

Alexander Glandon, Lasitha Vidyaratne, Nasrin Sadeghzadehyazdi, Nibir Dhar, Jide Familoni, Scott Acton and Khan Iftekharuddin

Old Dominion University, United States; University of Virginia, United States; Army NVESD, United States

8:20AM Adaptive Random Forests with Resampling for Imbalanced data Streams [#20476]

Luis Eduardo Boiko Ferreira, Heitor Murilo Gomes, Albert Bifet and Luiz Eduardo Soares Oliveira

Federal University of Parana, Brazil; Telecom Paristech, France

8:40AM On Evaluating the Online Local Pool Generation Method for Imbalance Learning [#19443]

Mariana A. Souza, George D. C. Cavalcanti, Rafael M. O. Cruz and Robert Sabourin

University of Quebec, Canada; Federal University of Pernambuco, Brazil; Stradigi AI, Canada

9:00AM Vertical and Horizontal Partitioning in Data Stream Regression Ensembles [#19619]

Jean Paul Barddal

PPGIa - Pontificia Universidade Catolica do Parana, Brazil

9:20AM Evaluating Competence Measures for Dynamic Regressor Selection [#19604]

Thiago J. M. Moura, George D. C. Cavalcanti and Luiz S. Oliveira

IFPB, Brazil; CIn - UFPE, Brazil; DInf - UFPR, Brazil

Session D4_PVa: 8: Other Applications

Thursday, July 18, 8:00AM-9:40AM, Room: Panorama V, Chair: Francesco Carlo Morabito

8:00AM Analysis of Two Various Approaches for Attributes Classification Based on User-Submitted Photos [#19641]

Wendy Damar Wisma Trisna Bayu, May Iffah Rizki, Lintang Matahari Hasani, Valian Fil Ahli, Ari Wibisono and Petrus Mursanto

Universitas Indonesia, Indonesia

8:20AM Synthetic Lung Nodule 3D Image Generation Using Autoencoders [#20009]

Steve Kommrusch and Louis-Noel Pouchet

Colorado State University, United States

8:40AM Eye Gesture Based Communication for People with Motor Disabilities in Developing Nations [#19315]

Sharan Pai and Anish Bhardwaj

IIIT Delhi, India

9:00AM Multi-Class Classification in Parkinson's Disease by Leveraging Internal Topological Structure of the Data and of the Label Space [#20094]

Alex Frid, Larry Manevitz and Ohad Mosafi

Laboratory of Clinical Neurophysiology, Faculty of Medicine, Technion (IIT), Israel; Department of Computer Science Ariel University and University of Haifa, Israel; Department of Computer Science, University of Haifa, Israel

9:20AM Optimization of chemical processes applying surrogate models for phase equilibrium calculations [#19234]

Corina Nentwich, Christopher Varela and Sebastian Engell

TU Dortmund University, Germany

Coffee Break
Thursday, July 18, 9:40AM-10:00AM, Room: Pre-function area Intercontinental

Plenary Poster Session POS2: Poster Session 2
Thursday, July 18, 10:00AM-11:40AM, Room: Ballroom I + II +II, Chair: Manuel Roveri

P301 Comparative study between Deep Face, Autoencoder and Traditional Machine Learning Techniques aiming at Biometric Facial Recognition [#20357]
Jonnathann Finizola, Jonas Targino, Felipe Teodoro and Clodoaldo Lima
University of Sao Paulo, Brazil

P302 Estimating Betti Numbers using Deep Learning [#20363]
Rahul Paul and Stephan Chalup
The University of Newcastle, Australia

P303 Neural Morphological Segmentation Model for Mongolian [#20397]
Weihua Wang, Rashel Fam, Feilong Bao, Yves Lepage and Guanglai Gao
Inner Mongolia University, China; Waseda University, Japan

P304 Motion Integration and Disambiguation by Spiking V1-MT-MSTl Feedforward-Feedback Interaction [#20399]
Maximilian Paul Ruben Loehr, Daniel Schmid and Heiko Neumann
Ulm University, Germany

P305 An End-to-End Location and Regression Tracker with Attention-based Fused Features [#20405]
Qinyi Zhang, Shishuai Du and Huihua Yang
Beijing University Of Posts and Telecommunications, China

P306 SE-GAN: A Swap Ensemble GAN Framework [#20411]
Licheng Shen and Yan Yang
School of Information Science and Technology Southwest Jiaotong University, China

P307 A Novel Group-Aware Pruning Method for Few-shot Learning [#20434]
Yin-Dong Zheng, Yun-Tao Ma, Ruo-Ze Liu and Tong Lu
National Key Lab for Novel Software Technology, Nanjing University, China

P308 K-Random Forests: a K-means style algorithm for Random Forest clustering [#19210]
Manuele Bicego
Computer Science Department, University of Verona, Italy

P309 A Multivariate Fuzzy Kohonen Clustering Network [#19868]
Rodrigo Cavalcanti, Bruno Pimentel, Carlos Almeida and Renata Souza
Universidade Federal de Pernambuco, Brazil; Universidade de Sao Paulo, Brazil; Universidade de Campina Grande, Brazil

P310 2 Learning Navigation via R-VIN on Road Graphs [#19544]
Xiaojuan Wei, Jinglin Li, Quan Yuan, Xu Han and Fangchun Yang
Beijing University of Posts and Telecommunications, China

P311 MPSSD: Multi-Path Fusion Single Shot Detector [#19733]

Shuyi Qu, Kaizhu Huang, Amir Hussain and Yannis Goulermas

Xi'an Jiaotong-Liverpool University, China; Edinburgh Napier University, United Kingdom; University of Liverpool, United Kingdom

P312 Deep learning based domain knowledge integration for small datasets: Illustrative applications in materials informatics [#19941]

Zijiang Yang, Reda Al-Bahrani, Andrew Reid, Stefanos Papanikolaou, Surya Kalidindi, Wei-keng Liao, Alok Choudhary and Ankit Agrawal

Northwestern University, United States; National Institute of Standards and Technology, United States; West Virginia University, United States; Georgia Institute of Technology, United States

P313 FocalNet - Foveal Attention for Post-processing DNN Outputs [#19850]

Burhan Ahmad Mudassar and Saibal Mukhopadhyay

Georgia Institute of Technology, United States

P314 Stochastic Variational Inference for Bayesian Sparse Gaussian Process Regression [#19464]

Haibin Yu, Trong Nghia Hoang, Bryan Kian Hsiang Low and Patrick Jaillet

National University of Singapore, Singapore; MIT-IBM Watson AI Lab, United States; Massachusetts Institute of Technology, United States

P315 A Support Tensor Train Machine [#20155]

Cong Chen, Kim Batselier, Ching-yun Ko and Ngai Wong

The University of Hong Kong, Hong Kong; Delft University of Technology, Netherlands

P316 StepEncog: A Convolutional LSTM Autoencoder for Near-Perfect fMRI Encoding [#19397]

Subba Reddy Oota, Vijay Rowtula, Manish Gupta and Raju S. Bapi

IIIT Hyderabad, India; IIIT Hyderabad / Microsoft, India; IIIT Hyderabad / University of Hyderabad, India

P317 Multi-task Sentence Encoding Model for Semantic Retrieval in Question Answering Systems [#20437]

Qiang Huang, Jianhui Bu, Weijian Xie, Shengwen Yang, Weijia Wu and Liping Liu

Baidu Inc., China

P318 Modular Multilayer Neural Networks Integrate Multisensory Information Near-optimally [#19845]

Bat-Amgalan Bat-Erdene, He Wang and K. Y. Michael Wong

The Hong Kong University of Science and Technology, Hong Kong

P319 Melodious Micro-frissons: Detecting Music Genres From Skin Response [#19937]

Jessica Sharmin Rahman, Tom Gedeon, Sabrina Caldwell, Richard Jones, Md Zakir Hossain and Xuanying Zhu

The Australian National University, Australia

P320 Enhanced Matching Network for Multi-turn Response Selection in Retrieval-Based Chatbots [#19710]

Hui Deng, Xiang Xie and XueJun Zhang

Beijing Institute of Technology, China; Chinese Academy of Scienses, China

P321 DeepHist: Towards a Deep Learning-based Computational History of Trends in the NIPS [#19862]

Amna Dridi, Mohamed Medhat Gaber, R. Muhammad Atif Azad and Jagdev Bhogal

Birmingham City University, United Kingdom

P322 Multi-label Classification Models for Detection of Phonetic Features in building Acoustic Models [#19387]

Rupam Ojha and C Chandra Sekhar

Indian Institute of Technology Madras, India

P323 Skeletonization Combined with Deep Neural Networks for Superpixel Temporal Propagation [#20272]

Adam Fodor, Aron Fothi, Laszlo Kopacsi, Ellak Somfai and Andras Lorincz

Eotvos Lorand University, Hungary

P324 A Novel LSTM Approach for Asynchronous Multivariate Time Series Prediction [#19958]

King Ma and Henry Leung

Department of Electrical and Computer Engineering, University of Calgary, Canada

P325 RSLIME: An Efficient Feature Importance Analysis Approach for Industrial Recommendation Systems [#19708]

Fan Zhu, Min Jiang, Yiming Qiu, Chenglong Sun and Min Wang

iQIYI Inc, China

P326 Deep Spiking Neural Network with Spike Count based Learning Rule [#19449]

Jibin Wu, Yansong Chua, Malu Zhang, Qu Yang, Guoqi Li and Haizhou Li

National University of Singapore, Singapore; Institute for Infocomm Research, A*STAR, Singapore; Tsinghua University, China

P327 Improving Visual Road Condition Assessment by Extensive Experiments on the Extended GAPs Dataset [#20496]

Ronny Stricker, Markus Eisenbach, Maximilian Sesselmann, Klaus Debes and Horst-Michael Gross

TU Ilmenau, Germany; LEHMANN + PARTNER GmbH, Germany

P328 Hierarchical Dual Quaternion-Based Recurrent Neural Network as a Flexible Internal Body Model [#20474]

Malte Schilling

Center of Excellence Cognitive Interaction Technology, Bielefeld University, Germany

P329 Additive Margin SincNet for Speaker Recognition [#20076]

Joao Antonio Chagas Nunes, David Macedo and Cleber Zanchettin

Universidade Federal de Pernambuco, Brazil

P330 Recognition of patterns of optimal diel vertical migration of zooplankton using neural networks [#19332]

Oleg Kuzenkov, Andrew Morozov and Galina Kuzenkova

Lobachevsky State University of Nizhni Novgorod, Russia; Shirshov Institute of Oceanolog, Russia

P331 Dense-CAM: Visualize the Gender of Brains with MRI Images [#19352]
Kai Gao, Hui Shen, Yadong Liu, Lingli Zeng and Dewen Hu
National University of Defense Technoloty, China

P332 Using Deep Learning for Mobile Marketing User Conversion Prediction [#19327]
Matos Luis Miguel, Cortez Paulo, Mendes Rui and Moreau Antoine
University of Minho, Portugal; OLAmobile, Portugal

P333 Angular Velocity Estimation of Image Motion Mimicking the Honeybee Tunnel Centring Behaviour [#19326]
Huatian Wang, Qinbing Fu, Hongxin Wang, Jigen Peng, Paul Baxter, Cheng Hu and Shigang Yue
University of Lincoln, United Kingdom; Guangzhou University, China

P334 Speech Emotion Recognition With Early Visual Cross-Modal Enhancement Using Spiking Neural Networks [#19775]
Esma Mansouri-Benssassi and Juan Ye
University of St Andrews, Scotland

P335 Multi-Task Learning with Capsule Networks [#19215]
Kai Lei, Qiuai Fu and Yuzhi Liang
Peking University, China

P336 Coupled Dictionary Learning for Multi-label Embedding [#19469]
Niu Sijia, Xu Qian, Zhu Pengfei, Hu Qinghua and Shi Hong
Tianjin University, China

P337 Skip The Question You Don't Know: An Embedding Space Approach [#19359]
Kaiyuan Chen and Jinghao Zhao
University of California, Los Angeles, United States

P338 Regularization and Iterative Initialization of Softmax for Fast Training of Convolutional Neural Networks [#19598]
Qiang Rao, Bing Yu, Kun He and Bailan Feng
Huawei Technologies Co., Ltd., China

P339 Efficient Deep Gaussian Process Models for Variable-Sized Inputs [#20261]
Issam Laradji, Mark Schmidt, Vladimir Pavlovic and Minyoung Kim
UBC, Canada; Rutgers University, United States; Seoul Nat'l Univ. of Science & Technology, Korea (South)

P340 A Music Recommendation System Based on logistic regression and eXtreme Gradient Boosting [#19514]
Haoye Tian, Haini Cai, Junhao Wen, Shun Li and Yingqiao Li
School of Big Data and Software Engineering, Chongqing University, Chongqing, China

P341 Brain Dynamics Encoding from Visual Input during Free Viewing of Natural Videos [#19366]
Zhen Liang, Hiroshi Higashi, Shigeyuki Oba and Shin Ishii
Kyoto University, Japan

P342 Deep Fusion: An Attention Guided Factorized Bilinear Pooling for Audio-video Emotion Recognition [#19842]

Yuanyuan Zhang, Zi-Rui Wang and Jun Du

University of Science and Technology of China, China

P343 Your Eyes Say You're Lying: An Eye Movement Pattern Analysis for Face Familiarity and Deceptive Cognition [#19623]

Jiaxu Zuo, Tom Gedeon and Zhenyue Qin

Australian National University, Australia

P344 Unsupervised Learning of Eye Gaze Representation from the Web [#20230]

Neeru Dubey, Shreya Ghosh and Abhinav Dhall

Indian Institute of Technology Ropar, India

P345 Video Super Resolution with Estimation of Motion Information by Using Higher Resolution Images Obtained by Single Image Super Resolution [#19300]

Jonathan Mojoo, Motaz Sabri and Takio Kurita

Hiroshima University, Dept. of Information Engineering, Japan

P346 Aspect-level Sentiment Classification with Reinforcement Learning [#19726]

Tingting Wang, Jie Zhou, Qinmin Vivian Hu and Liang He

East China Normal University, China; Ryerson University, Canada

P347 DOAD: An Online Dredging Operation Anomaly Detection Method based on AIS Data [#19478]

Bin Cheng, Shiyou Qian, Jian Cao, Guangtao Xue, Jiadi Yu, Yanmin Zhu and Minglu Li

Shanghai Jiao Tong University, China

P348 MDLDA: A New Multi-Dimension Topic Approach [#19617]

Juncheng Ding and Wei Jin

University of North Texas, United States

P349 Analysing and Inferring of Intimacy Based on fNIRS Signals and Peripheral Physiological Signals [#19757]

Chao Li, Qian Zhang, Ziping Zhao, Li Gu, Nicholas Cummins and Bj\"{o}rn Schuller

Tianjin Normal University, China; University of Augsburg, Germany; Imperial College London, United Kingdom

P350 Extreme Dimensionality Reduction for Network Attack Visualization with Autoencoders [#19240]

Daniel C. Ferreira, Felix Iglesias Vazquez and Tanja Zseby

TU Wien, Austria

P351 Learning Topological Representation for Networks via Hierarchical Sampling [#19727]

Guoji Fu, Chengbin Hou and Xin Yao

Southern University of Science and Technology, China

P352 Application Inference using Machine Learning based Side Channel Analysis [#19947]

Nikhil Chawla, Arvind Singh, Monodeep Kar and Saibal Mukhopadhyay

Georgia Institute of Technology, United States; Intel Corporation, United States

P353 A Hybrid Character Representation for Chinese Event Detection [#19768]

Xiangyu Xi, Tong Zhang, Wei Ye, Jinglei Zhang, Rui Xie and Shikun Zhang

National Engineering Research Center for Software Engineering, Peking University, China

P354 Skin lesion segmentation using deep learning for images acquired from smartphones [#20107]

Gabriel G. De Angelo, Andre G. C. Pacheco and Renato A. Krohling

Federal University of Espirito Santo, Brazil

P355 Classification and Regression Analysis of Lung Tumors from Multi-level Gene Expression Data [#20033]

Pratheeba Jeyananthan and Mahesan Niranjan

PhD Student, United Kingdom; Supervisor, United Kingdom

P356 Common Fate Based Episodic Segmentation by Combining Supervoxels with Deep Neural Networks [#20273]

Laszlo Kopacsi, Aron Fothi, Adam Fodor, Ellak Somfai and Andras Lorincz

Eotvos Lorand University, Hungary

P357 Spatial Event Prediction via Multivariate Time Series Analysis of Neighboring Social Units using Deep Neural Networks [#19403]

Bonaventure Chidube Molokwu and Ziad Kobti

School of Computer Science, University of Windsor, Windsor, Ontario, Canada N9B-3P4, Canada

P358 Risk Prediction for Imbalanced Data in Cyber Security : A Siamese Network-based Deep Learning Classification Framework [#19908]

Degang Sun, Zhengrong Wu, Yan Wang, Qiujian Lv and Bo Hu

University of Chinese Academy of Sciences, China

P359 PROMISE: A Taxi Recommender System Based on Inter-regional Passenger Mobility [#19151]

Xiaojun Li, Yu-E Sun, Qian Liu, Zhiwei Shen, Benjian Song, Yang Du and He Huang

School of Rail Transportation, Soochow University, China; School of Computer Science and Technology,University of Science and Technology of China, China; School of Computer Science and Technology, Soochow University, China

P360 Ideal Neighbourhood Mask for Speech Enhancement Using Deep Neural Networks [#19725]

Christian Arcos, Marley Vellasco and Abraham Alcaim

Pontifical Catholic University of Rio de Janeiro, Brazil

P361 Knowledge graph-based entity importance learning for multi-stream regression on Australian fuel price forecasting [#19589]

Dennis Chow, Anjin Liu, Guangquan Zhang and Jie Lu

FEIT, UTS, Australia; CAI,FEIT,UTS, Australia

P362 An Initial Study on the Relationship Between Meta Features of Dataset and the Initialization of NNRW [#19297]

Weipeng Cao, Muhammed J. A. Patwary, Pengfei Yang, Xizhao Wang and Zhong Ming

Shenzhen University, China; University of Chinese Academy of Sciences, China

P363 Multi-Objective Ensemble Model for Short-Term Price Forecasting in Corn Price Time Series [#19074]

Matheus Henrique Dal Molin Ribeiro, Victor Henrique Alves Ribeiro, Gilberto Reynoso-Meza and Leandro dos Santos Coelho

Federal Technological University of Parana and Pontifical Catholic University of Parana, Brazil; Pontifical Catholic University of Parana, Brazil; Federal University of Parana and Pontifical Catholic University of Parana, Brazil

P364 Proactive Minimization of Convolutional Networks [#20176]

Bendeguz Jenei, Gabor Berend and Laszlo Varga

University of Szeged, Institute of Informatics, Hungary

P365 Text Attention and Focal Negative Loss for Scene Text Detection [#19875]

Randong Huang and Bo Xu

Institute of Automation, Chinese Academy of Sciences, Beijing, China, China

P366 Unsupervised Meta-Learning for Clustering Algorithm Recommendation [#19885]

Bruno Pimentel and Andre Carvalho

Instituto de Ciencias Matematicas e de Computacao (ICMC-USP), Brazil

P367 Strong-Background Restrained Cross Entropy Loss for Scene Text Detection [#19894]

Randong Huang and Bo Xu

Institute of Automation, Chinese Academy of Sciences, Beijing, China, China

P368 Heteroclinic Orbits and Chaos in A Ring of Three Unidirectionally Coupled Nonmonotonic Neurons [#20012]

Horikawa Yo and Fujimoto Ken'ichi

Faculty of Engineering, Kagawa University, Japan

P369 Exploring Writing Pattern with Pop Culture Ingredients for Social User Modeling [#20014]

Chiyu Cai, Linjing Li, Daniel Zeng and Hongyuan Ma

Institute of Automation, Chinese Academy of Sciences, China; CNCERT/CC, China

P370 DeepSqueezeNet-CRF: A Lightweight Deep Model for Semantic Image Segmentation [#20019]

Danyu Lai, Yique Deng and Long Chen

Sun Yat-sen University, China

P371 A GAN Model With Self-attention Mechanism To Generate Multi-instruments Symbolic Music [#20066]

Faqian Guan, Chunyan Yu and Suqiong Yang

Fuzhou University, China

P372 ADPR: An Attention-based Deep Learning Point-of-Interest Recommendation Framework [#20072]

Junjie Yin, Yun Li, Zheng Liu, Jian Xu, Bin Xia and Qianmu Li

Nanjing University of Posts and Telecommunications, China; Nanjing University of Science and Technology, China

P373 Closer to Optimal Angle-Constrained Path Planning [#20124]
Changwu Zhang, Hengzhu Liu and Yuchen Tang
National University of Defense Technology, China; The University of Hong Kong, China

P374 Composing Multi-Instrumental Music with Recurrent Neural Networks [#20153]
David Samuel and Martin Pilat
Charles University, Faculty of Mathematics and Physics, Czech Republic

P375 Self-Attention based Network For Medical Query Expansion [#20157]
Su Chen, Qinmin Vivian Hu, Yang Song, Yun He, Huaying Wu and Liang He
East China Normal University, China; Ryerson University, Canada; Texas A&M University, United States

P376 Static Crowd Scene Analysis via Deep Network with Multi-branch Dilated Convolution Blocks [#20158]
Haoran Liu, Aiwen Jiang, Qiaosi Yi, Xiaolin Deng, Jianyi Wan and Mingwen Wang
Jiangxi Normal University, China

P377 Hybrid K-Means and Improved Self-Adaptive Particle Swarm Optimization for Data Clustering [#20172]
Luciano Pacifico and Teresa Ludermir
UNIVERSIDADE FEDERAL RURAL DE PERNAMBUCO, Brazil; UNIVERSIDADE FEDERAL DE PERNAMBUCO, Brazil

P378 Improving Retrieval-Based Question Answering with Deep Inference Models [#20175]
George Sebastian Pirtoaca, Traian Rebedea and Stefan Ruseti
University Politehnica of Bucharest, Romania

P379 Leveraging Recursive Processing for Neural-Symbolic Affect-Target Associations [#20179]
Alexander Sutherland, Sven Magg and Stefan Wermter
University of Hamburg, Germany

P380 An ensemble strategy for Haplotype Inference based on the internal variability of algorithms [#20265]
Rogerio Rosa, Lucas Cambuim and Edna Barros
Center for Strategic Technologies of Brazilian Northeast, Brazil; Pernambuco Federal University, Brazil

P381 Hierarchical Intention Enhanced Network for Automatic Dialogue Coherence Assessment [#20353]
Yunxiao Zhou, Man Lan and Wenting Wang
East China Normal University, China; Alibaba Group, China

Session D4_DIb: S25: Artificial Intelligence in Health and Medicine: from Theory to Applications and S27: Deep Neural image and text processing
Thursday, July 18, 10:00AM-11:40AM, Room: Duna Salon I, Chair: Wei Chang Yeh

10:00AM Benchmarking Multi-task Learning in Predictive Models for Drug Discovery [#20136]

Philippa Grace McCabe, Sandra Ortega-Martorell and Ivan Olier

Liverpool John Moores University, United Kingdom

10:20AM An Application of Convolutional Neural Networks for the Early Detection of Late-onset Neonatal Sepsis [#19944]

Yifei Hu, Vincent Lee and Kenneth Tan

Monash University, Australia; Monash Children's Hospital, Australia

10:40AM Deep Capsule Network based Automatic Batch Code Identification Pipeline for a Real-life Industrial Application [#20212]

Chandan Kumar Singh, Vivek Kumar Gangwar, Harsh Vardhan Singh, Karan Narain, Anima Majumder and Swagat Kumar

Tata Consultancy Services-Research, India

11:00AM A TOI based CNN with Location Regression for Insurance Contract Analysis [#19259]

Kai Zhang, Lin Sun and Fule Ji

Zhejiang University City College, China

11:20AM Transformation-gated LSTM: efficient capture of short-term mutation dependencies for multivariate time series prediction tasks [#19607]

Jun Hu and Wendong Zheng

College of Computer Science and Electronic Engineering Hunan University, China

Session D4_DIIb: S29: Biologically Inspired Learning for Cognitive Robotics and S02: Low Power Hardware for Spiking Neural Networks

Thursday, July 18, 10:00AM-11:40AM, Room: Duna Salon II, Chair: Chris Yakopcic

10:00AM Effect of pruning on catastrophic forgetting in Growing Dual Memory Networks [#19745]

Wei Shiung Liew, Chu Kiong Loo, Vadym Gryshchuk, Cornelius Weber and Stefan Wermter

University of Malaya, Malaysia; University of Hamburg, Germany

10:20AM Heartbeat Detection Based on Pulse Neuron Model for Heart Rate Variability Analysis [#20508]

Takenori Obo, Daiki Takaguchi, Daisuke Katagami, Junji Sone, Takahito Tomoto, Yuta Ogai and Yoshihisa Udagawa

Tokyo Polytechnic University, Japan

10:40AM Action Acquisition Method for Constructing Cognitive Development System Through Instructed Learning [#19923]

Ryosuke Tanaka, Jinseok Woo and Naoyuki Kubota

Tokyo Metropolitan University, Japan

11:00AM A Spiking Neural Network with a Global Self-Controller for Unsupervised Learning Based on Spike-Timing-Dependent Plasticity Using Flash Memory Synaptic Devices [#19979]

Won-Mook Kang, Chul-Heung Kim, Soochang Lee, Sung Yun Woo, Jong-Ho Bae, Byung-Gook Park and Jong-Ho Lee

Seoul National University, Korea (South)

11:20AM High Speed Cognitive Domain Ontologies for Asset Allocation Using Loihi Spiking Neurons [#19994]

Chris Yakopcic, Nayim Rahman, Tanvir Atahary, Tarek Taha, Alex Beigh and Scott Douglass

University of Dayton, United States; University of Dayton Research Institute, United States; Human Effectiveness Directorate, Air Force Research Laboratory, United States

Session D4_IIIb: 2b: Unsupervised learning and clustering, (including PCA, and ICA)

Thursday, July 18, 10:00AM-11:40AM, Room: Duna Salon III, Chair: Samet Akcay

10:00AM A Novel Clustering Algorithm based on Directional Propagation of Cluster Labels [#19152]

Na Xiao, Kenli Li, Xu Zhou and Keqin Li

Hunan University, China; State University of New York, United States

10:20AM Automatic detection of the support points in relational clustering [#19480]

Parisa Rastin, Younes Bennani and Rosanna Verde

UP13, Sorbonne Paris Cite, France; Universit della Campania Luigi Vanvitelli, Italy

10:40AM Learning with Coherence Patterns in Multivariate Time-series Data via Dynamic Mode Decomposition [#19278]

Takehito Bito, Masashi Hiraoka and Yoshinobu Kawahara

Osaka University, Japan; Osaka University / RIKEN, Japan; Kyushu University / RIKEN, Japan

11:00AM Unifying Unsupervised Domain Adaptation and Zero-Shot Visual Recognition [#19887]

Qian Wang, Penghui Bu and Toby Breckon

Durham University, United Kingdom; Xi'an Jiaotong University, China

11:20AM Skip-GANomaly: Skip Connected and Adversarially Trained Encoder-Decoder Anomaly Detection [#20178]

Samet Akcay, Amir Atapour-Abarghouei and Toby Breckon

Durham University, United Kingdom

Session D4_PIb: S07: Advanced Machine Learning Methods for Big Graph Analytics

Thursday, July 18, 10:00AM-11:40AM, Room: Panorama I, Chair: Guodong Long

10:00AM ICNet: Incorporating Indicator Words and Contexts to Identify Functional Description Information [#19939]

Qu Liu, Zhenyu Zhang, Yanzeng Li, Tingwen Liu, Diying Li and Jinqiao Shi

Institute of Information Engineering, Chinese Academy of Sciences., China; DiDi Chuxing., China; Beijing University of Posts and Telecommunications., China

10:20AM Smooth Deep Network Embedding [#19989]

Mengyu Zheng, Chuan Zhou, Jia Wu and Li Guo

Institute of Information Engineering, Chinese Academy of Sciences, China; Department of Computing, Faculty of Science and Engineering, Macquarie University, Australia

10:40AM Evolutionary Community Detection in Dynamic Social Networks [#20102]

Fanzhen Liu, Jia Wu, Chuan Zhou and Jian Yang

Department of Computing, Macquarie University, Australia; Institute of Information Engineering, Chinese Academy of Sciences, China

11:00AM RASE: Relationship Aware Social Embedding [#19714]

Aravind Sankar, Adit Krishnan, Zongjian He and Carl Yang

University of Illinois, Urbana-Champaign, United States

11:20AM Meta-Learning for User Cold-Start Recommendation [#19471]

Homanga Bharadhwaj

IIT Kanpur, India

Session D4_PIIb: Deep Learning and Algorithms

Thursday, July 18, 10:00AM-11:40AM, Room: Panorama II, Chair: Thomas Trappenberg

10:00AM A Deep Learning Based Approach to Skin Lesion Border Extraction With a Novel Edge Detector in Dermoscopy Images [#19358]

Abder-Rahman Ali, Jingpeng Li, Sally Jane O'Shea, Guang Yang, Thomas Trappenberg and Xujiong Ye

University of Stirling, United Kingdom; Mater Private Hospital, Ireland; Imperial College London, United Kingdom; Dalhousie University, Canada; University of Lincoln, United Kingdom

10:20AM Query recommendation based on user behavior and query semantics [#19353]

Jialu Xu, Feiyue Ye, Hang Yu and Bo Wang

Shanghai University, China; University of Technology Sydney, Australia

10:40AM Predicting Household Water Consumption Events: Towards a Personalised Recommender System to Encourage Water-conscious Behaviour [#20078]

Md Shamsur Rahim, Khoi Anh Nguyen, Rodney Anthony Stewart, Damien Giurco and Michael Blumenstein

Centre for Artificial Intelligence, School of Software, University of Technology Sydney, Australia; School of Engineering and Built Environment, Griffith University, Australia; Institute for Sustainable Futures, University of Technology Sydney, Australia

11:00AM SAI: A Sensible Artificial Intelligence that plays Go [#19394]

Francesco Morandin, Gianluca Amato, Rosa Gini, Carlo Metta, Maurizio Parton and Gian-Carlo Pascutto

Universita` di Parma, Italy; Universita` di Chieti-Pescara, Italy; Agenzia regionale di sanita` della Toscana, Italy; Universita` di Firenze, Italy; Mozilla Corporation, Belgium

11:20AM The Emergent-Context Emergent-Input Framework for Temporal Processing [#20406]

Xiang Wu and Juyang Weng

Nanjing University of Science and Technology, China; Michigan State University, United States

Session D4_PIIIb: Neural Network Models

Thursday, July 18, 10:00AM-11:40AM, Room: Panorama III, Chair: Ata Kaban

10:00AM Compressive Learning of Multi-layer Perceptrons: An Error Analysis [#20494]

Ata Kaban

University of Birmingham, United Kingdom

10:20AM Relearning procedure to adapt pollutant prediction neural model: Choice of relearning algorithm [#19144]

Philippe Thomas, Marie-Christine Suhner and William Derigent

University of Lorraine CRAN, France

10:40AM Accelerating Deep Unsupervised Domain Adaptation with Transfer Channel Pruning [#19085]

Chaohui Yu, Jindong Wang, Yiqiang Chen and Zijing Wu

University of Chinese Academy of Sciences, China; Columbia University, United States

11:00AM Attention-driven Multi-sensor Selection [#19120]

Stefan Braun, Daniel Neil, Jithendar Anumula, Enea Ceolini and Shih-Chii Liu

Institute of Neuroinformatics, Zurich, Switzerland

11:20AM DGFFM: Generalized Field-aware Factorization Machine based on DenseNet [#19720]

Qing-Long Zhang, Lu Rao and Yubin Yang

State Key Laboratory for Novel Software Technology at Nanjing University, China

Session D4_PIVb: S16: Explainable Machine Learning

Thursday, July 18, 10:00AM-11:40AM, Room: Panorama IV, Chair: Davide Bacciu

10:00AM Scalable implementation of measuring distances in a Riemannian manifold based on the Fisher Information metric [#19892]

Raul V. Casana-Eslava, Jose D. Martin-Guerrero, Sandra Ortega-Martorell, Paulo J. Lisboa and Ian H. Ian

Liverpool John Moores University, United Kingdom; Universitat de Valencia, Spain

10:20AM How to produce complementary explanations using an Ensemble Model [#20304]

Wilson Silva, Kelwin Fernandes and Jaime S. Cardoso

INESC TEC, Portugal; NILG.AI, Portugal

10:40AM On The Stability of Interpretable Models [#19575]

Riccardo Guidotti and Salvatore Ruggieri

ISTI-CNR, Italy; University of Pisa, Italy

11:00AM Contrastive Relevance Propagation for Interpreting Predictions by a Single-Shot Object Detector [#19595]

Hideomi Tsunakawa, Yoshitaka Kameya, Hanju Lee, Yosuke Shinya and Naoki Mitsumoto

Meijo University, Japan; DENSO CORPORATION, Japan

11:20AM Explainable Classifier Supporting Decision-making for Breast Cancer Diagnosis from Histopathological Images [#19794]

Patrik Sabol, Peter Sincak, Kana Ogawa and Pitoyo Hartono

Technical University of Kosice, Slovakia; Chukyo University, Japan

Session D4_PVb: S32: Deep Reinforcement Learning for Games

Thursday, July 18, 10:00AM-11:40AM, Room: Panorama V, Chair: Yuanheng Zhu

10:00AM End-to-end Learning Method for Self-Driving Cars with Trajectory Recovery Using a Path-following Function [#19741]

Tadashi Onishi, Toshiyuki Motoyoshi, Yuki Suga, Hiroki Mori and Tetsuya Ogata

Waseda University, Japan

10:20AM Modified State Observer Based Two-Way ETNAC Design For Uncertain Linear Systems [#20379]

Abdul Ghafoor and Sivasubramanya N Balakrishnan

Missouri University of Sciences and Technology, Rolla, Missouri., United States

10:40AM Optimal Pedestrian Evacuation in Building with Consecutive Differential Dynamic Programming [#19916]

Yuanheng Zhu, Haibo He, Dongbin Zhao and Zhongsheng Hou

Institute of Automation, Chinese Academy of Sciences, China; University of Rhode Island, United States; Qingdao University, China

11:00AM Formation Control with Collision Avoidance through Deep Reinforcement Learning [#19932]

Zezhi Sui, Zhiqiang Pu, Jianqiang Yi and Tianyi Xiong

Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China

11:20AM Strategy Selection in Complex Game Environments Based on Transfer Reinforcement Learning [#20395]

Hongwei Ge, Mingde Zhao, Kai Zhang and Liang Sun

Dalian University of Technology, China; McGill University, Canada

Plenary Poster Session POS3: Poster Session 3
Thursday, July 18, 11:50AM-1:30PM, Room: Ballroom I + II +II, Chair: Khan M. Iftekharuddin

P501 A Novel Two-Factor Attention Encoder-Decoder Network through Combining Temporal and Prior Knowledge for Weather Forecasting [#20141]
Minglei Yuan, Xiaozhong Ji, Tong Lu, Pengfei Chen and Hualu Zhang
Nanjing University, China; Nari Group Corporation, China

P502 Synaptic Learning of Long-Term Cognitive Networks with Inputs [#20482]
Richar Sosa, Alejandro Alfonso, Gonzalo Napoles, Rafael Bello, Koen Vanhoof and Ann Nowe
Artificial Intelligence Lab, Vrije Universiteit Brussel(VUB), Belgium; Universidad Central de Las Villas (UCLV), Cuba; Faculty of Business Economics, Hasselt University (UHasselt), Belgium

P503 A temporal encoding method based on expansion representation [#19470]
Yan Dai, Mengwen Yuan, Huajin Tang and Rui Yan
College of Computer Science,Sichuan University, China

P504 Cellular Computational Network for Distributed Power Flow Inferencing in Electric Distribution Systems [#20374]
Hasala Dharmawardena and Ganesh K. Venayagamoorthy
Clemson University, United States

P505 From Content Text Encoding Perspective: A Hybrid Deep Matrix Factorization Approach for Recommender System [#19654]
Jianing Zhou, Junhao Wen, Shun Li and Wei Zhou
School of Big Data & Software Engineering, Chongqing University, China

P506 Spatio-temporal Active Learning for Visual Tracking [#19498]
Chenfeng Liu, Pengfei Zhu and Qinghua Hu
Tianjin University, China

P507 CARL: Aggregated Search with Context-Aware Module Embedding Learning [#20343]
Xinting Huang, Jianzhong Qi, Yu Sun, Rui Zhang, Hai-Tao Zheng and Xiaojie Wang
The University of Melbourne, Australia; Twitter Inc., United States; Tsinghua University, China

P508 Continuous Gesture Recognition through Selective Temporal Fusion [#19974]
Pradyumna Narayana, Ross Beveridge and Bruce Draper
Colorado State University, United States

P509 AuxBlocks: Defense Adversarial Examples via Auxiliary Blocks [#20403]
Yueyao Yu, Pengfei Yu and Wenye Li
The Chinese University of Hong Kong, Shenzhen, China

P510 TA-STAN: A Deep Spatial-Temporal Attention Learning Framework for Regional Traffic Accident Risk Prediction [#19880]
Lei Zhu, Tianrui Li and Shengdong Du
Southwest Jiaotong University, China

P511 Simulating Brain Signals: Creating Synthetic EEG Data via Neural-Based Generative Models for Improved SSVEP Classification [#20251]

Nik Khadijah Nik Aznan, Amir Atapour-Abarghouei, Stephen Bonner, Jason Connolly, Noura Al Moubayed and Toby Breckon

Durham University, United Kingdom

P512 SFSegNet: Parse Freehand Sketches using Deep Fully Convolutional Networks [#19360]

Junkun Jiang, Ruomei Wang, Shujin Lin and Fei Wang

School of Data and Computer Science, Sun Yat-Sen University, China; School of Communication and Design, Sun Yat-Sen University, China

P513 Absolute Human Pose Estimation with Depth Prediction Network [#19559]

Marton Veges and Andras Lorincz

Eotvos Lorand University, Hungary

P514 DR-NET: A Stacked Convolutional Classifier Framework for Detection of Diabetic Retinopathy [#20457]

Sathiya Narayan Chakravarthy, Himanshu Singhal and Narasimha Yadav R.P.

SSN College of Engineering, India

P515 Convolutional Neural Network based Eye Recognition from Distantly Acquired Face Images for Human Identification [#19551]

Kazi Shah Nawaz Ripon, Lasker Ershad Ali, Nazmul Siddique and Jinwen Ma

Norwegian University of Science and Technology, Norway; Khulna University, Bangladesh; University of Ulster, United Kingdom; Peking University, China

P516 Competitive Online Generalised Linear Regression with Multidimensional Outputs [#19874]

Raisa Dzhamtyrova and Yuri Kalnishkan

Royal Holloway, University of London, United Kingdom

P517 GMM-based Undersampling and Its Application for Credit Card Fraud Detection [#19370]

Fengjun Zhang, Guanjun Liu, Zhenchuan Li, Chungang Yan and Changjun Jiang

Tongji University, China

P518 Efficient and Robust Convolutional Neural Networks via Channel Prioritization and Path Ensemble [#19404]

Chun-Min Chang, Chia-Ching Lin and Kuan-Ta Chen

Institute of Information Science, Academia Sinica, Taiwan

P519 Deep Generative State-Space Modeling of FMRI Images for Psychiatric Disorder Diagnosis [#20028]

Koki Kusano, Tetsuo Tashiro, Takashi Matsubara and Kuniaki Uehara

Kobe University, Japan

P520 Exploring Spatiotemporal Functional Connectivity Dynamics of the Human Brain using Convolutional and Recursive Neural Networks [#19362]

Zachary Harper and Charles Welzig

Medical College of Wisconsin, United States; Tufts Medical Center, United States

P521 An Analysis on the Learning Rules of the Skip-Gram Model [#20415]

Canlin Zhang, Xiuwen Liu and Daniel Bis

Florida State University, United States

P522 Micro-states based dynamic brain connectivity in understanding the commonality and differences in gender-specific emotion processing [#19407]

Rakib Al-Fahad and Mohammed Yeasin

The University of Memphis, United States

P523 Predicting Group Cohesiveness in Images [#19501]

Shreya Ghosh, Abhinav Dhall, Nicu Sebe and Tom Gedeon

Indian Institute of Technology Ropar, India; University of Trento, Italy; Australian National University, Australia

P524 Evaluating Incomplete DCOP Algorithms On Large-Scale Problems [#19110]

Allan Leite and Fabricio Enembreck

Pontifical Catholic University of Parana (PUCPR), Brazil

P525 CSSD: Cascade Single Shot Face Detector [#19310]

Shuainan Wang, Tong Xu, Wei Li and Haifeng Sun

Beijing University of Posts and Telecommunications, China

P526 Missing Entity Synergistic Completion across Multiple Isomeric Online Knowledge Libraries [#20409]

Bowen Dong, Jiawei Zhang, Chenwei Zhang, Yang Yang and Philip S. Yu

University of Illinois at Chicago, United States; Florida State University, United States; Beihang University, China

P527 Real-time Accurate Object Counting for Smart Farms [#19730]

Hao Shang, Rui Li, Xu He, Jilong Wang and Xinhui Peng

Hunan University, China

P528 Sports Motion Recognition based on Foot Trajectory State Sequence Mapping [#20127]

Lingjia Huang, Hao Ma, Weichao Yan, Wuda Liu, Haoyang Liu and Zaiyue Yang

Southern University of Science and Technology, China; Noitom Ltd, China; Beijing Sport University, China

P529 On Dissimilarity Representation and Transfer Learning for Offline Handwritten Signature Verification [#19342]

Victor L. F Souza, Adriano L. I. Oliveira, Rafael M. O. Cruz and Robert Sabourin

Centro de Informatica - Universidade Federal de Pernambuco, Brazil; Stradigi AI, Canada; Ecole de Technologie Superieure - Universite du Quebec, Canada

P530 Adaptive Neural Network Time-varying Formation Tracking Control for Multi-agent Systems via Minimal Learning Parameter Approach [#19935]

Tianyi Xiong, Zhiqiang Pu, Jianqiang Yi and Zezhi Sui

School of Artificial Intelligence, University of Chinese Academy of Sciences; Institute of Automation, Chinese Academy of Sciences, China

P531 Celebrities-ReID: A Benchmark for Clothes Variation in Long-Term Person Re-Identification [#19581]

Yan Huang, Qiang Wu, Jingsong Xu and Yi Zhong

University of Technology, Sydney, Australia

P532 GCGAN: Generative Adversarial Nets with Graph CNN for Network-Scale Traffic Prediction [#19230]

Yuxuan Zhang, Senzhang Wang, Bing Chen and Jiannong Cao

Nanjing University of Aeronautics and Astronautics, China; Nanjing University of Aeronautics and Astronautics & The Hong Kong Polytechnic University, China; The Hong Kong Polytechnic University, China

P533 Nonlinear Transformation for Multiple Auxiliary Information in Music Recommendation [#20258]

Junwei Zhang, Min Gao, Junliang Yu, Xinyi Wang, Yuqi Song and Qingyu Xiong

Chongqing University, China; The University of Queensland, Australia; Chingqing University, China

P534 Deep Learning-Based Strategy For Macromolecules Classification with Imbalanced Data from Cellular Electron Cryotomography [#19400]

Ziqian Luo, Xiangrui Zeng, Zhipeng Bao and Min Xu

Beijing University of Posts and Telecommunications, China; Carnegie Mellon University, United States; Tsinghua University, China

P535 VN-GAN: Identity-preserved Variation Normalizing GAN for Gait Recognition [#19476]

Peng Zhang, Qiang Wu and Jingsong Xu

University of Technology Sydney, Australia

P536 On the Linear Separability of Random Points in the d-dimensional Spherical Layer and in the d-dimensional Cube [#19253]

Sergey Sidorov and Nikolai Zolotykh

Lobachevsky State University of Nizhni Novgorod, Russia

P537 Deep Convolutional Neural Networks for Text Localisation in Figures From Biomedical Literature [#20388]

Ibrahim Almakky, Vasile Palade and Ariel Ruiz-Garcia

Coventry University, United Kingdom

P538 Urban Area Vehicle Re-Identification With Self-Attention Stair Feature Fusion and Temporal Bayesian Re-Ranking [#19325]

Chenghuan Liu, Du Huynh and Mark Reynolds

University of Western Australia, Australia

P539 Combining convolutional side-outputs for road image segmentation [#20252]

Felipe Reis, Raquel Almeida, Ewa Kijak, Simon Malinowski, Silvio Jamil F. Guimaraes and Zenilton Patrocinio Jr.

Pontifical Catholic University of Minas Gerais, Brazil; Univ Rennes, Inria, CNRS, IRISA, France

P540 Exploiting Action-Value Uncertainty to Drive Exploration in Reinforcement Learning [#19466]

Carlo D'Eramo, Andrea Cini and Marcello Restelli

Politecnico di Milano, Italy

P541 Curse of Dimensionality in Adversarial Examples [#19975]

Nandish Chattopadhyay, Anupam Chattopadhyay, Sourav Sen Gupta and Michael Kasper

Nanyang Technological University & Fraunhofer Singapore, Singapore; Nanyang Technological University, Singapore; Fraunhofer Singapore, Singapore

P542 Improve L2-normalized Softmax with Exponential Moving Average [#19582]

Xuefei Zhe, Le Ou-Yang and Hong Yan

City University of Hong Kong, Hong Kong; Shenzhen University, China

P543 A Character-Enhanced Chinese Word Embedding Model [#20429]

Gang Yang, Hongzhe Xu, Tianhao He and Zaishang Cai

Xi'an Jiaotong University, China

P544 A Shortcut-Stacked Document Encoder for Extractive Text Summarization [#19289]

Peng Yan, Linjing Li and Daniel Zeng

The State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences and School of Artificial Intelligence, University of Chinese Academy of Sciences, China; The State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences, China

P545 Towards a Smarter Fault Tolerant Indoor Localization System Through Recurrent Neural Networks [#19526]

Eduardo Carvalho, Bruno Ferreira, Geraldo P. R. Filho, Pedro H. Gomes, Gustavo M. Freitas, Patricia A. Vargas, Jo Ueyama and Gustavo Pessin

SENAI Innovation Institute for Mineral Technologies, Brazil; University of Brasilia, Brazil; University of Southern California, United States; Federal University of Minas Gerais, Brazil; Heriot-Watt University, United Kingdom; University of Sao Paulo, Brazil; Instituto Tecnologico Vale, Brazil

P546 Cropout: A General Mechanism for Reducing Overfitting on Convolutional Neural Networks [#19487]

Wenbo Hou, Wenhai Wang, Ruo-Ze Liu and Tong Lu

Nanjing University, China

P547 Exploiting Machine Learning Models to Avoid Texting While Driving [#19431]

Renato Torres, Orlando Ohashi, Gabriel Garcia, Filipe Rocha, Hector Azpurua and Gustavo Pessin

Federal University of Para (UFPA), Brazil; Federal Rural University of Amazonia (UFRA), Brazil; Federal University of Ouro Preto, Brazil; Instituto Tecnologico Vale, Brazil

P548 Character-Aware Convolutional Recurrent Networks with Self-Attention for Emotion Detection on Twitter [#20061]

Jiangping Huang, Chunli Xiang, Shuwei Yuan, Desen Yuan and Xiaorui Huang

School of Software Engineering, Chongqing University of Posts and Telecommunications, China; School of Cyber Science and Engineering, Wuhan University, China; School of Communication and Information Engineering, Chongqing University of Posts and Telecommunications, China; International College, Chongqing University of Posts and Telecommunications, China

P549 A Riemannian Primal-dual Algorithm Based on Proximal Operator and its Application in Metric Learning [#19644]

Shijun Wang, Baocheng Zhu, Lintao Ma and Yuan Qi

Ant Financial Services Group, United States; Ant Financial Services Group, China

P550 Hierarchical Recurrent Attention Networks for Context-Aware Education Chatbots [#19345]

Jean-Baptiste Aujogue and Alex Aussem

Computer Science Department, University of Lyon 1, France; LIRIS UMR CNRS 5205, University of Lyon 1, France

P551 Fashion Outfit Composition Combining Sequential Learning and Deep Aesthetic Network [#20498]

Zhen Wang and Hongyan Quan

School of Computer Science and Software Engineering, East China Normal University, China

P552 Hierarchical Multi-Task Learning for Healthy Drink Classification [#19223]

Homin Park, Homanga Bharadhwaj and Brian Y. Lim

National University of Singapore, Singapore; Indian Institute of Technology Kanpur, India

P553 Deep Learning and One-class SVM based Anomalous Crowd Detection [#19570]

Meng Yang, Sutharshan Rajasegarar, Sarah M. Erfani and Christopher Leckie

The University of Melbourne, Australia; Deakin University, Australia

P554 Pose estimator and tracker using temporal flow maps for limbs [#19414]

Jihye Hwang, Jieun Lee, Sungheon Park and Nojun Kwak

Seoul National University, Korea (South); Ajou University, Korea (South)

P555 Fusion of Multiple Representations Extracted from a Single Sensor's Data for Activity Recognition Using CNNs [#20080]

Farzan Majeed Noori, Enrique Garcia-Ceja, Md Zia Uddin, Michael Riegler and Jim Torresen

University of Oslo, Norway

P556 Dual-stream Self-Attentive Random Forest for False Information Detection [#19965]

Manqing Dong, Lina Yao, Xianzhi Wang, Boualem Benatallah, Xiang Zhang and Quan Z. Sheng

University of New South Wales, Australia; University of Technology Sydney, Australia; Macquarie University, Australia

P557 TA-BLSTM: Tag Attention-based Bidirectional Long Short-Term Memory for Service Recommendation in Mashup Creation [#20294]

Min Shi, Yufei Tang and Jianxun Liu

Florida Atlantic University, United States; Hunan University of Science and Technology, China

P558 An Efficient Framework by Topic Model for Multi-label Text Classification [#19809]

Sun Wei, Ran Xiangying, Luo Xiangyang and Wang Chongjun

Department of Computer Science and Technology National Key Laboratory for Novel Software Technology at Nanjing University, China

P559 Deep learning price momentum in US equities [#19216]

Stephen Choi and Tyler Renelle

LORA Technologies, Hong Kong

P560 Quantitative Trading on Stock Market Based on Deep Reinforcement Learning [#19821]

Jia Wu, Chen Wang, Lidong Xiong and Hongyong Sun

University of Electronic Science and Technology of Chin, China; Quantitative Trading on Stock Market Based on Deep Reinforcement Learning, China

P561 Compensating Supervision Incompleteness with Prior Knowledge in Semantic Image Interpretation [#19302]

Ivan Donadello and Luciano Serafini

Fondazione Bruno Kessler, Italy

P562 Deep Cyclic Group Networks [#19658]

Zhe-Cheng Fan, Tak-Shing Chan, Yi-Hsuan Yang and Jyh-Shing Jang

Department of Computer Science and Information Engineering, National Taiwan University, Taiwan; Research Center for Information Technology Innovation, Academia Sinica, Taiwan

P563 Spatial and Channel Restraint for Complementary Feature Learning [#19277]

Donghui Liu, Wei Fang and Ziwei Wang

Beijing University of Posts and Telecommunications, China; Information Science Academy, China Electronics Technology Group Corporation, China

P564 Dynamic Fusion of Convolutional Features based on Spatial and Temporal Attention for Visual Tracking [#19324]

Dongcheng Zhao and Yi Zeng

Institute of Automation, Chinese Academy of Sciences, China

P565 Testing the Robustness of Manifold Learning on Examples of Thinned-Out Data [#20087]

Fayeem Aziz and Stephan Chalup

School of Electrical Engineering and Computing, The University of Newcastle, Australia

P566 Parallel Convolution Algorithm Using Implicit Matrix Multiplication on Multi-Core CPUs [#20120]

Qinglin Wang, Songzhu Mei, Jie Liu and Chunye Gong

National University of Defense Technology, China

P567 COMC: A Framework for Online Cross-domain Multistream Classification [#20367]

Hemeng Tao, Zhuoyi Wang, Yifan Li, Mahmoud Zamani and Latifur Khan

The University of Texas at Dallas, United States

P568 Improving Fast Adaptive Stacking of Ensembles [#19983]

Laura Maria Palomino Marino, Juan Isidro Gonzalez Hidalgo, Roberto Souto Maior de Barros and Germano Crispim Vasconcelos

Universidade Federal de Pernambuco-UFPE, Brazil

P569 Deep Reinforcement Learning for Chatbots Using Clustered Actions and Human-Likeness Rewards [#20122]

Heriberto Cuayahuitl, Donghyeon Lee, Seonghan Ryu, Sungja Choi, Inchul Hwang and Kim Jihie

University of Lincoln, United Kingdom; Samsung Research, Korea (South)

P570 Pyramid Attention Dense Network for Image Super-Resolution [#19383]

Si-Bao Chen, Chao Hu, Bin Luo, Chris Ding and Shi-Lei Huang

Anhui University, China; University of Texas at Arlington, United States; PKU-HKUST Shenzhen Hong Kong Institution, China

P571 SpaMHMM: Sparse Mixture of Hidden Markov Models for Graph Connected Entities [#19017]

Diogo Pernes and Jaime S. Cardoso

INESC TEC; University of Porto, Portugal

P572 Deep Structured Cross-Modal Anomaly Detection [#19481]

Yuening Li, Ninghao Liu, Jundong Li, Mengnan Du and Xia Hu

Texas A&M University, United States; Arizona State University, United States

P573 Cystoid Fluid Color Map Generation in Optical Coherence Tomography Images Using a Densely Connected Convolutional Neural Network [#19427]

Placido Vidal, Joaquim de Moura, Jorge Novo and Marcos Ortega

Universidade da Coruna, Spain

P574 FKIMNet: A Finger Dorsal Image Matching Network Comparing Component (Major, Minor and Nail) Matching with Holistic (Finger Dorsal) Matching [#20441]

Daksh Thapar, Gaurav Jaswal and Aditya Nigam

Indian Institute of Technology Mandi, India

P575 A Unified Approach on Active Learning Dual Supervision [#20117]

Adrian Chriswanto, Hsing-Kuo Pao and Yuh-Jye Lee

National Taiwan University of Science and Technology, Taiwan; National Chiao Tung University, Taiwan

P576 Mixture of Pre-processing Experts Model for Noise Robust Deep Learning on Resource Constrained Platforms [#19977]

Taesik Na, Minah Lee, Burhan A. Mudassar, Priyabrata Saha, Jong Hwan Ko and Saibal Mukhopadhyay

Georgia Institute of Technology, United States

P577 A Convolutional Neural Network with Two-Channel Input for Image Super-Resolution [#20354]

Purbaditya Bhattacharya and Udo Zoelzer

Helmut Schmidt University, Germany

P578 Improving the realism of synthetic images through a combination of adversarial and perceptual losses [#20355]

Charith Atapattu and Banafsheh Rekabdar

Southern Illinois University, United States

P579 Active visual object exploration and recognition with an unmanned aerial vehicle [#19613]

Uriel Martinez-Hernandez, Victor Cedeno-Campos and Adrian Rubio-Solis

University of Bath, United Kingdom; University of Sheffield, United Kingdom

P580 Keyphrase Guided Beam Search for Neural Abstractive Text Summarization [#19103]

Xuewen Chen, Jinlong Li and Haihan Wang

University of Science and Technology of China, China

P581 Deep Representation Learning for Code Smells Detection using Variational Auto-Encoder [#20433]

Mouna Hadj-Kacem and Nadia Bouassida

Miracl Laboratory, Sfax University, Tunisia

Session D4_DIc: S34: Mind, Brain, and Cognitive Algorithms and Other Cross-Disciplinary Topics

Thursday, July 18, 11:50AM-1:30PM, Room: Duna Salon I, Chair: Angelo Cangelosi

11:50AM Interpretation of Mesoscopic Neurodynamics by Simulating Conversion Between Pulses and Waves [#20511]

Joshua J.J. Davis and Robert Kozma

Embassy of Peace, Whitianga & U Auckland, New Zealand; U Memphis, TN, United States

12:10PM Nonmodular Architectures of Cognitive Systems based on Active Inference [#20216]

Manuel Baltieri and Christopher Laurie Buckley

EASY group, Sussex Neuroscience - Department of Informatics - University of Sussex, United Kingdom

12:30PM Exploring Deep Models for Comprehension of Deictic Gesture-Word Combinations in Cognitive Robotics [#19677]

Gabriella Pizzuto and Angelo Cangelosi

University of Manchester, United Kingdom

12:50PM A comparison of machine learning algorithms as surrogate model for net present value prediction from wells arrangement data [#19818]

Joao Bertini, Mei Funcia, Antonio Santos and Denis Schiozer

University of Campinas, Brazil

1:10PM Autoencoder-Based Articulatory-to-Acoustic Mapping for Ultrasound Silent Speech Interfaces [#20143]

Gabor Gosztolya, Adam Pinter, Laszlo Toth, Tamas Grosz, Alexandra Marko and Tamas Gabor Csapo

MTA-SZTE Research Group on Artificial Intelligence, Hungary; University of Szeged, Hungary; Eotvos Lorand University, Hungary; Budapest University of Technology and Economics, Hungary

Session D4_DIIc: 8c: Bioinformatics and Other Applications

Thursday, July 18, 11:50AM-1:30PM, Room: Duna Salon II, Chair: Heung-Il Suk

11:50AM Representation-dimensionality Trade-off in Biological Sequence-based Inference [#20023]

Bahman Asadi and Niranjan Mahesan

University of Southampton, United Kingdom

12:10PM Stochastic Imputation and Uncertainty-Aware Attention to EHR for Mortality Prediction [#20430]
Eunji Jun, Ahmad Wisnu Mulyadi and Heung-Il Suk
Department of Brain and Cognitive Engineering, Korea University, Korea (South)

12:30PM GADGET: Using Gated GRU for Biomedical Event Trigger Detection [#19202]
Zeng Cheng, Zhang Yi, Lu Heng-Yang and Wang Chong-Jun
National Key Laboratory for Novel Software Technology, Nanjing University, China

12:50PM Study of Short-Term Personalized Glucose Predictive Models on Type-1 Diabetic Children [#19145]
Maxime De Bois, Mounim A. El Yacoubi and Mehdi Ammi
CNRS-LIMSI, France; Telecom SudParis, France; Universite Paris 8, France

1:10PM Bidirectional Associative Memory for Multimodal Fusion : a Depression Evaluation Case Study [#20299]
Stephane Cholet, Helene Paugam-Moisy and Sebastien Regis
Universite des Antilles, Guadeloupe

Session D4_DIIIc: 8e: Data analysis and pattern recognition and Other Applications
Thursday, July 18, 11:50AM-1:30PM, Room: Duna Salon III, Chair: Avinash Achar

11:50AM Si-GCN: Structure-induced Graph Convolution Network for Skeleton-based Action Recognition [#19285]
Rong Liu, Chunyan Xu, Tong Zhang, Wenting Zhao, Zhen Cui and Jian Yang
Nanjing University of Science and Technology, Nanjing, China

12:10PM VT-GAN: View Transformation GAN for Gait Recognition Across Views [#19549]
Peng Zhang, Qiang Wu and Jingsong Xu
University of Technology Sydney, Australia

12:30PM An Inferable Representation Learning for Fraud Review Detection with Cold-start Problem [#19434]
Qian Li, Qiang Wu, Chengzhang Zhu, Jian Zhang and Wentao Zhao
University of Technology Sydney, Australia; National University of Defense Technology, China

12:50PM Dynamic Bus Arrival Time Prediction exploiting Non-linear Correlations [#19142]
Avinash Achar, Rohith Regikumar and B Anil Kumar
Tata Consultancy Services, India; Nanyang Technological University, Singapore

1:10PM Non-Traditional Input Encoding Schemes for Spiking Neuromorphic Systems [#19330]
Catherine Schuman, James Plank, Grant Bruer and Jeremy Anantharaj

Oak Ridge National Laboratory, United States; University of Tennessee, United States

Session D4_PIc: Deep Learning and Neural Network Models
Thursday, July 18, 11:50AM-1:30PM, Room: Panorama I, Chair: Chi-Jen Lu

11:50AM Nested Variance Estimating VAE/GAN for Face Generation [#19165]
Hong-You Chen and Chi-Jen Lu
Academia Sinica, Taiwan

12:10PM Generate Desired Images from Trained Generative Adversarial Networks [#19141]
Ming Li, Rui Xi, Beier Chen, Mengshu Hou, Daibo Liu and Lei Guo
University of Electronic Science and Technology of China, China; Ohio State University, Columbus, United States

12:30PM Multiple-Instance Learning through Optimum-Path Forest [#19104]
Luis Claudio Sugi Afonso, Danilo Colombo, Clayton Reginaldo Pereira, Kelton Augusto Pontara Costa and Joao Paulo Papa
Federal University of Sao Carlos - UFSCar, Brazil; Petroleo Brasileiro - Petrobras, Brazil; Sao Paulo State University - UNESP, Brazil

12:50PM Long-Term Prediction of Small Time-Series Data Using Generalized Distillation [#19154]
Shogo Hayashi, Akira Tanimoto and Hisashi Kashima
Kyoto University, Japan; NEC, Japan

1:10PM Not All Adversarial Examples Require a Complex Defense: Identifying Over-optimized Adversarial Examples with IQR-based Logit Thresholding [#19374]
Utku Ozbulak, Arnout Van Messem and Wesley De Neve
Ghent University, Belgium

Session D4_PIIc: Machine Learning
Thursday, July 18, 11:50AM-1:30PM, Room: Panorama II, Chair: Eric Bax

11:50AM Optimizing Weight Value Quantization for CNN Inference [#19192]
Wakana Nogami, Tsutomu Ikegami, Shin-ichi O'uchi, Ryosei Takano and Tomohiro Kudoh
The University of Tokyo, Japan; National Institute of Advanced Industrial science and Technology, Japan

12:10PM Coral Classification Using DenseNet and Cross-modality Transfer Learning [#19118]
Lian Xu, Mohammmed Bennamoun, Farid Boussaid, Senjian An and Ferdous Sohel
The University of Western Australia, Australia; Curtin University, Australia; Murdoch University, Australia

12:30PM A Multiple Local Model Learning for Nonlinear and Time-Varying Microwave Heating Process [#19061]

Tong Liu, Shan Liang, Sheng Chen and Chris J. Harris

School of Automation Chongqing University, China; School of Electronics and Computer Science University of Southampton, United Kingdom

12:50PM Using a Recurrent Kernel Learning Machine for Small-Sample Image Classification [#19071]

Mihael Cudic and Jose Principe

University of Florida, United States

1:10PM Ensemble Validation: Selectivity has a Price, but Variety is Free [#19018]

Eric Bax and Farshad Kooti

Verizon, United States; Facebook, United States

Session D4_PIIIc: Applications

Thursday, July 18, 11:50AM-1:30PM, Room: Panorama III, Chair: Yan Yang

11:50AM Selective Expression For Event Coreference Resolution on Twitter [#19175]

Chao Wenhan, Wei Ping, Luo Zhunchen, Liu Xiao and Sui Guobin

Beihang University, China; PLA Academy of Military Science, China; Beijing Institute of Technology, China

12:10PM An LSTM based Encoder-Decoder Model for Multi-Step Traffic Flow Prediction [#19005]

Shengdong Du, Tianrui Li, Yan Yang, Xun Gong and Shi-Jinn Horng

School of Information Science and Technology, Southwest Jiaotong University, China; Department of Computer Science and Information Engineering, National Taiwan University of Science and Technology, Taiwan

12:30PM SkiDNet: Skip Image Denoising Network for X-Rays [#20277]

Swaraj Kumar, Sandipan Dutta, Shaurya Chaturvedi and Mps Bhatia

Netaji University of Technology, India

12:50PM A Multi-model Ensemble Method Using CNN and Maximum Correntropy Criterion for Basal Cell Carcinoma and Seborrheic Keratoses Classification [#19196]

Leida Guo, Shaoyi Du, Yuting Chi, Wenting Cui, Panpan Song, Jihua Zhu, Songmei Geng and Meifeng Xu

School of Software Engineering, Xi'an Jiaotong University, China; Institute of Artificial Intelligence and Robotics, School of Electronic and Information Engineering, Xi'an Jiaotong University, China; The Second Affiliated Hospital of Xi'an Jiaotong University, China

1:10PM Hierarchical Classification Feature Extraction for Moving Target Detection Using Radar Echo [#19054]

Chunhua Zhou, Huiting Xia, Jiejun Yin, Liang Gao and Yaqi Liu

1. Shanghai Radio Equipment Research Institute 2. Shanghai Engineering Research Center of Target Identification and Environment Perception, China

Session D4_PIVc: S33: Transferable neural models for language understanding; Applications

Thursday, July 18, 11:50AM-1:30PM, Room: Panorama IV, Chair: Zhiwei Lin

11:50AM A Transformer-Based Variational Autoencoder for Sentence Generation [#19705]

Danyang Liu and Gongshen Liu

Shanghai Jiao Tong University, China

12:10PM Gated Task Interaction Framework for Multi-task Sequence Tagging [#19497]

Isaac Kojo Essel Ampomah, Sally McClean, Zhiwei Lin and Glenn Hawe

Ulster University, United Kingdom

12:30PM Emergent Multilingual Language Acquisition using Developmental Networks [#20377]

Juan Castro-Garcia and Juyang Weng

Michigan State University, United States

12:50PM Across-Sensor Feature Learning for Energy-Efficient Activity Recognition on Mobile Devices [#19879]

Yuriy Gavrilin and Adil Khan

Innopolis University, Russia

Session D4_PVc: S32: Deep Reinforcement Learning for Games

Thursday, July 18, 11:50AM-1:30PM, Room: Panorama V, Chair: Xinwen Hou

11:50AM Mixing Update Q-value for Deep Reinforcement Learning [#20036]

Zhunan Li and Xinwen Hou

Institute of Automation, Chinese Academy of Sciences, China

12:10PM MAPEL: Multi-Agent Pursuer-Evader Learning using Situation Report [#20184]

Sagar Verma, Richa Verma and P.B. Sujit

CVN, CentraleSupelec, Universite Paris-Saclay, France; TCS Innovation Lab, India, India; IIIT Delhi, India, India

12:30PM RevCuT Tree Search Method in Complex Single-player Game with Continuous Search Space [#19807]

Hongming Zhang, Fangjuan Cheng, Bo Xu, Feng Chen, Jiachen Liu and Wei Wu

Institute of Automation, Chinese Academy of Sciences, China; Xi'an Jiaotong University, China; China Ship Development and Design Center, China

12:50PM Data-to-Text Generation with Attention Recurrent Unit [#19731]

Hechong Wang, Wei Zhang, Yuesheng Zhu and Zhiqiang Bai

Peking University, China

1:10PM Attentive Dual Embedding for Understanding Medical Concept in Electronic Health Record [#20253]

Xueping Peng, Guodong Long, Shirui Pan, Jing Jiang and Zhendong Niu

University of Technology Sydney, Australia; Monash University, Australia; Beijing Institute of Technology, China

Lunch
Thursday, July 18, 1:30PM-2:30PM, Room: Various locations in the area

Workshop: Advances in Learning from/with Multiple Learners (ALML) Learn more
Thursday, July 18, 2:30PM-6:30PM, Room: Sofitel Bellevue 1, Chair: Nistor Grozavu, Paris 13 University, Razvan Andonie, Central Washington, Parisa Rastin, Paris 13 University, Nicoleta Rogovschi, University Paris Descartes, Basarab Matei, Paris 13 University, Guénaël Cabanes, Paris 13 University

Workshop: Casualty and Dynamics in Brain Networks
Thursday, July 18, 2:30PM-6:30PM, Room: Sofitel Bellevue 3, Chair: Andr�s Telcs, Wigner Research Centre for Physics, Zoltán Somogyvári, Wigner Research Centre for Physics, Vaibhav Diwadkar, Wayne State University, László Négyessy, Wigner Research Centre for Physics András Telcs

Friday, July 19

Workshop: Advances in Learning from/with Multiple Learners (ALML)
Friday, July 19, 9:00AM-1:00PM, Room: Sofitel Bellevue 1, Chair: Nistor Grozavu, Paris 13 University, Razvan Andonie, Central Washington, Parisa Rastin, Paris 13 University, Nicoleta Rogovschi, University Paris Descartes, Basarab Matei, Paris 13 University, Gu�na�l Cabanes, Paris 13 University

Workshop: Ethical AI Challenges
Friday, July 19, 9:00AM-1:00PM, Room: Sofitel Bellevue 2, Chair: Nigel Crook, Rebecca Raper, Matthias Rolf, Chrisina Jayne, Oxford Brookes University, UK

Workshop: Casualty and Dynamics in Brain Networks
Friday, July 19, 9:00AM-1:00PM, Room: Sofitel Bellevue 3, Chair: Andr�s Telcs, Wigner Research Centre for Physics, Zoltán Somogyvári, Wigner Research Centre for Physics, Vaibhav Diwadkar, Wayne State University, László Négyessy, Wigner Research Centre for Physics András Telcs