

IJCNN 2019 Preliminary Programme

Subject to changes of times and locations of the slots but not the type of presentation.

Sunday

Tutorial Tut1: PHYSICS OF THE MIND

Sunday, July 14, 8:00AM-10:00AM, Room: SF Room 1, Instructor: Leonid I. Perlovsky, Harvard University

Tutorial Tut2: Modern Gaussian Processes: Scalable Inference and Novel Applications

Sunday, July 14, 8:00AM-10:00AM, Room: SF Room 2, Instructor: Edwin V. Bonilla, Data61, Australia and Maurizio Filippone, EURECOM, France

Tutorial Tut3: Task-Independent and Modality-Independent Developmental Learning Engines: From Theory to Programming (*)

Sunday, July 14, 8:00AM-10:00AM, Room: SF Room 3, Instructor: Juyang Weng and Juan L. Castro-Garcia, Michigan State University,

CS_1: Coffee Break

Sunday, July 14, 10:00AM-10:20AM, Room:

Tutorial Tut4: Beyond Deep Learning: How to get Fast, Interpretable and Highly Accurate Classifiers

Sunday, July 14, 10:20AM-12:20PM, Room: SF Room 1, Instructor: Plamen Angelov, Lancaster University, UK

Tutorial Tut5: Deep Learning for Graphs

Sunday, July 14, 10:20AM-12:20PM, Room: SF Room 2, Instructor: Davide Bacciu (Universit  di Pisa)

Tutorial Tut6: Theory and Methodology of Transfer Learning

Sunday, July 14, 10:20AM-12:20PM, Room: SF Room 3, Instructor: Pierre-Alexandre Murena, AgroParisTech And France and Antoine Cornuejols, T l com ParisTech and AgroParisTech

LS: Lunch Break

Sunday, July 14, 12:20PM-1:30PM, Room:

Tutorial Tut7: Deep Learning: Artificial Neural Networks and Kernel based Models

Sunday, July 14, 1:30PM-3:30PM, Room: SF Room 1, Instructor: Siamak Mehrkanoon, DKE, Maastricht University, Johan A. K. Suykens, ESAT-STADIUS, KU Leuven, Belgium

Tutorial Tut8: Machine Learning methods in Spiking Neural Networks for classification problems

*Sunday, July 14, 1:30PM-3:30PM, Room: SF Room 2, Instructor: Abeegithan Jeyasothy (Nanyang Technological University, Singapore), Savitha Ramasamy (Institute for Infocomm Research, A*STAR), Suresh Sundaram (Nanyang Technological University, Singapore)*

Tutorial Tut9: Universal Turing Machines and How They Emerge from DN Network

Sunday, July 14, 1:30PM-3:30PM, Room: SF Room 3, Instructor: Juyang Weng, Michigan State University

CS_2: Coffee Break

Sunday, July 14, 3:30PM-3:50PM, Room:

Tutorial Tut10: Tensor Decompositions for Big Data Analytics: Trends and Applications

Sunday, July 14, 3:50PM-5:50PM, Room: SF Room 1, Instructor: Danilo P. Mandic, Ilia Kisil and Giuseppe G. Calvi,, Imperial College London

Tutorial Tut11: Information Geometry: An Introduction

Sunday, July 14, 3:50PM-5:50PM, Room: SF Room 2, Instructor: Jun Zhang (Professor of University of Michigan-Ann Arbor, USA)

Tutorial Tut12: Non-Iterative Learning Methods for Classification and Forecasting

Sunday, July 14, 3:50PM-5:50PM, Room: SF Room 3, Instructor: P. N. Suganthan, Technological University, Singapore.

Sunday, July 14, 19:00 – 20:00 Opening reception Room TBC

Monday

Plenary Talk Ple1: Isabelle Guyon, IRI France

Monday, July 15, 8:00AM-9:00AM, Room: Ballroom I + II +II, Chair: Hava Siegelmann

CM_1: Coffee Break

Monday, July 15, 9:00AM-9:30AM, Room:

Session D1_S5: 1I: Deep neural networks, Cellular Computational Networks

Monday, July 15, 9:30AM-11:10AM, Room: Ballroom I, Chair: TBC

- 9:30AM Behaviors of Reservoir Computing Models for Textual Documents Classification [#19907]
Nils Schaetti
University of Neuchatel, Switzerland
- 9:50AM 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
- 10:10AM Ensembling 3D CNN Framework for Video Recognition [#19148]
Ruolin Huang, Hongbin Dong, Guisheng Yin and Qiang Fu
Harbin Engineering University, China
- 10:30AM Siamese Deep Dictionary Learning [#19643]
Vanika Singhal, Angshul Majumdar, Mayank Vatsa and Richa Singh
IIITD, India
- 10:50AM 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

Session D1_S6: 2e: Deep learning

Monday, July 15, 9:30AM-11:10AM, Room: Ballroom II, Chair: TBC

- 9:30AM HDL: Hierarchical Deep Learning Model based Human Activity Recognition using Smartphone Sensors [#19656]
Tongtong Su, Huazhi Sun, Chunmei Ma, Lifan Jiang and Tongtong Xu
School of Computer and Information Engineering, Tianjin Normal University, China
- 9:50AM An MCTS-based Adversarial Training Method for Image Recognition [#19244]
Yi-Ling Liu and Alessio Lomuscio
Imperial College London, United Kingdom

- 10:10AM A Deep Neural Network Model for Predicting User Behavior on Facebook [#20292]
Hanan Ameer, Salma Jamoussi and Abdelmajid Ben Hamadou
Multimedia InfoRmation system and Advanced Computing Laboratory,
Tunisia
- 10:30AM Analyzing Multi-Channel Networks for Gesture Recognition [#19976]
Pradyumna Narayana, Ross Beveridge and Bruce Draper
Colorado State University, United States
- 10:50AM 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

Session D1_S7: 8a: Applications of deep networks

Monday, July 15, 9:30AM-11:10AM, Room: Ballroom III, Chair: TBC

- 9:30AM DeepIQ: A Human-Inspired AI System for Solving IQ Test Problems [#19108]
Jacek Mandziuk and Adam Zychowski
Warsaw University of Technology, Poland
- 9:50AM 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
- 10:10AM 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
- 10:30AM 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
- 10:50AM Single View Distortion Correction using Semantic Guidance [#20269]
Szabolcs-Botond Lorincz, Szabolcs Pavel and Lehel Csato
Faculty of Mathematics and Informatics, Babes-Bolyai University of Cluj-Napoca, Romania

Session D1_S2: 1b: Recurrent neural networks

Monday, July 15, 9:30AM-11:10AM, Room: Duna Salon I, Chair: TBC

- 9:30AM Question Answering with Hierarchical Attention Networks [#20465]
Tayfun Alpay, Stefan Heinrich, Michael Nelskamp and Stefan Wermter

- University of Hamburg, Germany
- 9:50AM 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
- 10:10AM 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
- 10:30AM 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
- 10:50AM Multi-task Learning with Bidirectional Language Models for Text Classification [#19495]
Qi Yang and Lin Shang
Nanjing University, China

Session D1_S3: 1c: Self-organizing maps (including neural gas, etc.)

Monday, July 15, 9:30AM-11:10AM, Room: Duna Salon II, Chair: TBC

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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

- 10:30AM A Semi-Supervised Self-Organizing Map with Adaptive Local Thresholds [#20380]
Pedro Braga and Hansenclever Bassani
Universidade Federal de Pernambuco, Brazil
- 10:50AM 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

Session D1_S4: 2b: Unsupervised learning and clustering, (including PCA, and ICA)
Monday, July 15, 9:30AM-11:10AM, Room: Duna Salon III, Chair: TBC

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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
- 10:30AM 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
- 10:50AM 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 D1_S1: 1a: Feedforward neural networks

Monday, July 15, 9:30AM-11:10AM, Room: Panorama IV, Chair: TBC

- 9:30AM Zero-shot Image Recognition Using Relational Matching, Adaptation and Calibration [#19040]
Debasmit Das and C. S. George Lee
Purdue University, United States
- 9:50AM Non-negative Autoencoder with Simplified Random Neural Network [#19231]
Yonghua Yin and Erol Gelenbe

Imperial College London, United Kingdom

- 10:10AM 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
- 10:30AM Mutual Information Generation for Improving Generalization and Interpretation in Neural Network [#19886]
Ryotaro Kamimura
Tokai University, Japan
- 10:50AM SpreadOut: A Kernel Weight Initializer for Convolutional Neural Networks [#20223]
Matheus Hertzog, Ricardo Araujo and Ulisses Correa
Federal University of Pelotas, Brazil

Competition Comp1: Challenge UP: Multimodal Fall Detection

Monday, July 15, 9:30AM-11:10AM, Room: Panorama V, Chair: Hiram Ponce, Lourdes Martınez-Villaseor, Leın Palafox, Karina Pırez

Session D1_S12: 1l: Deep neural networks, Cellular Computational Networks

Monday, July 15, 11:20AM-12:40PM, Room: Ballroom I, Chair: TBC

- 11:20AM Age and Gender Estimation via Deep Dictionary Learning Regression [#19486]
Vanika Singhal and Angshul Majumdar
IIITD, India
- 11:40AM The Impact of Image Resolution on Facial Expression Analysis with CNNs [#19635]
Asad Abbas and Stephan Chalup
The University of Newcastle, Australia
- 12:00PM Fast and Efficient Text Classification with Class-based Embeddings [#19584]
Jonatas Wehrmann, Camila Kolling and Rodrigo Barros
PUCRS, Brazil
- 12:20PM 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_S13: 2e: Deep learning

Monday, July 15, 11:20AM-12:40PM, Room: Ballroom II, Chair: TBC

- 11:20AM 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

11:40AM Using Local Convolutional Units to Defend Against Adversarial Examples [#20328]

Matej Kocian and Martin Pilat

Charles University, Faculty of Mathematics and Physics, Czech Republic

12:00PM Sparsity as the Implicit Gating Mechanism for Residual Blocks [#20428]

Shaeke Salman and Xiuwen Liu

Florida State University, United States

12:20PM 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_S14: 8a: Applications of deep networks

Monday, July 15, 11:20AM-12:40PM, Room: Ballroom III, Chair: TBC

11:20AM 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

11:40AM Paraphrase Generation with Collaboration between the Forward and the Backward Decoder [#19669]

Wang Qianlong and Ren Jiangtao

Sun Yat-sen University, China

12:00PM Seq-DNC-seq: Context aware dialog generation system through external memory [#20383]

Donghyun Kang and Minho Lee

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

12:20PM Deep Rule-Based Aerial Scene Classifier using High-Level Ensemble Feature Descriptor [#19323]

Xiaowei Gu and Plamen Angelov

Lancaster University, United Kingdom

Session D1_S9: 1h: Spiking neural networks

Monday, July 15, 11:20AM-12:40PM, Room: Duna Salon I, Chair: TBC

11:20AM 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
- 11:40AM 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 -- CRISAL -- Centre de Recherche en Informatique, Signal et Automatique de Lille, F-59000, Lille, France, France; Univ. Lille, CNRS, Centrale Lille, UMR 9189 -- CRISAL -- Centre de Recherche en Informatique, Signal et Automatique de Lille, IMT Lille Douai, F-59000, Lille, France, France
- 12:00PM 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
- 12:20PM 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_S10: 1n: Other topics in artificial neural networks

Monday, July 15, 11:20AM-12:40PM, Room: Duna Salon II, Chair: TBC

- 11:20AM 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
- 11:40AM Multiple-Valued Artificial Neural Networks [#19527]
Alexander Makarenko
Institute for Applied System Analysis at National Technical University of Ukraine "KPI", Ukraine
- 12:00PM 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
- 12:20PM Encoding robust representation for graph generation [#20350]
Dongmian Zou and Gilad Lerman
University of Minnesota, United States

Session D1_S11: 2a: Supervised learning

Monday, July 15, 11:20AM-12:40PM, Room: Duna Salon III, Chair: TBC

- 11:20AM 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
- 11:40AM 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
- 12:00PM 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
- 12:20PM Dimensionality Reduction in Multilabel Classification with Neural Networks [#19679]
 Jacek Mandziuk and Adam Zychowski
 Warsaw University of Technology, Poland

Session D1_S8: S01: Information Theory and Deep Learning

Monday, July 15, 11:20AM-12:40PM, Room: Panorama IV, Chair: Jose C. Principe

- 11:20AM 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
- 11:40AM 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)
- 12:00PM 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
- 12:20PM 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 Comp2: L2RPN: Learning to run a power network

Monday, July 15, 11:20AM-12:40PM, Room: Panorama V, Chair: Isabelle Guyon, Antoine Marot, Balthazar Donon, Benjamin Donnot

LM: Lunch Break

Monday, July 15, 12:40PM-1:30PM, Room:

Plenary Talk Ple2: Ichiro Tsuda, Chubu University

Monday, July 15, 1:30PM-2:30PM, Room: Ballroom I + II +II, Chair: George Kampis

CM_2: Coffee Break

Monday, July 15, 2:30PM-3:00PM, Room:

Session D1_S19: 1I: Deep neural networks, Cellular Computational Networks

Monday, July 15, 3:00PM-5:00PM, Room: Ballroom I, Chair: TBC

- 3:00PM 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)
- 3:20PM 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
- 3:40PM 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
- 4:00PM PointDoN: A Shape Pattern Aggregation Module for Deep Learning on Point Cloud [#19106]
Shuxin Zhao, Chaochen Gu, Changsheng Lu, Ye Huang, Kaijie Wu and Xinpeng Guan
Shanghai Jiao Tong University, China
- 4:20PM 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
- 4:40PM 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_S20: 2e: Deep learning

Monday, July 15, 3:00PM-5:00PM, Room: Ballroom II, Chair: TBC

- 3:00PM Local Critic Training of Deep Neural Networks [#19646]
Hojung Lee and Jong-Seok Lee
Yonsei University, Korea (South)

- 3:20PM 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
- 3:40PM 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
- 4:00PM Network Implosion: Effective Model Compression for ResNets via Static Layer Pruning and Retraining [#19270]
Yasutoshi Ida and Yasuhiro Fujiwara
NTT Software Innovation Center, Japan
- 4:20PM 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
- 4:40PM 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

Session D1_S21: 8a: Applications of deep networks

Monday, July 15, 3:00PM-5:00PM, Room: Ballroom III, Chair: TBC

- 3:00PM 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
- 3:20PM Adversarial Collaborative Auto-encoder for Top-N Recommendation [#19693]
Feng Yuan, Lina Yao and Boualem Benatallah
University of New South Wales, Australia
- 3:40PM 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
- 4:00PM Abstractive Summarization with Keyword and Generated Word Attention [#19057]
Qianlong Wang and Jiangtao Ren

Sun Yat-sen University, China

4:20PM 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

4:40PM 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_S16: 1b: Recurrent neural networks

Monday, July 15, 3:00PM-5:00PM, Room: Duna Salon I, Chair: TBC

3:00PM Context Gating with Short Temporal Information for Video Captioning [#19970]

Jinlei Xu, Ting Xu, Xin Tian, Chunping Liu and Yi Ji
Soochow University, China

3:20PM 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

3:40PM 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

4:00PM 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

4:20PM 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

4:40PM 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_S17: 2a: Supervised learning

Monday, July 15, 3:00PM-5:00PM, Room: Duna Salon II, Chair: TBC

- 3:00PM 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
- 3:20PM 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
- 3:40PM 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
- 4:00PM 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
- 4:20PM Hierarchical Capsule Based Neural Network Architecture for Sequence Labeling [#20447]
Saurabh Srivastava, Puneet Agarwal, Gautam Shroff and Lovekesh Vig
TCS Research, India
- 4:40PM 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_S18: 2b: Unsupervised learning and clustering, (including PCA, and ICA)

Monday, July 15, 3:00PM-5:00PM, Room: Duna Salon III, Chair: TBC

- 3:00PM 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
- 3:20PM Unsupervised Representation Adversarial Learning Network: from Reconstruction to Generation [#19365]
Yuqian Zhou, Kuangxiao Gu and Thomas Huang
ECE Department of UIUC, United States
- 3:40PM 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

4:00PM 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

4:20PM 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

4:40PM 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_S15: 1a: Feedforward neural networks, 2k, 2m

Monday, July 15, 3:00PM-5:00PM, Room: Panorama IV, Chair: TBC

3:00PM 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

3:20PM Ensemble Attention For Text Recognition In Natural Images [#20462]

Hongchao Gao, Yujia Li, Xi Wang, Jizhong Han and Ruixuan Li
IIE.AC.CN, China

3:40PM 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

4:00PM 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

4:20PM 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

4:40PM 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

Panel Session Pan1: Funding Opportunities in Neural Networks and Biologically Inspired AI Research

Monday, July 15, 3:00PM-5:00PM, Room: Panorama V, Chair: Robert Kozma

Plenary Talk Ple8: Erkki Oja, Aalto University, School of Science and Technology.

Monday, July 15, 5:30PM-6:30PM, Room: Ballroom I + II +II, Chair: Danilo Mandic

Session D1_S26: 1l: Deep neural networks, Cellular Computational Networks

Monday, July 15, 7:30PM-9:30PM, Room: Ballroom I, Chair: TBC

- 7:30PM Directional Attention based Video Frame Prediction using Graph Convolutional Networks [#19890]
Prateep Bhattacharjee and Sukhendu Das
Indian Institute of Technology Madras, India
- 7:50PM Training Deep Neural Networks with Adversarially Augmented Features for Small-scale Training Datasets [#19134]
Masato Ishii and Atsushi Sato
NEC, Japan
- 8:10PM 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
- 8:30PM Efficient Convolutional Neural Networks for Multi-Spectral Image Classification [#19045]
Jacob Senecal, John Sheppard and Joseph Shaw
Montana State University, United States
- 8:50PM 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
- 9:10PM 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_S27: 2e: Deep learning

Monday, July 15, 7:30PM-9:30PM, Room: Ballroom II, Chair: TBC

- 7:30PM Restricted Boltzmann Machines: an EigenCentrality-based Approach [#19109]
Andrew Skabar
Department of Computer Science and Information Technology, La Trobe University, Australia
- 7:50PM 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
- 8:10PM Deep Diffusion Autoencoders [#20156]
Sara Dorado, Angela Fernandez and Jose R. Dorronsoro
Autonomous University of Madrid, Spain
- 8:30PM Deep Multi-view Learning from Sequential Data without Correspondence [#19143]
Tung Doan and Atsuhiko Takasu
SOKENDAI (The Graduate University for Advanced Studies), Japan; National Institute of Informatics, Japan
- 8:50PM 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
- 9:10PM 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_S28: 8a: Applications of deep networks

Monday, July 15, 7:30PM-9:30PM, Room: Ballroom III, Chair: TBC

- 7:30PM 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
- 7:50PM 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
- 8:10PM 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

8:30PM 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

8:50PM 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

9:10PM 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_S23: 1h: Spiking neural networks

Monday, July 15, 7:30PM-9:30PM, Room: Duna Salon I, Chair: TBC

7:30PM 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

7:50PM 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

8:10PM 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

8:30PM 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

8:50PM 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

9:10PM 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

Session D1_S24: 2a: Supervised learning

Monday, July 15, 7:30PM-9:30PM, Room: Duna Salon II, Chair: TBC

- 7:30PM Group Learning for High-Dimensional Sparse Data [#20438]
Vladimir Cherkassky, Hsiang-Han Chen and Han-Tai Shiao
University of Minnesota, Twin Cities, United States
- 7:50PM Data complexity measures in feature selection [#19688]
Lucas Okimoto and Ana Carolina Lorena
Universidade Federal de Sao Paulo, Brazil; Instituto Tecnológico de
Aeronautica, Brazil
- 8:10PM Learning Minority Class prior to Minority Oversampling [#19632]
Payel Sadhukhan
Indian Statistical Institute Kolkata, India
- 8:30PM Selective Hypothesis Transfer for Lifelong Learning [#19915]
Diana Benavides-Prado, Yun Sing Koh and Patricia Riddle
The University of Auckland, New Zealand
- 8:50PM Are Traditional Neural Networks Well-Calibrated? [#20280]
Ulf Johansson and Patrick Gabrielsson
Jonkoping University, Sweden; University of Boras, Sweden
- 9:10PM Supervised Kernel Transform Learning [#19488]
Jyoti Maggu and Angshul Majumdar
IIITD, India

Session D1_S25: 2f: Online learning

Monday, July 15, 7:30PM-9:30PM, Room: Duna Salon III, Chair: TBC

- 7:30PM Efficient on-line learning with diagonal approximation of loss function
Hessian [#19186]
Pawel Wawrzynski
Warsaw University of Technology, Poland
- 7:50PM 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

- 8:10PM 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
- 8:30PM 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
- 8:50PM 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
- 9:10PM A Discretization-based Ensemble Learning Method for Classification in High-Speed Data Streams [#19585]
 Joao Bertini
 University of Campinas, Brazil

Session D1_S22: 1g: Fuzzy Neural Networks

Monday, July 15, 7:30PM-9:30PM, Room: Panorama IV, Chair: TBC

- 7:30PM 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
- 7:50PM A Neural Field Model for Supervised and Unsupervised Learning of the MNIST Dataset [#19645]
 Michael Brady
 AUCA, Kyrgyzstan
- 8:10PM 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
- 8:30PM 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
- 8:50PM Unbounded Recurrent Fuzzy Min-Max Neural Network for Pattern Classification [#19092]
 Jaishri Waghmare and Uday Kulkarni
 SGGI Institute of Engineering and Technology, Nanded, India
- 9:10PM 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_S29: S24: Evolving Machine Learning and Deep Learning Models for Computer Vision

Monday, July 15, 7:30PM-9:30PM, Room: Panorama V, Chair: Li Zhang

- 7:30PM 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
- 7:50PM 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
- 8:10PM Evolving and Ensembling Deep CNN Architectures for Image Classification [#20188]
Ben Fielding, Tom Lawrence and Li Zhang
Northumbria University, United Kingdom
- 8:30PM 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
- 8:50PM 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
- 9:10PM 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

Tuesday

Plenary Talk Ple4: Lee Giles, Pennsylvania State University

Tuesday, July 16, 8:00AM-9:00AM, Room: Ballroom I + II +II, Chair: Robert Kozma

CTu_1: Coffee Break

Tuesday, July 16, 9:00AM-9:30AM, Room:

Session D2_S5: 1l: Deep neural networks, Cellular Computational Networks

Tuesday, July 16, 9:30AM-11:10AM, Room: Ballroom I, Chair: TBC

- 9:30AM 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
- 9:50AM Bidirectional Learning for Robust Neural Networks [#19072]
Sidney Pontes-Filho and Marcus Liwicki
Oslo Metropolitan University, Norway; Lulea University of Technology, Sweden
- 10:10AM 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
- 10:30AM 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)
- 10:50AM 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_S6: 2e: Deep learning

Tuesday, July 16, 9:30AM-11:10AM, Room: Ballroom II, Chair: TBC

- 9:30AM Learning Semantic Coherence for Machine Generated Spam Text Detection [#19674]
Mengjiao Bao, Jianxin Li, Jian Zhang, Hao Peng and Xudong Liu
Beihang University, China
- 9:50AM 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
- 10:10AM 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

- 10:30AM 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
- 10:50AM Looking back at Labels: A Class based Domain Adaptation Technique [#19969]
Vinod Kumar Kurmi and Vinay P Namboodiri
Indian Institute of Technology Kanpur, India

Session D2_S7: 8a: Applications of deep networks

Tuesday, July 16, 9:30AM-11:10AM, Room: Ballroom III, Chair: TBC

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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
- 10:30AM 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
- 10:50AM 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

Session D2_S2: Computational Neuroscience

Tuesday, July 16, 9:30AM-11:10AM, Room: Duna Salon I, Chair: TBC

- 9:30AM Predictable Uncertainty-Aware Unsupervised Deep Anomaly Segmentation [#20412]
Kazuki Sato, Kenta Hama, Takashi Matsubara and Kuniaki Uehara
Kobe University, Japan
- 9:50AM 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

- 10:10AM Temporal Learning of Dynamics in Complex Neuron Models using Backpropagation [#20071]
Christian Jarvers, Daniel Schmid and Heiko Neumann
Ulm University, Germany
- 10:30AM 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
- 10:50AM 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

Session D2_S3: 2d: Semi-supervised learning

Tuesday, July 16, 9:30AM-11:10AM, Room: Duna Salon II, Chair: TBC

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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
- 10:30AM 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

10:50AM 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_S4: S03: Computational/Artificial Intelligence in Earth, Space, and Environmental Sciences

Tuesday, July 16, 9:30AM-11:10AM, Room: Duna Salon III, Chair: Vladimir Krasnopolsky

- 9:30AM Classification of Stars using Stellar Spectra collected by the Sloan Digital Sky Survey [#19482]
Michael Brice and Razvan Andonie
Central Washington University, United States
- 9:50AM 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
- 10:10AM 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
- 10:30AM Unsupervised Change Detection in Satellite Images Using Convolutional Neural Networks [#19124]
Kevin Louis de Jong and Anna Sergeevna Bosman
University of Pretoria, South Africa

Session D2_S1: Neural Models of Perception, Cognition and Neurodynamics

Tuesday, July 16, 9:30AM-11:10AM, Room: Panorama IV, Chair: TBC

- 9:30AM 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
- 9:50AM Zero-shot Object Detection for Indoor Robots [#19639]
Abdalwhab Abdalwhab and Huaping Liu
Tsinghua University, China
- 10:10AM 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

10:30AM 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

10:50AM 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

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

Tuesday, July 16, 9:30AM-11:10AM, Room: Panorama V, Chair: Anthony Kuh, NSF; Robi Polikar, Rowan University; Haibo He, University of Rhode Island

Session D2_S12: 1I: Deep neural networks, Cellular Computational Networks

Tuesday, July 16, 11:20AM-12:40PM, Room: Ballroom I, Chair: TBC

11:20AM 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

11:40AM 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

12:00PM Aggregation Connection Network For Tiny Face Detection [#19441]

Chan Zhang, Tao Li, Song Guo, Ning Li, YingQi Gao and Kai Wang

Nankai University, China

12:20PM Prediction Intervals With LSTM Networks Trained By Joint Supervision [#20262]

Nicolas Cruz, Luis G Marin and Doris Saez

University of Chile, Chile

Session D2_S13: 2e: Deep learning

Tuesday, July 16, 11:20AM-12:40PM, Room: Ballroom II, Chair: TBC

- 11:20AM 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
- 11:40AM Improving Universal Language Model Fine-Tuning using Attention Mechanism [#20204]
Flavio Santos, Karina Guevara, David Macedo and Cleber Zanchettin
Universidade Federal de Pernambuco, Brazil
- 12:00PM 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
- 12:20PM 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_S14: 8a: Applications of deep networks

Tuesday, July 16, 11:20AM-12:40PM, Room: Ballroom III, Chair: TBC

- 11:20AM 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
- 11:40AM 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
- 12:00PM 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
- 12:20PM Music Artist Classification with Convolutional Recurrent Neural Networks [#19893]
Zain Nasrullah and Yue Zhao
Department of Computer Science, University of Toronto, Canada

Session D2_S9: 2c: Reinforcement learning and adaptive dynamic programming

Tuesday, July 16, 11:20AM-12:40PM, Room: Duna Salon I, Chair: TBC

- 11:20AM Adversarial Imitation Learning via Random Search [#19367]
MyungJae Shin and Joongheon Kim
Chung-Ang University, Korea (South)
- 11:40AM 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
- 12:00PM 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
- 12:20PM 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_S10: 2d: Semi-supervised learning

Tuesday, July 16, 11:20AM-12:40PM, Room: Duna Salon II, Chair: TBC

- 11:20AM 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
- 11:40AM 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
- 12:00PM 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
- 12:20PM Interpretable Variational Autoencoders for Cognitive Models [#20248]
Mariana Curi, Geoffrey Converse, Jeff Hajewski and Suely Oliveira
University of Sao Paulo, Brazil; The University of Iowa, United States

Session D2_S11: S07: Advanced Machine Learning Methods for Big Graph Analytics

Tuesday, July 16, 11:20AM-12:40PM, Room: Duna Salon III, Chair: Shirui Pan

- 11:20AM 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
- 11:40AM 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
- 12:00PM 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
- 12:20PM 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_S8: 2a: Supervised learning

Tuesday, July 16, 11:20AM-12:40PM, Room: Panorama IV, Chair: TBC

- 11:20AM Hybrid Model for Cavitation Noise Spectra Prediction [#19020]
Francesca Cipollini, Miglianti Fabiana, Luca Oneto, Giorgio Tani and Michele Viviani
UNIGE, Italy
- 11:40AM Identifying Mislabeled Instances in Classification Datasets [#19751]
Nicolas Mueller and Karla Markert
Fraunhofer AISEC, Germany
- 12:00PM Vulnerability of Covariate Shift Adaptation Against Malicious Poisoning Attacks [#19981]
Muhammad Umer, Christopher Fredericson and Robi Polikar
Rowan University, United States

12:20PM 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

DocCon: Doctoral Consortium

Tuesday, July 16, 11:20AM-12:40PM, Room: Panorama V, Speaker: Marcus Liwicki

LTu: Lunch Break

Tuesday, July 16, 12:40PM-1:30PM, Room:

MExp: Meet the Experts Lunch

Tuesday, July 16, 12:40PM-1:30PM, Room: Panorama V, Speaker: Chrisina Jayne and Marcus Liwicki

Plenary Talk Ple5: Wolf Singer, Ernst Strungmann Institute

Tuesday, July 16, 1:30PM-2:30PM, Room: Ballroom I + II +II, Chair: Barbara Hammer

CTu_2: Coffee Break

Tuesday, July 16, 2:30PM-3:00PM, Room:

Session D2_S19: 1I: Deep neural networks and artificial neural networks

Tuesday, July 16, 3:00PM-5:00PM, Room: Ballroom I, Chair: TBC

- 3:00PM 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
- 3:20PM 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
- 3:40PM Language Modeling through Long-Term Memory Network [#20010]
Anupiya Nugaliyadde, Kok Wai Wong, Ferdous Sohel and Hong Xie
Murdoch University, Australia
- 4:00PM Exploiting Randomness in Deep Learning Algorithms [#20333]
Seyed Hamed Fatemi Langroudi, Cory Merkel, Humza Syed and Dhireesha
Kudithipudi

- Rochester Institute of Technology, United States
- 4:20PM 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
- 4:40PM 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_S20: 2e: Deep learning

Tuesday, July 16, 3:00PM-5:00PM, Room: Ballroom II, Chair: TBC

- 3:00PM Combining Street-level and Aerial Images for Dengue Incidence Rate Estimation [#20173]
Virginia Andersson, Cristian Cechinel and Ricardo Araujo
PPGC-UFPEL, Brazil
- 3:20PM 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
- 3:40PM Vehicle Re-identification: an Efficient Baseline Using Triplet Embedding [#20382]
Ratnesh Kumar, Edwin Weill, Farzin Aghdasi and Parthasarathy Sriram
NVIDIA, United States
- 4:00PM 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
- 4:20PM Exploring Transferability in Deep Neural Networks with Functional Data Analysis and Spatial Statistics [#19869]
Richard McAllister and John Sheppard
Montana State University, United States
- 4:40PM 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

Session D2_S21: 8a: Applications of deep networks

Tuesday, July 16, 3:00PM-5:00PM, Room: Ballroom III, Chair: TBC

- 3:00PM 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
- 3:20PM 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, Shandong University, China
- 3:40PM Generalized Pattern Attribution for Neural Networks with Sigmoid Activations [#20307]
Jiamei Sun and Alexander Binder
Singapore University of Technology and Design, Singapore
- 4:00PM Collaborative Multi-key Learning with an Anonymization Dataset for a Recommender System [#19049]
Linh Nguyen and Tsukasa Ishigaki
Tohoku University, Japan
- 4:20PM 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
- 4:40PM 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_S16: 2t: Topics in machine learning

Tuesday, July 16, 3:00PM-5:00PM, Room: Duna Salon I, Chair: TBC

- 3:00PM 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)
- 3:20PM 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
- 3:40PM Neural Regression Trees [#20345]
Shahan Ali Memon, Wenbo Zhao, Bhiksha Raj and Rita Singh
Carnegie Mellon University, United States
- 4:00PM 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
- 4:20PM A Proof of Local Convergence for the Adam Optimizer [#20268]
Sebastian Bock and Martin Weiss
OTH Regensburg, Germany
- 4:40PM Dimension Estimation and Topological Manifold Learning [#19673]
Tasaki Hajime, Lenz Reiner and Chao Jinhui
Chuo University, Japan

Session D2_S17: Neuroengineering

Tuesday, July 16, 3:00PM-5:00PM, Room: Duna Salon II, Chair: TBC

- 3:00PM Epilepsy detection using multiclass classifier based on spectral features [#19539]
Jefferson Oliva and Joao Luis Rosa
University of Sao Paulo, Brazil
- 3:20PM 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
- 3:40PM Neuromemristive Multi-Layer Random Projection Network with On-Device Learning [#19492]
Abdullah Zyarah and Dhireesha Kudithipudi
Rochester Institute of Technology, United States
- 4:00PM Nested Hardware Architecture for Self-Organizing Map [#20464]
Hiroomi Hikawa
Kansai University, Japan
- 4:20PM 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
- 4:40PM Hyperspectral Image Classification for Remote Sensing Using Low-Power Neuromorphic Hardware [#20074]
Vivek Parmar, Jung-Ho Ahn and Manan Suri

Indian Institute of Technology Delhi, India; NEPES Corporation, Korea (South);
Indian Institute of Technology Delhi, India

Session D2_S18: 8k: Signal processing, image processing, and multi-media

Tuesday, July 16, 3:00PM-5:00PM, Room: Duna Salon III, Chair: TBC

- 3:00PM Edge Focused Super-Resolution of Thermal Images [#19505]
Yannick Zoetgnande, Jean-Louis Dillenseger and Javad Alirezaie
Universite Rennes 1, France; Ryerson Univeristy, Canada
- 3:20PM Weakly-Supervised Deep Recurrent Neural Networks for Basic Dance Step
Generation [#19803]
Nelson Enrique Yalta Soplín, Shinji Watanabe, Kazuhiro Nakadai and Tetsuya
Ogata
Waseda University, Japan; Johns Hopkins University, United States; Honda
Research Institute Japan, Japan
- 3:40PM On Class Imbalance and Background Filtering in Visual Relationship Detection
[#19547]
Alessio Sarullo and Tingting Mu
University of Manchester, United Kingdom
- 4:00PM Boosted GAN with Semantically Interpretable Information for Image
Inpainting [#19062]
Li Ang, Qi Jianzhong, Zhang Rui and Kotagiri Ramamohanarao
The University of Melbourne, Australia
- 4:20PM Visual Relationship Attention for Image Captioning [#19421]
Zongjian Zhang, Qiang Wu, Yang Wang and Fang Chen
University of Technology Sydney, Australia

Session D2_S15: 2p: Feature selection, extraction, and aggregation

Tuesday, July 16, 3:00PM-5:00PM, Room: Panorama IV, Chair: TBC

- 3:00PM 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
- 3:20PM 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
- 3:40PM 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

4:00PM 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

4:20PM A Kernel Discriminant Information Approach to Non-linear Feature Selection
[#19938]

Hou Zejiang and Kung Sun-Yuan
Princeton University, United States

4:40PM Distributed and Randomized Tensor Train Decomposition for Feature
Extraction [#20320]

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

Competition Comp3: AutoML Rematch

*Tuesday, July 16, 3:00PM-5:00PM, Room: Panorama V, Chair: Wei-Wei Tu, Yao Quanming,
Wang Mengshuo, Hugo Jair Escalante, Isabelle Guyon*

Plenary Talk Ple6: Vera Kurkova, Institute of Computer science, Czech academy of sciences

Tuesday, July 16, 5:30PM-6:30PM, Room: Ballroom I + II +II, Chair: Irwin King

Session D2_S26: 1n: Other topics in artificial neural networks

Tuesday, July 16, 7:30PM-9:30PM, Room: Ballroom I, Chair: TBC

7:30PM 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

7:50PM Gated Sequential Recommendation with Dynamic Memory Network [#19267]

Yunxiao Li, Jiaying Song, Xiao Li and Weidong Liu
Computer science and Technology Department of Tsinghua University, China

8:10PM Preempting Catastrophic Forgetting in Continual Learning Models by
Anticipatory Regularization [#19508]

Alaa El Khatib and Fakhri Karray
University of Waterloo, Canada

8:30PM Faster Training by Selecting Samples Using Embeddings [#19361]

Santiago Gonzalez, Joshua Landgraf and Risto Miikkulainen
University of Texas at Austin, United States

8:50PM 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

9:10PM μ L2Q: 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_S27: 2e: Deep learning

Tuesday, July 16, 7:30PM-9:30PM, Room: Ballroom II, Chair: TBC

7:30PM 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

7:50PM 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

8:10PM 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

8:30PM Attention-based Adversarial Training for Seamless Nudity Censorship [#20360]

Gabriel Simoes, Jonatas Wehrmann and Rodrigo C. Barros

PUCRS, Brazil

8:50PM 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

9:10PM Quantum-Inspired Neural Architecture Search [#20215]

Daniela Szwarzman, Daniel Civitarese and Marley Vellasco

PUC-Rio, IBM-Research, Brazil; IBM-Research, Brazil; PUC-Rio, Brazil

Session D2_S28: 8a: Applications of deep networks

Tuesday, July 16, 7:30PM-9:30PM, Room: Ballroom III, Chair: TBC

7:30PM 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
- 7:50PM 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
- 8:10PM 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 University, Australia
- 8:30PM 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
- 8:50PM Deep Learning of p73 Biomarker Expression in Rectal Cancer Patients [#19612]
Tuan Pham, Chuanwen Fan, Hong Zhang and Xiao-Feng Sun
Linköping University, Sweden; Örebro University, Sweden
- 9:10PM A Hierarchical Convolutional Neural Network for Malware Classification [#20312]
Daniel Gibert, Carles Mateu and Jordi Planes
University of Lleida, Spain

Session D2_S23: 2t: Topics in machine learning

Tuesday, July 16, 7:30PM-9:30PM, Room: Duna Salon I, Chair: TBC

- 7:30PM 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
- 7:50PM 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
- 8:10PM 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 Dhl Comba

- Universidade Federal do Rio Grande do Sul, Brazil; Universidade de Campinas, Brazil; University of Groningen, Netherlands; University of Oslo, Norway
- 8:30PM 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
- 8:50PM 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
- 9:10PM 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 R2: Neuroengineering and Bio-inspired Systems

Tuesday, July 16, 7:30PM-9:30PM, Room: Duna Salon II, Chair: TBC

- 7:30PM 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
- 7:50PM Improving Noise Tolerance of Mixed Signal Neural Networks [#20497]
Michael Klachko, Mohammad Mahmoodi and Dmitri Strukov
UCSB, United States
- 8:10PM 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
- 8:30PM 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
- 8:50PM Transparent Machine Education of Neural Networks for Swarm Shepherding Using Curriculum Design [#19140]
Alexander Gee and Hussein Abbass
University of New South Wales, Australia
- 9:10PM 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

Session D2_S25: 8k: Signal processing, image processing, and multi-media

Tuesday, July 16, 7:30PM-9:30PM, Room: Duna Salon III, Chair: TBC

- 7:30PM 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
- 7:50PM Unsupervised Synthesis of Anomalies in Videos: Transforming the Normal [#19897]
Abhishek Joshi and Vinay P. Namboodiri
IIT Kanpur, India
- 8:10PM 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
- 8:30PM 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
- 8:50PM Deep Salient Object Detection with Fuzzy Superpixel Extraction and Controlled Filter Convolution [#19087]
Yang Liu, Bo Wu and Bo Lang
Beihang University, China
- 9:10PM 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_S22: Neural Models of Perception, Cognition and Action

Tuesday, July 16, 7:30PM-9:30PM, Room: Panorama IV, Chair: TBC

- 7:30PM Bipolar fuzzy rough cognitive network [#20525]
Hua Zheng
School of Information Science, Beijing Language and Culture University, China
- 7:50PM 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

8:10PM 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

8:30PM 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

8:50PM 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

9:10PM 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_S29: 8I: Temporal data analysis, prediction, and forecasting; time series analysis

Tuesday, July 16, 7:30PM-9:30PM, Room: Panorama V, Chair: TBC

7:30PM 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

7:50PM 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

8:10PM Periodic Neural Networks for Multivariate Time Series Analysis and Forecasting [#20342]

Nurilla Avazov, Jiamou Liu and Bakhadyr Khousainov
The University of Auckland, New Zealand

8:30PM 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

- 8:50PM 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
- 9:10PM 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

Wednesday

Plenary Talk Ple7: Nik Kasabov, KEDRI, Auckland University of Technology
Wednesday, July 17, 8:00AM-9:00AM, Room: Ballroom I + II +II, Chair: Marley Vellasco

CW_1: Coffee Break
Wednesday, July 17, 9:00AM-9:30AM, Room:

Session D3_S5: S11: Learning Representations for Structured Data
Wednesday, July 17, 9:30AM-11:10AM, Room: Ballroom I, Chair: Alessandro Sperduti

- 9:30AM Large-Margin Multiple Kernel Learning for Discriminative Features Selection and Representation Learning [#19212]
Babak Hosseini and Barbara Hammer
Bielefeld University-CITEC, Germany
- 9:50AM 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
- 10:10AM Universal Readout for Graph Convolutional Neural Networks [#20249]
Nicolo' Navarin, Dinh Van Tran and Alessandro Sperduti
University of Padova, Italy; University of Freiburg, Germany
- 10:30AM 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
- 10:50AM Bayesian Tensor Factorisation for Bottom-up Hidden Tree Markov Models [#20162]
Daniele Castellana and Davide Bacciu
Universita' di Pisa, Italy

Session D3_S6: S12: Automatic Machine Learning and S13: Extreme Learning Machines (ELM)

Wednesday, July 17, 9:30AM-11:10AM, Room: Ballroom II, Chair: Donald Wunsch

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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
- 10:30AM Physical Activity Recognition Using Multi-Sensor Fusion and Extreme Learning Machines [#20351]
Honggang Wang, WeiZhong Yan and Shaopeng Liu
GE Global Research, United States
- 10:50AM 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

Session D3_S7: S15: Machine Learning and Deep Learning Methods applied to Vision and Robotics (MLDLMVR)

Wednesday, July 17, 9:30AM-11:10AM, Room: Ballroom III, Chair: Jose Garcia-Rodriguez

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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

- 10:30AM 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
- 10:50AM 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

Session D3_S2: S06: Deep and Generative Adversarial Learning

Wednesday, July 17, 9:30AM-11:10AM, Room: Duna Salon I, Chair: Ariel Ruiz-Garcia

- 9:30AM 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
- 9:50AM 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
- 10:10AM 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
- 10:30AM 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
- 10:50AM 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

Session D3-S3: 8I: Temporal data analysis, prediction, and forecasting; time series analysis

Wednesday, July 17, 9:30AM-11:10AM, Room: Duna Salon II, Chair: TBC

- 9:30AM Domain Adaptation for sEMG-based Gesture Recognition with Recurrent Neural Networks [#20309]
Istvan Ketyko, Ferenc Kovacs and Krisztian Varga
Member of technical staff, Hungary
- 9:50AM 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
- 10:10AM Generalized Alignment for Multimodal Physiological Signal Learning [#19933]
Yuchi Liu, Yue Yao, Zhengjie Wang, Josephine Plested and Tom Gedeon
Australian National University, Australia
- 10:30AM 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
- 10:50AM Dealing with Limited Access to Data: Comparison of Deep Learning Approaches [#19079]
Andreas Look and Stefan Riedelbauch
Phd Student, Germany; Professor, Germany

Session D3_S4: 8: Other Applications

Wednesday, July 17, 9:30AM-11:10AM, Room: Duna Salon III, Chair: TBC

- 9:30AM 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
- 9:50AM 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
- 10:10AM A Synchro-phasor Assisted Optimal Features Based Scheme for Fault Detection and Classification [#19866]
Homanga Bharadhwaj, Avinash Kumar and Abheejeet Mohapatra
IIT Kanpur, India
- 10:30AM 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
- 10:50AM 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

Session D3_S1: S05: Deep Neural Audio Processing

Wednesday, July 17, 9:30AM-11:10AM, Room: Panorama IV, Chair: Stefano Squartini

- 9:30AM 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

9:50AM 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

10:10AM Transfer Learning for Piano Sustain-Pedal Detection [#19340]

Beici Liang, Gyorgy Fazekas and Mark Sandler

Queen Mary University of London, United Kingdom

10:30AM Cosine-similarity penalty to discriminate sound classes in weakly-
supervised sound event detection [#19523]

Thomas Pellegrini and Leo Cances

UPS - IRIT, France

10:50AM 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

Competition Comp4: AIML Contest 2019

*Wednesday, July 17, 9:30AM-11:10AM, Room: Panorama V, Chair: Juyang Weng, Juan L.
Castro-Garcia, Xiang Wu.*

Session D3_S12: S10: Deep learning for brain data, S14: Evolutionary NN

Wednesday, July 17, 11:20AM-12:40PM, Room: Ballroom I, Chair: TBC

11:20AM 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

11:40AM 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)

12:00PM Improved Techniques for Building EEG Feature Filters [#19971]

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

Australian National University, Australia

12:20PM Multi-Objective Autoencoder for Fault Detection and Diagnosis in Higher-Order Data [#19513]

Ali Anaissi and Seid Miad Zandavi

The University of Sydney, Australia

Session D3_s13: S18: Neuro-Inspired Computing with Nano-electronic Devices

Wednesday, July 17, 11:20AM-12:40PM, Room: Ballroom II, Chair: Saibal Mukhopadhyay

11:20AM FPCAS: In-Memory Floating Point Computations for Autonomous Systems [#20506]

Sina Sayyah Ensan and Swaroop Ghosh

Pennsylvania State University, United States

11:40AM 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)

12:00PM 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

12:20PM 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

Session D3_S14: 8a: Applications of deep networks

Wednesday, July 17, 11:20AM-12:40PM, Room: Ballroom III, Chair: TBC

11:20AM 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

11:40AM 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

12:00PM 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 Jiaying Wang

Institute of Automation, Chinese Academy of Sciences, China

12:20PM 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

Session D3_S9: S07: Advanced Machine Learning Methods for Big Graph Analytics
Wednesday, July 17, 11:20AM-12:40PM, Room: Duna Salon I, Chair: Guodong Long

- 11:20AM 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
- 11:40AM 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
- 12:00PM 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
- 12:20PM RASE: Relationship Aware Social Embedding [#19714]
Aravind Sankar, Adit Krishnan, Zongjian He and Carl Yang
University of Illinois, Urbana-Champaign, United States

Session D3_S10: 2i: Support vector machines and kernel methods, 2j: EM algorithms

Wednesday, July 17, 11:20AM-12:40PM, Room: Duna Salon II, Chair: TBC

- 11:20AM Flexible Kernel Selection in Multitask Support Vector Regression [#20185]
Carlos Ruiz, Carlos Alaiz, Alejandro Catalina and Jose R. Dorronsoro
Autonomous University of Madrid, Spain
- 11:40AM Analyzing Minimal Complexity Machines [#19083]
Shigeo Abe
Kobe University, Japan
- 12:00PM 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
- 12:20PM Mixed Variational Inference [#19769]
Nikolaos Gianniotis
Heidelberg Institute for Theoretical Studies gGmbH, Germany

Session D3_S11: 8n: Data mining and knowledge discovery

Wednesday, July 17, 11:20AM-12:40PM, Room: Duna Salon III, Chair: TBC

- 11:20AM 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
- 11:40AM 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
- 12:00PM Multimodal Age Group Recognition for Video Logs Using Ensemble of Neural Networks [#19506]
Sadam Al-Azani and El-Sayed El-Alfy
King Fahd University of Petroleum and Minerals, Saudi Arabia
- 12:20PM 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

Session D3_S8: 2c: Reinforcement learning and adaptive dynamic programming

Wednesday, July 17, 11:20AM-12:40PM, Room: Panorama IV, Chair: TBC

- 11:20AM 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
- 11:40AM 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
- 12:00PM 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
- 12:20PM 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

TNNLS: TNNLS meeting

Wednesday, July 17, 11:20AM-12:40PM, Room: Panorama V, Speaker: Haibo He

LW: Lunch Break

Wednesday, July 17, 12:40PM-1:30PM, Room:

TNNLS1: TNNLS lunch

Wednesday, July 17, 12:40PM-1:30PM, Room: Panorama V, Speaker: Haibo He

Plenary Talk Ple3: Danil Prokhorov, Toyota R&D

Wednesday, July 17, 1:30PM-2:30PM, Room: Ballroom I + II +II, Chair: Asim Roy

CW_2: Coffee Break

Wednesday, July 17, 2:30PM-3:00PM, Room:

Session D3_S19: S09: Metrology of AI: blessing of dimensionality, tolerance and fits

Wednesday, July 17, 3:00PM-5:00PM, Room: Ballroom I, Chair: Danil Prokhorov

- 3:00PM Do Fractional Norms and Quasinorms Help to Overcome the Curse of Dimensionality? [#19331]
Evgeny M. Mirkes, Jeza Allohobi and Alexander N. Gorban
University of Leicester, Lobachevsky State University, United Kingdom;
University of Leicester, United Kingdom
- 3:20PM Practical Stochastic Separation Theorems for Product Distributions [#19556]
Bogdan Grechuk
University of Leicester, United Kingdom
- 3:40PM Toward Next Generation of Autonomous Systems with AI [#19912]
Danil Prokhorov
Toyota, United States
- 4:00PM 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
- 4:20PM Kernel Stochastic Separation Theorems and Separability Characterizations of Kernel Classifiers [#20219]
Ivan Y. Tyukin, Alexander N. Gorban, Bogdan Grechuk and Stephen Green
University of Leicester, United Kingdom

Session D3_S20: S22: Artificial Intelligence and Security (AISE)

Wednesday, July 17, 3:00PM-5:00PM, Room: Ballroom II, Chair: Francesco Mercaldo

- 3:00PM 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
- 3:20PM 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
- 3:40PM 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
- 4:00PM Social Network Polluting Contents Detection through Deep Learning Techniques [#19517]
Martinelli Fabio, Mercaldo Francesco and Santone Antonella
IIT-CNR, Italy; University of Molise, Italy
- 4:20PM 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
- 4:40PM An Adversarial Perturbation Approach Against CNN-based Soft Biometrics Detection [#20376]
Stefano Marrone and Carlo Sansone
University of Naples Federico II, Italy

Session D3_S21: Deep Reinforcement Learning for Autonomous Driving

Wednesday, July 17, 3:00PM-5:00PM, Room: Ballroom III, Chair: Qichao Zhang

- 3:00PM Deep Learning for System Trace Restoration [#20119]
Ilia Sucholutsky, Apurva Narayan, Matthias Schonlau and Sebastian Fischmeister
University of Waterloo, Canada
- 3:20PM 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
- 3:40PM 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

- 4:00PM 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
- 4:20PM 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
- 4:40PM 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 University, China

Session D3_S16: 8n: Data mining and knowledge discovery

Wednesday, July 17, 3:00PM-5:00PM, Room: Duna Salon I, Chair: TBC

- 3:00PM MMF: Attribute Interpretable Collaborative Filtering [#19130]
Yixin Su, Sarah Monazam Erfani and Rui Zhang
The University of Melbourne, Australia
- 3:20PM 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
- 3:40PM LambdaGAN: Generative Adversarial Nets for Recommendation Task with Lambda Strategy [#19697]
Yang Wang, Hai-tao Zheng, Wang Chen and Zhang Rui
Tsinghua-Southampton Web Science Laboratory Graduate School at Shenzhen, Tsinghua University, China, China; University of Melbourne, Australia
- 4:00PM 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
- 4:20PM 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

4:40PM 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_S17: S08: Dynamics, Applications, and Hardware Implementation of Reservoir Computing

Wednesday, July 17, 3:00PM-5:00PM, Room: Duna Salon II, Chair: Yoshihiko Horio

3:00PM 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

3:20PM 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

3:40PM 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

4:00PM 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

4:20PM Chaotic Neural Network Reservoir [#19290]

Yoshihiko Horio

Tohoku University, Japan

4:40PM 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

Session D3_S18: 8: Other Applications

Wednesday, July 17, 3:00PM-5:00PM, Room: Duna Salon III, Chair: TBC

3:00PM 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

- 3:20PM Stealing Knowledge from Protected Deep Neural Networks Using Composite Unlabeled Data [#20502]
Itay Mosafi, Eli David and Nathan Netanyahu
Bar-Ilan University, Israel
- 3:40PM 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
- 4:00PM 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
- 4:20PM Collaboration of Machines and Robots in Cyber Physical Systems based on Evolutionary Computation Approach [#20006]
Fu-Shiung Hsieh
Chaoyang University of Technology, Taiwan
- 4:40PM 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_S15: Neural Models of Perception, Cognition and Action

Wednesday, July 17, 3:00PM-5:00PM, Room: Panorama IV, Chair: TBC

- 3:00PM 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
- 3:20PM Understanding Language Dependency on Emotional Speech using Siamese Network [#20290]
Swaraj Kumar, Sandipan Dutta and Shaurya Chaturvedi
Netaji Subhas University of Technology, India
- 3:40PM 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
- 4:00PM 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
- 4:20PM Executing Declarative Parallel Representations of Sequences with Temporal Pooling [#20423]
Daniel Slack, Alistair Knott and Brendan McCane
Otago University, New Zealand
- 4:40PM 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, 3:00PM-5:00PM, Room: Panorama V, Chair: Vladimir Cherkassky, University of Minnesota, USA

Plenary Talk Ple9:

Wednesday, July 17, 5:30PM-6:30PM, Room: Ballroom I + II +II, Chair: Peter Erdi

BQ: Banquet and Awards

Wednesday, July 17, 7:30PM-11:00PM, Room:

Thursday

Plenary Poster Session POS1: Poster Session 1

Thursday, July 18, 8:00AM-9:40AM, Room: Ballroom I + II +II, Chair: TBC

- 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 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
- P107 Short Text Topic Modeling with Flexible Word Patterns [#19058]
Xiaobao Wu and Chunping Li
Tsinghua University, China
- P108 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
- P109 Learning Distributed Coordinated Policy in Catching Game with Multi-Agent Reinforcement Learning [#19070]
Xiangyu Liu and Ying Tan
Peking University, China; Peking University, China
- P110 Text Classification Using Gated and Transposed Attention Networks [#19086]
He Kang and Zhu Min
East China Normal University, China
- P111 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
- P112 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
- P113 ShuffleNASNets: Efficient CNN models through modified Efficient Neural Architecture Search [#19117]
Kevin Alexander Laube and Andreas Zell
Cognitive Systems Group, University of Tuebingen, Germany
- P114 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)
- P115 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
- P116 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
- P117 A new Spectral-Spatial Pseudo-3D Dense Network for Hyperspectral Image Classification [#19147]
Ailin Li and Zhaowei Shang
Chongqing university, China
- P118 Clustering interval-valued data with automatic variables weighting [#19149]
Sara Rodriguez and Francisco de Carvalho
Universidade Federal de Pernambuco - UFPE, Brazil
- P119 On Correlation of Features Extracted by Deep Neural Networks [#19161]
Babajide Ayinde, Tamer Inanc and Jacek Zurada
University of Louisville, United States
- P120 Learning Similarity: Feature-Aligning Network for Few-shot Action Recognition [#19168]
Shaoqing Tan and Ruoyu Yang
Nanjing University, China
- P121 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
- P122 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
- P123 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
- P124 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
- P125 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
- P126 Generating Natural Video Descriptions using Semantic Gate [#19205]
Hyungmin Lee and Il-Koo Kim
Samsung Electronics, Korea (South)
- P127 Patching Deep Neural Networks for Nonstationary Environments [#19207]
Sebastian Kauschke, David Hermann Lehmann and Johannes Fuernkranz
TU Darmstadt, Germany
- P128 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
- P129 Incremental Learning Based Subspace Modeling for Distributed Parameter Systems [#19219]
Zhi Wang and Han-Xiong Li
City University of Hong Kong, China
- P130 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
- P131 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
- P132 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
- P133 Generative Adversarial Networks for Road Crack Image Segmentation [#19293]
Ziping Gao, Bo Peng, Tianrui Li and Cong Gou
Southwest Jiaotong University, China
- P134 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
- P135 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
- P136 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
- P137 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
- P138 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
- P139 Not All Adversarial Examples Require a Complex Defense: Identifying Over-optimized Adversarial Examples with IQR-based Logit Thresholding [#19374]
Utku Ozbek, Arnout Van Messem and Wesley De Neve
Ghent University, Belgium
- P140 Unsupervised state representation learning with robotic priors: a robustness benchmark [#19377]
Timothée Lesort, Mathieu Seurin, Xinrui Li, Natalia D'Áz-Rodríguez and David Filliat
ENSTA ParisTech & Thales, France; INRIA Lille, France; ENSTA ParisTech & INRIA Flowers, France
- P141 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
- P142 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
- P143 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
- P144 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
- P145 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
- P146 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
- P147 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
- P148 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
- P149 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
- P150 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
- P151 Approximating Binarization in Neural Networks [#19485]
Caglar Aytakin, Francesco Cricri, Jani Lainema, Emre Aksu and Miska Hannuksela
Nokia Technologies, Finland
- P152 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
- P153 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

- P154 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
- P155 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
- P156 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
- P157 A Composite Extended Nearest Neighbor Model for Day-Ahead Load Forecasting [#19562]
Md. Rashedul Haq and Zhen Ni
South Dakota State University, United States
- P158 Intrusion Detection Method based on Information Gain and ReliefF Feature Selection [#19591]
Zhang Yong, Ren Xuezhen and Zhang Jie
Liaoning Normal University, China
- P159 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
- P160 A Hybrid Convolutional Approach for Parking Availability Prediction [#19606]
Hadi Jomaa, Josif Grabocka and Lars Schmidt-thieme
Stiftung Universitat Hildesheim, Germany
- P161 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
- P162 Extracting Prerequisite Relations Among Concepts in Wikipedia [#19629]
Yang Zhou and Kui Xiao
Hubei University, China
- P163 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

- P164 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
- P165 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
- P166 Multi-Level Compare-Aggregate Model for Text Matching [#19683]
Chunlin Xu, Hui Wang, Zhiwei Lin and Shengli Wu
University of Ulster, Northern Ireland
- P167 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
- P168 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
- P169 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
- P170 Network Search for Binary Networks [#19721]
Jiajun Du, Yu Qin and Hongtao Lu
Shanghai Jiao Tong University, China
- P171 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
- P172 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
- P173 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
- P174 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
- P175 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
- P176 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
- P177 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
- P178 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)
- P179 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
- P180 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
- P181 A New Knowledge Distillation for Incremental Object Detection [#19804]
Li Chen, Chunyan Yu and Lvcai Chen
Fuzhou University, China
- P182 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

- P183 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
- P184 Integrating Dual User Network Embedding with Matrix Factorization for Social Recommender Systems [#19828]
Liyang Chen, Honglei Zhang and Jun Wu
Beijing Jiaotong University, China
- P185 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
- P186 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
- P187 Recurrent Layer Aggregation using LSTM [#19852]
Yu Qin, Jiajun Du, Xinyao Wang and Hongtao Lu
Shanghai JiaoTong University, China
- P188 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
- P189 Unsupervised Meta-Learning for Clustering Algorithm Recommendation [#19885]
Bruno Pimentel and Andre Carvalho
Instituto de Ciencias Matematicas e de Computacao (ICMC-USP), Brazil
- P190 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
- P191 An Electronic Neuron with Input-Specific Spiking [#19986]
Rebecca Lee and Alice Parker
University of Southern California, United States
- P192 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
- P193 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
- P194 DeepSqueezeNet-CRF: A Lightweight Deep Model for Semantic Image Segmentation [#20019]
Danyu Lai, Yique Deng and Long Chen
Sun Yat-sen University, China
- P195 A GAN Model With Self-attention Mechanism To Generate Multi-instruments Symbolic Music [#20066]
Faqian Guan, Chunyan Yu and Suqiong Yang
Fuzhou University, China
- P196 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
- P197 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
- P198 Composing Multi-Instrumental Music with Recurrent Neural Networks [#20153]
David Samuel and Martin Pilat
Charles University, Faculty of Mathematics and Physics, Czech Republic
- P199 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
- P200 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
- P201 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
- P202 Improving Retrieval-Based Question Answering with Deep Inference Models [#20175]
George Sebastian Pirtoaca, Traian Rebedea and Stefan Ruseti
University Politehnica of Bucharest, Romania
- P203 Leveraging Recursive Processing for Neural-Symbolic Affect-Target Associations [#20179]
Alexander Sutherland, Sven Magg and Stefan Wermter

University of Hamburg, Germany

P204 An ensemble strategy for Haplotype Inference based on the internal variability of algorithms [#20265]

Rogério Rosa, Lucas Cambuim and Edna Barros

Center for Strategic Technologies of Brazilian Northeast, Brazil; Pernambuco Federal University, Brazil

P205 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

P206 A Convolutional Neural Network with Two-Channel Input for Image Super-Resolution [#20354]

Purbaditya Bhattacharya and Udo Zoelzer

Helmut Schmidt University, Germany

P207 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

Session D4_S2: 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

Session D4_S3: 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 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
- 8:40AM 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
- 9:00AM 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
- 9:20AM 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

Session D4_S4: 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, University 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

Session D4_S1: 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_S13: 8: Other Applications

Thursday, July 18, 8:00AM-9:40AM, Room: Panorama V, Chair: TBC

- 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

CTh_1: Coffee Break

Thursday, July 18, 9:40AM-10:00AM, Room:

Plenary Poster Session POS2: Poster Session 2

Thursday, July 18, 10:00AM-11:40AM, Room: Ballroom I + II +II, Chair: TBC

- 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 Deep Representation Learning for Code Smells Detection using Variational Auto-Encoder [#20433]
Mouna Hadj-Kacem and Nadia Bouassida
Miracl Laboratory, Sfax University, Tunisia

- P308 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
- P309 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
- P310 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
- P311 K-Random Forests: a K-means style algorithm for Random Forest clustering [#19210]
Manuele Bicego
Computer Science Department, University of Verona, Italy
- P312 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
- P313 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
- P314 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
- P315 Coral Classification Using DenseNet and Cross-modality Transfer Learning [#19118]
Lian Xu, Mohammed Bennamoun, Farid Boussaid, Senjian An and Ferdous Sohel
The University of Western Australia, Australia; Curtin University, Australia; Murdoch University, Australia
- P316 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
- P317 FocalNet - Foveal Attention for Post-processing DNN Outputs [#19850]
Burhan Ahmad Mudassar and Saibal Mukhopadhyay
Georgia Institute of Technology, United States

- P318 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
- P319 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
- P320 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
- P321 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
- P322 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
- P323 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
- P324 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
- P325 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 Sciences, China
- P326 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
- P327 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

- P328 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
- P329 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
- P330 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
- P331 Face Age Transformation with Progressive Residual Adversarial Autoencoder [#20435]
Xuexiang Zhang, Ping Wei and Nanning Zheng
Xi'an Jiaotong University, Xi'an, China, China
- P332 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
- P333 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
- P334 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
- P335 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
- P336 Nested Variance Estimating VAE/GAN for Face Generation [#19165]
Hong-You Chen and Chi-Jen Lu
Academia Sinica, Taiwan
- P337 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
- P338 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
- P339 Additive Margin SincNet for Speaker Recognition [#20076]
Joao Antonio Chagas Nunes, David Macedo and Cleber Zanchettin
Universidade Federal de Pernambuco, Brazil
- P340 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 Oceanology, Russia
- P341 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 Technology, China
- P342 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
- P343 A Modular Approach to Construction of Spiking Neural Networks [#19158]
Kyunghee Lee and Hongchi Shi
Pyeongtaek University, Korea (South); Texas State University, United States
- P344 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
- P345 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
- P346 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

- P347 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
- P348 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
- P349 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
- P350 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
- P351 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
- P352 SkiDNet: Skip Image Denoising Network for X-Rays [#20277]
Swaraj Kumar, Sandipan Dutta, Shaurya Chaturvedi and Mps Bhatia
Netaji University of Technology, India
- P353 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
- P354 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
- P355 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
- P356 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
- P357 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
- P358 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
- P359 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
- P360 Multi-Task Learning with Capsule Networks [#19215]
Kai Lei, Qiurai Fu and Yuzhi Liang
Peking University, China
- P361 Coupled Dictionary Learning for Multi-label Embedding [#19469]
Niu Sijia, Xu Qian, Zhu Pengfei, Hu Qinghua and Shi Hong
Tianjin University, China
- P362 Skip The Question You Don't Know: An Embedding Space Approach [#19359]
Kaiyuan Chen and Jinghao Zhao
University of California, Los Angeles, United States
- P363 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
- P364 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)
- P365 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
- P366 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
- P367 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
- P368 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
- P369 Unsupervised Learning of Eye Gaze Representation from the Web [#20230]
Neeru Dubey, Shreya Ghosh and Abhinav Dhall
Indian Institute of Technology Ropar, India
- P370 An Improved Recurrent Neural Network Language Model for Programming Language [#19237]
Liwei Wu, Youhua Wu, Fei Li and Tao Zheng
Nanjing University, China
- P371 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
- P372 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
- P373 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
- P374 DOAD: An Online Dredging Operation Anomaly Detection Method based on AIS Data [#19478]
Bin Cheng, Shiyong Qian, Jian Cao, Guangtao Xue, Jiadi Yu, Yanmin Zhu and Minglu Li
Shanghai Jiao Tong University, China
- P375 MDLDA: A New Multi-Dimension Topic Approach [#19617]
Jun Cheng Ding and Wei Jin
University of North Texas, United States
- P376 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 Björn Schuller
Tianjin Normal University, China; University of Augsburg, Germany; Imperial College London, United Kingdom
- P377 Extreme Dimensionality Reduction for Network Attack Visualization with Autoencoders [#19240]
Daniel C. Ferreira, Felix Iglesias Vazquez and Tanja Zseby
TU Wien, Austria
- P378 Learning Topological Representation for Networks via Hierarchical Sampling [#19727]
Guoji Fu, Chengbin Hou and Xin Yao
Southern University of Science and Technology, China

- P379 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
- P380 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
- P381 Projectron - A Shallow and Interpretable Network for Classifying Medical Images [#19461]
Aditya Sriram, Shivam Kalra and Hamid Tizhoosh
University of Waterloo, Canada
- P382 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
- P383 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
- P384 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
- P385 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
- P386 Efficient Learning Rate Adaptation for Convolutional Neural Network Training [#20256]
Spiros Georgakopoulos and Vassilis Plagianakos
Department of Computer Science, University of Thessaly, Greece, Greece
- P387 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
- P388 MOR-LinUCB: A Multi-Objective and Context-Aware Ranking Approach [#20446]
Nirandika Wanigasekara, Yuxuan Liang, Ye Liu, Joseph J. Williams and David S. Rosenblum
National University of Singapore, Singapore; University of Toronto, Canada

- P389 Automatic Configuration of Deep Neural Networks with Parallel Efficient Global Optimization [#20111]
Bas van Stein, Hao Wang and Thomas B\"ack
University Leiden, Netherlands
- P390 Continuous Modeling of Power Plant Performance with Regularized Extreme Learning Machine [#19540]
Rui Xu and WeiZhong Yan
GE Global Research, United States
- P391 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
- P392 An Approach to Cross-Lingual Voice Conversion [#19463]
Sai Sirisha Rallabandi and Suryakanth V Gangashetty
IIIT-Hyderabad, India
- P393 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
- P394 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
- P395 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
- P396 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
- P397 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
- P398 Classification and Regression Analysis of Lung Tumors from Multi-level Gene Expression Data [#20033]
Pratheeba Jeyanathan and Mahesan Niranjana
PhD Student, United Kingdom; Supervisor, United Kingdom

- P399 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
- P400 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
- P401 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
- P402 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
- P403 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
- P404 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
- P405 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
- P406 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
- P407 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

P408 Proactive Minimization of Convolutional Networks [#20176]

Bendeguz Jenei, Gabor Berend and Laszlo Varga

University of Szeged, Institute of Informatics, Hungary

P409 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 D4_S6: 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: Poon Josiah

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]

Zhang Kai, Sun Lin and Ji Fule

Zhejiang University City College, China

Session D4_S7: 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 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
- 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_S8: S31: Intelligent Vehicle and Transportation Systems and Other Applications

Thursday, July 18, 10:00AM-11:40AM, Room: Duna Salon III, Chair: Yi Lu Murphey

- 10:00AM 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
- 10:20AM 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
- 10:40AM 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
- 11:00AM 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

11:20AM Generative Adversarial Network for Radar Signal Generation [#20214]
Thomas Truong and Svetlana Yanushkevich
University of Calgary, Canada

Session D4_S5: 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_S14: 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: TBC

P501 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

P502 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

P503 Enhance knowledge graph embedding via fake triples [#19226]

Yan Zhihuan, Peng Rong, Wang Yaqian and Li Weidong

Wuhan University, China

P504 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

P505 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

P506 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

- P507 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
- P508 Evolutionary Neural Architecture Search for Image Restoration [#19238]
Gerard Jacques van Wyk and Anna Sergeevna Bosman
University of Pretoria, South Africa
- P509 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
- P510 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
- P511 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
- P512 Compressive Learning of Multi-layer Perceptrons: An Error Analysis [#20494]
Ata Kaban
University of Birmingham, United Kingdom
- P513 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
- P514 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
- P515 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
- P516 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
- P517 A temporal encoding method based on expansion representation [#19470]
Yan Dai, Yuan Mengwen, Huajin Tang and Rui Yan
College of Computer Science, Sichuan University, China
- P518 Cellular Computational Network for Distributed Power Flow Inferencing in Electric Distribution Systems [#20374]
Hasala Dharmawardena and Ganesh K. Venayagamoorthy
Clemson University, United States
- P519 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
- P520 Spatio-temporal Active Learning for Visual Tracking [#19498]
Chenfeng Liu, Pengfei Zhu and Qinghua Hu
Tianjin University, China
- P521 Long-Term Prediction of Small Time-Series Data Using Generalized Distillation [#19154]
Shogo Hayashi, Akira Tanimoto and Hisashi Kashima
Kyoto University, Japan; NEC, Japan
- P522 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
- P523 Continuous Gesture Recognition through Selective Temporal Fusion [#19974]
Pradyumna Narayana, Ross Beveridge and Bruce Draper
Colorado State University, United States
- P524 AuxBlocks: Defense Adversarial Examples via Auxiliary Blocks [#20403]
Yueyao Yu, Pengfei Yu and Wenye Li
The Chinese University of Hong Kong, Shenzhen, China
- P525 Multi-perspective Feature Generation Based on Attention Mechanism [#20470]
Ma Longxuan and Zhang Lei
Beijing University of Posts and Telecommunications, China

- P526 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
- P527 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
- P528 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
- P529 Absolute Human Pose Estimation with Depth Prediction Network [#19559]
Marton Veges and Andras Lorincz
Eotvos Lorand University, Hungary
- P530 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
- P531 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
- P532 Competitive Online Generalised Linear Regression with Multidimensional Outputs [#19874]
Raisa Dzhamtyrova and Yuri Kalnishkan
Royal Holloway, University of London, United Kingdom
- P533 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
- P534 Using a Recurrent Kernel Learning Machine for Small-Sample Image Classification [#19071]
Mihael Cudic and Jose Principe
University of Florida, United States
- P535 Meta-Learning for User Cold-Start Recommendation [#19471]
Homanga Bharadhwaj
IIT Kanpur, India
- P536 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
- P537 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
- P538 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
- P539 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
- P540 An Analysis on the Learning Rules of the Skip-Gram Model [#20415]
Canlin Zhang, Xiuwen Liu and Daniel Bis
Florida State University, United States
- P541 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
- P542 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
- P543 Evaluating Incomplete DCOP Algorithms On Large-Scale Problems [#19110]
Allan Leite and Fabricio Enembreck
Pontifical Catholic University of Parana (PUCPR), Brazil
- P544 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
- P545 CSSD: Cascade Single Shot Face Detector [#19310]
Shuainan Wang, Tong Xu, Wei Li and Haifeng Sun
Beijing University of Posts and Telecommunications, China
- P546 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
- P547 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
- P548 Real-time Accurate Object Counting for Smart Farms [#19730]
Hao Shang, Rui Li, Xu He, Jilong Wang and Xinhui Peng
Hunan University, China
- P549 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
- P550 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
- P551 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
- P552 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
- P553 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
- P554 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; Chongqing University, China
- P555 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
- P556 VN-GAN: Identity-preserved Variation Normalizing GAN for Gait Recognition [#19476]
Peng Zhang, Qiang Wu and Jingsong Xu
University of Technology Sydney, Australia

- P557 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
- P558 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
- P559 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
- P560 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
- P561 Combining convolutional side-outputs for road image segmentation [#20252]
Felipe Reis, Raquel Almeida, Ewa Kijak, Simon Malinowski, Silvio Jamil F. Guimaraes and Zenilton Patrocínio Jr.
Pontifical Catholic University of Minas Gerais, Brazil; Univ Rennes, Inria, CNRS, IRISA, France
- P562 Exploiting Action-Value Uncertainty to Drive Exploration in Reinforcement Learning [#19466]
Carlo D'Eramo, Andrea Cini and Marcello Restelli
Politecnico di Milano, Italy
- P563 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
- P564 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
- P565 A Character-Enhanced Chinese Word Embedding Model [#20429]
Gang Yang, Hongzhe Xu, Tianhao He and Zaishang Cai
Xi'an Jiaotong University, China
- P566 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

- P567 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
- P568 Fine-Grained Road Mining from Satellite Images with Bilateral Xception and DeepLab [#19272]
Lele Cao
Mr., Sweden
- P569 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
- P570 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
- P571 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
- P572 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
- P573 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
- P574 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

- P575 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
- P576 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
- P577 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
- P578 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
- P579 Across-Sensor Feature Learning for Energy-Efficient Activity Recognition on Mobile Devices [#19879]
Yuriy Gavrilin and Adil Khan
Innopolis University, Russia
- P580 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
- P581 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)
- P582 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
- P583 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
- P584 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

- P585 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
- P586 Deep learning price momentum in US equities [#19216]
Stephen Choi and Tyler Renelle
LORA Technologies, Hong Kong
- P587 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 China, China; Quantitative Trading on Stock Market Based on Deep Reinforcement Learning, China
- P588 Compensating Supervision Incompleteness with Prior Knowledge in Semantic Image Interpretation [#19302]
Ivan Donadello and Luciano Serafini
Fondazione Bruno Kessler, Italy
- P589 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
- P590 Attention-driven Multi-sensor Selection [#19120]
Stefan Braun, Daniel Neil, Jithendar Anumula, Enea Ceolini and Shih-Chii Liu
Institute of Neuroinformatics, Zurich, Switzerland
- P591 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
- P592 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
- P593 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
- P594 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

- P595 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
- P596 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
- P597 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
- P598 Ensemble Validation: Selectivity has a Price, but Variety is Free [#19018]
Eric Bax and Farshad Kooti
Verizon, United States; Facebook, United States
- P599 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)
- P600 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
- P601 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
- P602 SpaMHMM: Sparse Mixture of Hidden Markov Models for Graph Connected Entities [#19017]
Diogo Pernes and Jaime S. Cardoso
INESC TEC; University of Porto, Portugal
- P603 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
- P604 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
- P605 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

P606 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

Session D4_S10: 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_S11: 8c: Bioinformatics and Other Applications

Thursday, July 18, 11:50AM-1:30PM, Room: Duna Salon II, Chair: TBC

11:50AM Representation-dimensionality Trade-off in Biological Sequence-based Inference [#20023]

Bahman Asadi and Niranjana 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_S12: 8e: Data analysis and pattern recognition and Other Applications

Thursday, July 18, 11:50AM-1:30PM, Room: Duna Salon III, Chair: TBC

- 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]
Li Qian, Wu Qiang, Zhu Chengzhang, Zhang Jian and Zhao Wentao
University of Technology Sydney, Australia; National University of Defense Technology, China
- 12:50PM 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
- 1:10PM 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

Session D4_S9: S33: Transferable neural models for language understanding

Thursday, July 18, 11:50AM-1:30PM, Room: Panorama IV, Chair: Zhiwei Lin

- 11:50AM Keyphrase Guided Beam Search for Neural Abstractive Text Summarization
[#19103]
Xuwen Chen, Jinlong Li and Haihan Wang
University of Science and Technology of China, China
- 12:10PM A Transformer-Based Variational Autoencoder for Sentence Generation
[#19705]
Danyang Liu and Gongshen Liu
Shanghai Jiao Tong University, China
- 12:30PM 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
- 12:50PM Emergent Multilingual Language Acquisition using Developmental Networks
[#20377]
Juan Castro-Garcia and Juyang Weng
Michigan State University, United States
- 1:10PM 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

Session D4_S15: 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, CentraleSupélec, Université 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

T L: Lunch

Thursday, July 18, 1:30PM-2:30PM, Room:

Workshop W1: Advances in Learning from/with Multiple Learners (ALML) Learn more

Thursday, July 18, 2:30PM-6:30PM, Room: SF Room 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, Guana Cabanes, Paris 13 University

Workshop W2: Computational Sport Science: Human Motion Modelling and Analysis

Thursday, July 18, 2:30PM-6:30PM, Room: SF Room 2, Chair: Dr. Boris Bačić, Auckland University of Technology, New Zealand

Workshop W3: Casualty and Dynamics in Brain Networks

Thursday, July 18, 2:30PM-6:30PM, Room: SF Room 3, Chair: András Telcs, Wigner Research Centre for Physics, Zoltán Somogyvári, Wigner Research Centre for Physics, Vaibhav Diwadkar, Wayne State University, László Nagyessy, Wigner Research Centre for Physics

Friday

Workshop W1_a: Advances in Learning from/with Multiple Learners (ALML)

Friday, July 19, 9:00AM-1:00PM, Room: SF Room 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, Guana Cabanes, Paris 13 University

Workshop W2_a: Computational Sport Science: Human Motion Modelling and Analysis

Friday, July 19, 9:00AM-1:00PM, Room: SF Room 2, Chair: Dr. Boris Bačić, Auckland University of Technology, New Zealand

Workshop W3_a: Casualty and Dynamics in Brain Networks

Friday, July 19, 9:00AM-1:00PM, Room: SF Room 3, Chair: András Telcs, Wigner Research Centre for Physics, Zoltán Somogyvári, Wigner Research Centre for Physics, Vaibhav Diwadkar, Wayne State University, László Néményi, Wigner Research Centre for Physics

Workshop W4: Ethical AI Challenges

Friday, July 19, 9:00AM-1:00PM, Room: SF Room 4, Chair: Nigel Crook, Rebecca Raper, Matthias Rolf, Chrisina Jayne, Oxford Brookes University, UK