

## AAAI-20 Accepted Papers – Main Technical Track

*(The following list includes all accepted papers for the main track of AAAI-20. The list is sorted according to submission number order. Titles and spelling may not be final. Final titles will be reflected in the final program and proceedings according to what is submitted by authors at the camera-ready copy deadline. Additional tracks will be posted in January.)*

3: InstaNAS: Instance-aware Neural Architecture Search

An-Chieh Cheng (National Tsing-Hua University)\*; Chieh Hubert Lin (National Tsing Hua University); Da-Cheng Juan (Google); Wei Wei (Google); Min Sun (NTHU)

23: BOWL: Bayesian Optimization for Weight Learning in Probabilistic Soft Logic

Sriram Srinivasan (UC Santa Cruz)\*; Golnoosh Farnadi (Polytechnique Montreal); Lise Getoor (University of California Santa Cruz)

38: Regularized Wasserstein Means for Aligning Distributional Data

Liang Mi (Arizona State University)\*; wen zhang (ASU); Yalin Wang (Arizona State University)

46: Geometry-constrained Car Recognition Using a 3D Perspective Network

Rui Zeng (Queensland University of Technology)\*; Zongyuan Ge (Monash); SIMON DENMAN (Queensland University of Technology, Australia); Sridha Sridharan (QUT); Clinton Fookes (Queensland University of Technology)

53: Further Understanding Videos through Adverbs: A New Video Task

Bo Pang (Shanghai Jiao Tong University); Kaiwen Zha (Shanghai Jiao Tong University); Yifan Zhang (Shanghai Jiao Tong University); Cewu Lu (Shanghai Jiao Tong University)\*

57: Adaptive Unimodal Cost Volume Filtering for Deep Stereo Matching

Youmin Zhang (Beihang University)\*; Yimin Chen (Beihang University); Xiao Bai (Beihang University); yu kun (DeepMotion); Suihanjin Yu (Beihang University); li zhiwei (DeepMotion); Kuiyuan Yang (DeepMotion)

61: Distilling Portable Generative Adversarial Networks for Image Translation

Hanting Chen (Peking University)\*; Yunhe Wang (Huawei Noah's Ark Lab); Han Shu (Huawei Noah's Ark Lab); Changyuan Wen (Huawei); Chunjing Xu (Huawei Noah's Ark Lab); Boxin Shi (Peking University); Chao Xu (Peking University); Chang Xu (University of Sydney)

66: Privacy-Preserving Gradient Boosting Decision Trees

Qinbin Li (National University of Singapore)\*; Zhaomin Wu (National University of Singapore); Zeyi Wen (The University of Western Australia); Bingsheng He (National University of Singapore)

74: Progressive Feature Polishing Network for Salient Object Detection

Bo Wang (Zhejiang University); Quan Chen (Alibaba Group)\*; Min Zhou (Alibaba Group); Zhiqiang Zhang (Alibaba group); Xiaogang Jin (Zhejiang University); Kun Gai (Alibaba Group)

126: Deep Generative Probabilistic Graph Neural Networks for Scene Graph Generation

Mahmoud Khademi (Simon Fraser University)\*; Oliver Schulte (Simon Fraser University)

131: Reinforcing an Image Caption Generator using Off-line Human Feedback

Paul Hongsuck Seo (POSTECH)\*; Piyush Sharma (Google Research); Tomer Levinboim (Google); Bohyung Han (Seoul National University); Radu Soricut (Google)

133: Are Noisy Sentences Useless for Distant Supervised Relation Extraction?

Yu-Ming Shang (Bit)\*; Heyan Huang (Beijing Engineering Research Center of High Volume Language Information Processing and Cloud Computing Applications, Department of Computer Science and Technology, Beijing Institute of technology); Xian-Ling Mao (Bit); Xin Sun (Beijing Institute of Technology); Wei Wei (Huazhong University of Science and Technology)

134: R<sup>S</sup>^2MRF: Defocus Blur Detection via Recurrently Refining Multi-scale Residual Features

Chang Tang (China University of Geosciences)\*; Xinwang Liu (National University of Defense Technology); Xinzhong Zhu (Zhejiang Normal University); En Zhu (National University of Defense Technology); Kun Sun (China University of Geosciences(Wuhan)); Pichao Wang (Alibaba Group (U.S.) Inc.); Lizhe Wang (China University of Geosciences); Albert Zomaya (The University of Sydney)

138: Pose-Guided Multi-Granularity Attention Network for Text-Based Person Search

Ya Jing (Institute of Automation, Chinese Academy of Sciences)\*; Chenyang Si (Institute of Automation, Chinese Academy of Sciences); Junbo Wang (CASIA); Wei Wang (Institute of Automation Chinese Academy of Sciences); Liang Wang (NLPR, China); Tieniu Tan (NLPR, China)

147: Fast and Robust Face-to-Parameter Translation for Game Character Auto-Creation

Tianyang Shi (NetEase Fuxi AI Lab)\*; Zhengxia Zou (University of Michigan); Yi Yuan (NetEase Fuxi AI Lab); Changjie Fan (NetEase Fuxi AI Lab)

159: Comparing Election Methods Where Each Voter Ranks Only Few Candidates

Skowron Piotr (University of Warsaw)\*; Matthias Bentert (TU Berlin)

171: 3D Crowd Counting via Multi-View Fusion with 3D Gaussian Kernels

Qi Zhang (City University of Hong Kong, Hong Kong)\*; Antoni Chan (City University of Hong Kong, Hong Kong)

175: Characterizing Membership Privacy in Stochastic Gradient Langevin Dynamics

Bingzhe Wu (Peking University)\*; Chaochao Chen (Ant Financial); Shiwan Zhao (IBM Research); Cen Chen (Ant Financial Services Group); Yuan Yao (HongKong University of Science and Technology); Guangyu Sun (Peking University); Li Wang (Ant Financial); Xiaolu Zhang (Ant Financial Services Group); Jun Zhou (Ant Financial)

176: Optimal Feature Transport for Cross-View Image Geo-Localization

Yujiao Shi (ANU)\*; Xin Yu (Australian National University); Liu Liu (ANU); Tong Zhang (Australian National University); HONGDONG LI (Australian National University, Australia)

178: Machine Number Sense: A Dataset of Visual Arithmetic Problems for Abstract and Relational Reasoning

Wenhe Zhang (Peking University)\*; Chi Zhang (University of California, Los Angeles); Yixin Zhu (UCLA); Song-Chun Zhu (UCLA)

193: Google Research Football: A Novel Reinforcement Learning Environment

Karol Kurach (Google Brain)\*; Anton Raichuk (Google); Piotr Stańczyk (Google Brain); Michał Zajac (Google Brain); Olivier Bachem (Google Brain); Lasse Espeholt (DeepMind); Carlos Riquelme (Google Brain); Damien Vincent (Google Brain); Marcin Michalski (Google); Olivier Bousquet (Google); Sylvain Gelly (Google Brain)

199: Chained Representation Cycling: Learning to Estimate 3D Human Pose and Shape by Cycling Between Representations

Nadine Rüegg (ETH Zürich, Max-Planck Institute for Intelligent Systems)\*; Christoph Lassner (Facebook Reality Labs); Michael Black (Max Planck Institute for Intelligent Systems); Konrad Schindler (ETH)

206: PsyNet: Self-supervised Approach to Object Localization using Point Symmetric Transformation

Kyungjune Baek (Yonsei University); Minhyun Lee (Yonsei University); Hyunjung Shim (Yonsei University)\*

208: Reduction and Local Search for Weighted Graph Coloring Problem

Yiyuan Wang (northeast normal university)\*; Shaowei Cai (Institute of Software, Chinese Academy of Sciences); Shiwei Pan (northeast normal university); Ximing Li (Jilin University); Minghao Yin (northeast normal university)

270: A Practical Approach to Forgetting in Description Logics with Nominals

Yizheng Zhao (Nanjing University)\*; Renate Schmidt (Manchester); Yuejie Wang (Peking University); Xuanming ZHANG (University of Nottingham Ningbo China); Hao Feng (North China University of Science and Technology)

277: Blameworthiness in Security Games

Pavel Naumov (Claremont McKenna College)\*; Jia Tao (Lafayette College)

280: Ranking-Based Semantics for Sets of Attacking Arguments

Bruno Yun (Univeristy of Aberdeen)\*; Srdjan Vesic (CNRS); Madalina Croitoru (University of Montpellier)

291: Exploit and Replace: An Asymmetrical Two-Stream Architecture for Versatile Light Field Saliency Detection

Yongri Piao (Dalian University of Technology); Zhengkun Rong (Dalian University of Technology); Miao Zhang (Dalian University of Technology)\*; Huchuan Lu (Dalian University of Technology)

296: Cascading Convolutional Color Constancy

Huanglin Yu (South China University of Technology); Ke Chen (South China University of Technology)\*; Kaiqi Wang (South China University of Technology); Yanlin Qian (Tampere University); Zhaoxiang Zhang (Chinese Academy of Sciences, China); Kui Jia (South China University of Technology)

300: V-PROM: A Benchmark for Visual Reasoning Using Visual Progressive Matrices

Damien Teney (University of Adelaide)\*; Peng Wang (University of Wollongong); Jiwei Cao (The University of Adelaide); Lingqiao Liu (University of Adelaide); Chunhua Shen (University of Adelaide); Anton van den Hengel (University of Adelaide)

311: Accurate Structured-Text Spotting for Arithmetical Exercise Correction

Yiqing Hu (Tencent Youtu Lab)\*; Yan Zheng (Tencent Youtu Lab); Hao Liu (Tencent Youtu Lab); Deqiang Jiang (Tencent Youtu Lab); Yinsong Liu (Tencent Youtu Lab); Bo Ren (Tencent Youtu Lab)

316: LT-GAN: Image Location Transfer using GAN

Sanbi Luo (iie.ac.cn)\*; Tao Guo (iie.ac.cn); Jizhong Han (Institute of Information Engineering, Chinese Academy of Sciences); Fuqing Zhu (Institute of Information Engineering, Chinese Academy of Sciences)

331: Gated Fully Fusion for Semantic Segmentation

Xiangtai Li (Peking University)\*; Houlong Zhao (Shandong University of Science and Technology); Lei Han (Tencent AI Lab); Yunhai Tong (Peking University); Shaohua Tan (Peking University); Kuiyuan Yang (DeepMotion)

337: Residual Neural Processes

ByungJun Lee (KAIST)\*; Seunghoon Hong (KAIST); Kee-Eung Kim (KAIST)

345: TANet: Robust 3D Object Detection from Point Clouds with Triple Attention

Zhe Liu (Huazhong University of Science and Technology)\*; Xin Zhao (Institute of Automation, Chinese Academy of Sciences); Tengpeng Huang (Huazhong University of Science and Technology); hu ruolan (Huazhong University of Science and Technology); Yu Zhou (Huazhong University of Science and Technology); Xiang Bai (Huazhong University of Science and Technology)

361: Learning to Generate Maps from Trajectories

Sijie Ruan (Xidian University)\*; Cheng Long (Nanyang Technological University); Jie Bao (JD Finance); Chunyang Li (Xidian University); Zisheng Yu (Xidian University); Ruiyuan Li (Xidian University; JD Finance); Yuxuan Liang (National University of Singapore); Tianfu He (Harbin Institute of Technology); Yu Zheng (JD Finance)

362: Unified Vision-Language Pre-Training for Image Captioning and VQA

Luowei Zhou (University of Michigan)\*; Hamid Palangi (Microsoft Research); Lei Zhang (Microsoft); Houdong Hu (Microsoft AI and Research); Jason Corso (University of Michigan); Jianfeng Gao (Microsoft Research)

368: URNet : User-Resizable Residual Networks with Conditional Gating Module

Sangho Lee (Seoul National University); Simyung Chang (Seoul National University); Nojun Kwak (Seoul National University)\*

378: Mis-classified Vector Guided Softmax Loss for Face Recognition

Xiaobo Wang (JD AI Research)\*; Shifeng Zhang (CBSR, NLPR, CASIA); Shuo Wang (JD AI Research); Tianyu Fu (Winsense); Hailin Shi (JD AI); Tao Mei (AI Research of JD.com)

383: Reinforcement Learning from Imperfect Demonstrations under Soft Expert Guidance

Xiaojian Ma (University of California, Los Angeles)\*; Mingxuan Jing (Tsinghua University); Wenbing Huang (Tsinghua University); Chao Yang (Tsinghua University); Fuchun Sun (Tsinghua); Huaping Liu (Tsinghua University); Bin Fang (Tsinghua University)

398: MULE: Multimodal Universal Language Embedding

Donghyun Kim (Boston University)\*; Kuniaki Saito (Boston University); Kate Saenko (Boston University); Stan Sclaroff (Boston University); Bryan Plummer (Boston University)

402: Beyond Dropout: Feature Map Distortion to Regularize Deep Neural Networks

Yehui Tang (Peking University)\*; Yunhe Wang (Huawei Noah's Ark Lab); Yixing Xu (Huawei Noah's Ark Lab); Boxin Shi (Peking University); Chao Xu (Peking University); Chunjing Xu (Huawei Noah's Ark Lab); Chang Xu (University of Sydney)

403: Pruning from Scratch

Yulong Wang (Tsinghua University); Xiaolu Zhang (Ant Financial Services Group); Lingxi Xie (Huawei Noah's Ark Lab); Jun Zhou (Ant Financial); Hang Su (Tsinghua University); Bo Zhang (Tsinghua University); Xiaolin Hu (Tsinghua University)\*

409: Semi-Supervised Learning under Class Distribution Mismatch

Yanbei Chen (Queen Mary University of London)\*; Xiatian Zhu (Samsung AI Centre, Cambridge); Wei Li (Queen Mary University of London); Shaogang Gong (Queen Mary University of London)

419: Learning Meta Model for Zero- and Few-shot Face Anti-spoofing

yunxiao qin (Northwestern Polytechnical University; AIBEE); Chenxu Zhao (AIBEE)\*; Xiangyu Zhu (Chinese Academy of Science); Zezheng Wang (Aibee); Zitong Yu (CMVS, University of Oulu); Tianyu Fu (winsense); Feng Zhou (Aibee); jingping shi (Northwestern Polytechnical University); Zhen Lei (NLPR, CASIA, China)

434: RDSNet: A New Deep Architecture for Reciprocal Object Detection and Instance Segmentation

Shaoru Wang (NLPR&UCAS); Yongchao Gong (Horizon Robotics ); Junliang Xing (Institute of Automation, Chinese Academy of Sciences)\*; Lichao Huang (Horizon Robotics); Chang Huang (Horizon Robotics); Weiming Hu (Institute of Automation, Chinese Academy of Sciences)

441: UCF-STAR: A Large-Scale Still Image Dataset for Understanding Human Actions

Marjaneh Safaei (University of Central Florida)\*; Pooyan Balouchian (University of Central Florida); Hassan Foroosh (University of Central Florida)

443: Learning Transferable Adversarial Examples via Ghost Networks

Yingwei Li (Johns Hopkins University)\*; Song Bai (University of Oxford); Yuyin Zhou (Johns Hopkins University); Cihang Xie ( Johns Hopkins University ); Zhishuai Zhang (Johns Hopkins University); Alan Yuille (Johns Hopkins University)

455: Pose-Assisted Multi-Camera Collaboration for Active Object Tracking  
Jing Li (Peking University)\*; Jing Xu (Peking University); Fangwei Zhong (Peking University); Xiangyu Kong (Peking University); Yu QIAO (Shanghai Jiao Tong University); Yizhou Wang (PKU)

467: Bi-objective Continual Learning: Learning `New' while Consolidating `Known'  
Xiaoyu Tao (Institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University.)\*; Xiaopeng Hong (Xi'an Jiaotong University); Xinyuan Chang (Xi'an Jiaotong University); Songlin Dong (Xi'an Jiaotong University); Yihong Gong (Xian Jiaotong University)

476: Beyond Unfolding: Exact Recovery of Latent Convex Tensor Decomposition under Reshuffling  
Chao Li (RIKEN)\*; Mohammad Emtiyaz Khan (RIKEN); Zhun Sun (Horizon.ai); Gang Niu (RIKEN); Bo Han (RIKEN); Shengli Xie (Guangdong University of Technology); Qibin Zhao (RIKEN AIP)

481: A Spherical Convolution Approach for Learning Long Term Viewport Prediction in 360 Immersive Video  
Chenglei Wu (Tsinghua University)\*; Ruixiao Zhang (Tsinghua University); Zhi Wang (Tsinghua University); Lifeng Sun (Tsinghua University)

482: Learning to Follow Directions in Street View  
Karl Moritz Hermann (DeepMind); Mateusz Malinowski (DeepMind)\*; Piotr Mirowski (DeepMind); Andras Banki-Horvath (DeepMind); Keith Anderson (DeepMind); Raia Hadsell (Deepmind)

484: Proximal Distilled Evolutionary Reinforcement Learning  
Cristian Bodnar (University of Cambridge)\*; Ben Day (University of Cambridge); Pietro Lió (University of Cambridge)

494: Re-Attention for Visual Question Answering  
Wenya Guo (Nankai University); Ying ZHANG (Nankai Univeristy)\*; Xiaoping Wu (Nankai University); Jufeng Yang (Nankai University); Xiangrui Cai (Nankai University); Xiaojie Yuan (Nankai Univeristy)

498: {Attention-based View Selection Networks for Light-field Disparity Estimation  
YU-JU TSAI (National Taiwan University)\*; Yu-Lun Liu (National Taiwan University; MediaTek); Ming Ouhyoung (National Taiwan University); Yung-Yu Chuang (National Taiwan University)

504: Coupled-view Deep Classifier Learning from Multiple Noisy Annotators  
Shikun Li (Chinese Academy of Sciences ); Shiming Ge (Chinese Academy of Sciences)\*; Yingying Hua (Chinese Academy of Sciences); Chunhui Zhang (Chinese Academy of Sciences); Hao Wen (CloudWalk Technology); Tengfei Liu (Ant Financial Services Group); Weiqiang Wang (Ant Financial)

509: Learning-based Efficient Graph Similarity Computation via Multi-Scale Convolutional Set Matching  
Yunsheng Bai (University of California, Los Angeles)\*; Hao Ding (AWS AI Labs); Ken Gu (University of California, Los Angeles ); Yizhou Sun (UCLA); Wei Wang (UCLA)

523: Learning to Transfer: Unsupervised Domain Translation via Meta-Learning  
Jianxin Lin (University of Science and Technology of China); Yijun Wang (University of Science and Technology of China); Zhibo Chen (University of Science and Technology of China)\*; Tianyu He (University of Science and Technology of China)

525: Leveraging Multi-view Image Sets for Unsupervised Intrinsic Image Decomposition and Highlight Separation  
Renjiao Yi (Simon Fraser University)\*; Ping Tan (Simon Fraser University); Stephen Lin (Microsoft Research)

526: Logo-2K+: A Large-Scale Logo Dataset for Scalable Logo Classification

Jing Wang (Shandong Normal University); Weiqing Min (Institute of Computing Technology, Chinese Academy of Sciences); Sujuan Hou (Shandong Normal University)\*; Shengnan Ma (Shandong Normal University); Yuanjie Zheng (Shandong Normal University); Haishuai Wang (Fairfield University, Department of Computer Science and Engineering); Shuqiang Jiang (ICT, China Academy of Science)

546: Efficient Automatic CASH via Rising Bandits

Yang Li (Peking University)\*; Jiawei Jiang (ETH Zurich); Jinyang Gao (Alibaba Group); Yingxia Shao (BUPT); Ce Zhang (ETH); Bin Cui (Peking University)

551: Multi-Objective Multi-Agent Planning for Jointly Discovering and Tracking Mobile Objects

Hoa Nguyen (The University of Adelaide)\*; Hamid Rezaatofighi (University of Adelaide); Ba-Ngu Vo (Curtin University); Damith Ranasinghe (The University of Adelaide)

552: Learning to Deblur Face Images via Sketch Synthesis

SongNan Lin (Beijing Institute of Technology); Jiawei Zhang (SenseTime Research)\*; Jinshan Pan (Nanjing University of Science and Technology); Yicun Liu (Columbia University); Yongtian Wang (Beijing Institute of Technology); Jing Chen (Beijing Institute of Technology); Jimmy Ren (SenseTime Research)

558: ZoomNet: Part-Aware Adaptive Zooming Neural Network for 3D Object Detection

Zhenbo Xu (University of Science and Technology of China); Wei Zhang (Baidu Inc); Xiaoqing Ye (baidu); Xiao Tan (Baidu Research); Wei Yang (University of Science and Technology of China)\*; Shilei Wen (Baidu Research); Errui Ding (Baidu Inc.); Ajin Meng (University of Science and Technology of China); Liusheng Huang (University of Science and Technology of China)

561: Uncertainty-aware Multi-shot Knowledge Distillation for Image-based Object Re-identification

Xin Jin (University of Science and Technology of China); Cuiling Lan (Microsoft Research)\*; Wenjun Zeng (Microsoft Research); Zhibo Chen (University of Science and Technology of China)

564: Channel Pruning Guided by Classification Loss and Feature Importance

Jinyang Guo (The University of Sydney)\*; Wanli Ouyang (The University of Sydney); Dong Xu (University of Sydney)

572: Temporal Logics Over Finite Traces with Uncertainty

Fabrizio Maria Maggi (University of Tartu); Marco Montali (University of Bozen-Bolzano Italy); Rafael Penaloza (University of Milano-Bicocca)\*

578: Real-time Scene Text Detection with Differentiable Binarization

Minghui Liao (Huazhong University of Science and Technology)\*; Zhaoyi Wan (Megvii); Cong Yao (Megvii (Face++) Inc.); Kai Chen (sjtu); Xiang Bai (Huazhong University of Science and Technology)

589: FASTER Recurrent Networks for Efficient Video Classification

Linchao Zhu (University of Technology, Sydney); Du Tran (Facebook Research); Laura Sevilla-Lara (Facebook); Yi Yang (UTS); Matt Feiszli (Facebook Research); Heng Wang (Facebook Research)\*

591: Learning from the Past: Continual Meta-Learning with Bayesian Graph Neural Networks

Yadan Luo (University of Queensland)\*; Zi Huang (University of Queensland); Zheng Zhang (Harbin Institute of Technology); Ziwei Wang (University of Queensland); Mahsa Baktashmotlagh (University of Queensland); Yang Yang (University of Electronic Science and Technology of China)

596: Visual-Tactile Fusion Object Clustering

Tao Zhang (Shenyang Institute of Automation Chinese Academy of Sciences)\*; Yang Cong (Chinese Academy of Sciences); Gan Sun (Massachusetts Institute of Technology); Qianqian Wang (Xidian University); Zhengming Ding (Indiana University-Purdue University Indianapolis)

606: Policy Search by Target Distribution Learning for Continuous Control  
Chuheng Zhang (IIIS, THU)\*; Yuanqi Li (IIIS, THU); Jian LI (Tsinghua University)

626: On the Anatomy of MCMC-Based Maximum Likelihood Learning of Energy-Based Models  
Erik Nijkamp (UCLA); Mitch Hill (UCLA Department of Statistics)\*; Tian Han (Stevens Institute of Technology); Ying Nian Wu (University of California, Los Angeles); Song-Chun Zhu (UCLA)

647: Information Shaping for Enhanced Goal Recognition of Partially-Informed Agents  
Sarah Keren (Harvard University)\*; Haifeng Xu (Harvard University); Kofi Kwabong (Harvard University); David Parkes (Harvard University); Barbara Grosz (Harvard University)

659: AutoShrink: A Topology-aware NAS for Discovering Efficient Neural Architecture  
Tunhou Zhang (Duke University)\*; Hsin-Pai Cheng (Duke University); Zhenwen Li (Peking University); Feng Yan (University of Nevada, Reno); Chengyu Huang (Tsinghua University); Hai Li (Duke University); Yiran Chen (Duke University)

665: Clustering-aware Multiple Graph Matching via Decayed Pairwise Matching Composition  
Tianzhe Wang (Shanghai Jiao Tong University); Zetian Jiang (Shanghai Jiao Tong University); Junchi Yan (Shanghai Jiao Tong University)\*

669: Practical Federated Gradient Boosting Decision Trees  
Qinbin Li (National University of Singapore)\*; Zeyi Wen (The University of Western Australia); Bingsheng He (National University of Singapore)

682: Tree-Structured Policy based Progressive Reinforcement Learning for Temporally Language Grounding in Video  
Jie Wu (Sun Yat-sen University)\*; Guanbin Li (Sun Yat-sen University); si liu (Beihang University); Liang Lin (DarkMatter AI)

690: A MaxSAT-based Framework for Group Testing  
Bishwamittra Ghosh (National University of Singapore)\*; Lorenzo Ciampiconi (Politecnico di Milano); Jonathan Scarlett (National University of Singapore); Kuldeep S Meel (National University of Singapore)

697: Hierarchical Knowledge Squeezed Adversarial Network Compression  
Peng Li (Institute of Advanced Artificial Intelligence in Nanjing ); changyong shu (Institute of Advanced Artificial Intelligence in Nanjing ); Yuan Xie (East China Normal University)\*; Yanyun Qu (XMU); Hui Kong (Nanjing University of Science and Technology)

715: SaSAC: A Video Saliency Prediction Model with Shuffled Attentions and Correlation-based ConvLSTM  
Xinyi Wu (University of South Carolina); Zhenyao Wu (University of South Carolina); jinglin zhang (Nanjing University of Information Science and Technology); Lili Ju (University of South Carolina); Song Wang (University of South Carolina)\*

746: The Missing Data Encoder: Cross-Channel Image Completion with Hide-And-Seek Adversarial Network  
Arnaud Dapogny (Pierre and Marie Curie University (UPMC))\*; Matthieu Cord (Sorbonne University); Patrick Pérez (Valeo.ai)

778: DATA-GRU: Dual-Attention Time-Aware Gated Recurrent Unit for Irregular Multivariate Time Series  
Qingxiong Tan (Department of Computer Science, Hong Kong Baptist University)\*; Mang YE (Inception Institute of Artificial Intelligence); Baoyao Yang (Department of Computer Science, Hong Kong Baptist University); Siqi Liu (Department of Computer Science, Hong Kong Baptist University); Andy Jinhua Ma (School of Data and Computer Science, Sun Yat-Sen University); Terry Cheuk-Fung Yip (Department of Medicine and Therapeutics, The Chinese

University of Hong Kong); Grace Lai-Hung Wong (Department of Medicine and Therapeutics, The Chinese University of Hong Kong); PongChi Yuen (Department of Computer Science, Hong Kong Baptist University)

787: Cost-Effective Incentive Allocation via Structured Counterfactual Inference

Romain Lopez (UC Berkeley)\*; Chenchen Li (Shanghai Jiao Tong University); Xiang Yan (Shanghai Jiao Tong University); Junwu Xiong (Ant Financial Services Group); Michael Jordan (UC Berkeley); Yuan Qi (Ant Financial Services Group); Le Song (Ant Financial Services Group)

792: VCG Under Sybil (False name) Attacks --- a Bayesian Analysis

Yotam Gafni (Technion)\*; Ron Lavi (Technion); Moshe Tennenholtz (Technion – Israel Institute of Technology)

797: Complementary-View Multiple Human Tracking

Ruize Han (College of Intelligence and Computing, Tianjin University); Wei Feng (College of Intelligence and Computing, Tianjin University, China)\*; Jiewen Zhao (College of Intelligence and Computing, Tianjin University); Zicheng Niu (Tianjin University); Yujun Zhang (Tianjin University); Liang Wan (College of Intelligence and Computing, Tianjin University); Song Wang (University of South Carolina)

825: FDN: Feature Decoupling Network for Head Pose Estimation

Hao Zhang (Zhejiang University); Mengmeng Wang (SenseTime Group Limited); Yong Liu (Zhejiang University)\*; Yi Yuan (NetEase Fuxi AI Lab)

831: Dynamical System Inspired Adaptive Time Stepping Controller for Residual Network Families

Yibo Yang (Peking University)\*; Jianlong Wu (Shandong University); Hongyang Li (Peking University); Xia Li (Peking University Shenzhen Graduate School); Tiancheng Shen (Peking University); Zhouchen Lin (Peking University)

833: Region Normalization for Image Inpainting

Tao Yu (University of Science and Technology of China); Zongyu Guo (University of Science and Technology of China); Xin Jin (University of Science and Technology of China); Shilin Wu (University of Science and Technology of China); Zhibo Chen (University of Science and Technology of China)\*; Weiping Li (University of Science and Technology of China); Zhizheng Zhang (University of Science and Technology of China); Sen Liu (University of Science and Technology of China)

837: Representation Learning with Multiple Lipschitz-constrained Alignments on Partially-labeled Cross-domain Data

Songlei Jian (NUDT)\*; Liang Hu (University of Technology, Sydney); Longbing Cao (University of Technology Sydney); Kai Lu (NUDT)

838: Refining HTN Methods via Task Insertion with Preferences

Zhanhao Xiao (Sun Yat-sen University)\*; Hai Wan (School of Data and Computer Science, Sun Yat-sen University); Hankz Hankui Zhuo (Sun Yat-sen University); Andreas Herzig (IRIT Université de Toulouse); Laurent Perrussel (University of Toulouse Capitole 1); Peilin Chen (School of Data and Computer Science, Sun Yat-sen University)

858: Gradient-Aware Model-based Policy Search

Pierluca D'Oro (Politecnico di Milano, NNAISENSE)\*; Alberto Maria Metelli (Politecnico di Milano); Andrea Tirinzoni (Politecnico di Milano); Matteo Papini (Politecnico di Milano); Marcello Restelli (Politecnico di Milano)

870: Infrared-Visible Cross-Modal Person Re-Identification with an X Modality

Diangang Li (Xi'an Jiaotong University); Xing Wei (Xi'an Jiaotong University); Xiaopeng Hong (Xi'an Jiaotong University)\*; Yihong Gong (Xi'an Jiaotong University)

893: Text Perceptron: Towards End-to-End Arbitrary-Shaped Text Spotting



Liang Qiao (Hikvision Research Institute); Sanli Tang (Hikvision Research Institute); Zhanzhan Cheng (Hikvision Research Institute)\*; Yunlu Xu (Hikvision Research Institute); Yi Niu (Hikvision Research Institute); Shiliang Pu (Hikvision Research Institute); Fei Wu (Zhejiang University)

896: Multi-label Causal Feature Selection

Xingyu Wu (University of Science and Technology of China); Bingbing Jiang (School of Computer Science and Technology, University of Science and Technology of China); Kui Yu (School of Computer and Information, Hefei University of Technology); Huanhuan Chen (School of Computer Science and Technology, University of Science and Technology of China)\*; Chunyan Miao (NTU)

898: Automated Synthesis of Social Laws in STRIPS

Ronen Nir (Technion)\*; Alexander Shleyfman (Technion); Erez Karpas (Technion)

900: Attractive or Faithful? Popularity-Reinforced Learning for Inspired Headline Generation

YunZhu Song (National Chiao Tung University)\*; Hong-Han Shuai (National Chiao Tung University); Sung-Lin Yeh (National Tsing Hua University); Yi-Lun Wu (National Chiao Tung University); Lun-Wei Ku (Academia Sinica); Wen-Chih Peng (National Chiao Tung University)

902: Aspect-Aware Multimodal Summarization for Chinese E-commerce Products

Haoran Li (JD AI Research)\*; Peng Yuan (JD AI Research); Song Xu (JD AI Research); Youzheng Wu (JD AI Research); Xiaodong He (JD AI Research); Bowen Zhou (JD)

904: Layerwise Sparse Coding for Pruned Deep Neural Networks with Extreme Compression Ratio

Xiao Liu (Nanjing University)\*; Wenbin Li (Nanjing University); Jing Huo (Nanjing University); Lili Yao (Nanjing University); Yang Gao (Nanjing University)

909: Geometry Sharing Network for 3D Point Cloud Classification and Segmentation

Mingye Xu (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Zhipeng Zhou (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Yu Qiao (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences)\*

923: A Framework for Engineering Human/Agent Teaming Systems

Rick Evertsz (RMIT University)\*; John Thangarajah (RMIT University)

930: Separate In Latent Space: Unsupervised Single Image Layer Separation

Yunfei Liu (Beihang University); Feng Lu (Beihang University)\*

935: Loss-based Attention for Deep Multiple Instance Learning

Xiaoshuang Shi (University of Florida)\*; Fuyong Xing (University of Colorado Denver); Yuanpu Xie (University of Florida); Zizhao Zhang (University of Florida); Lei Cui (Northwest University); Lin Yang (University of Florida)

947: Estimating Early Fundraising Performance of Innovations via Graph-based Market Environment Model

Likang Wu (University of Science and Technology of China)\*; Zhi Li (University of Science and Technology of China); Hongke Zhao (Tianjin University); Zhen Pan (University of Science and Technology of China); Qi Liu ("University of Science and Technology of China, China"); Enhong Chen (University of Science and Technology of China)

951: Multi-Label Classification with Label Graph Superimposing

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961: PedHunter: Occlusion Robust Pedestrian Detector in Crowded Scenes

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962: Relational Learning for Joint Head and Human Detection

Cheng Chi (University of Chinese Academy of Sciences)\*; Shifeng Zhang (CBSR, NLPR, CASIA); Junliang Xing (Institute of Automation, Chinese Academy of Sciences); Zhen Lei (NLPR, CASIA, China); Stan Li (National Lab. of Pattern Recognition, China); Xudong Zou (Institute of Electronics, Chinese Academy of Sciences)

1007: Learning Deep Relations to Promote Saliency Detection

Changrui Chen (Ocean University of China); Xin Sun (Ocean University of China)\*; Yang Hua (Queen's University Belfast); Junyu Dong (Ocean University of China); Hongwei Xv (Ocean University of China)

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1025: CFGNN: Cross Flow Graph Neural Networks for Question Answering on Complex Tables

Xuanyu Zhang (Beijing Normal University)\*

1027: Federated Learning for Vision-and-Language Grounding Problems

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1043: End-to-End Unpaired Image Denoising with Conditional Adversarial Networks

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1044: Graph-Based Decoding Model for Functional Alignment of Unaligned fMRI Data

Weida Li (Nanjing University of Aeronautics and Astronautics, China)\*; Mingxia Liu (University of North Carolina at Chapel Hill); Fang Chen (Nanjing University of Aeronautics and Astronautics); Daoqiang Zhang (Nanjing University of Aeronautics and Astronautics, China)

1050: Attention Based Data Hiding with Generative Adversarial Networks

Chong Yu (NVIDIA)\*

1056: Conditional Generative Neural Decoding with Structured CNN Feature Prediction

Changde Du (Huawei Cloud BU EI Innovation Lab); Changying Du (Huawei Noah's Ark Lab); Lijie Huang (Institute of Automation, Chinese Academy of Sciences); Huiguang He (Institute Of Automation Chinese Academy Of Sciences)\*

1059: Count-Based Exploration with the Successor Representation

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Qizhen He (Bilibili.com)\*; Liang Wu (Bilibili.com); Yida Yin (Bilibili.com); Heming Cai (Bilibili.com)

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Yi Wei (University at Albany - SUNY)\*; Wenbo Li (Samsung Research America); Yanbo Fan (Tencent AI Lab); Linghan Xu (Tianjin University); Ming-Ching Chang (Albany University); Siwei Lyu (University at Albany)

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Zhaohui Zheng (Tianjin University); Ping Wang (Tianjin University); Wei Liu (Tianjin University); Jinze Li (People's Public Security University of China); Rongguang Ye (Tianjin University); Dongwei Ren (Tianjin University)\*

1084: Bi-Directional Generation for Unsupervised Domain Adaptation

Guanglei Yang (haerbin institute of technology)\*; Haifeng Xia (Indiana University-Purdue University Indianapolis); Mingli Ding (Harbin institute of Technology); Zhengming Ding (Indiana University-Purdue University Indianapolis)

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Avraham Itzhakov (Ben-Gurion University); Michael Codish (Ben-Gurion University of the Negev)\*

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1140: Iterative Delegations in Liquid Democracy with Restricted Preferences

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1150: Target-Aspect-Sentiment Joint Detection for Aspect-Based Sentiment Analysis

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1169: Who Likes What? – SplitLBI in Exploring Preferential Diversity of Ratings

Qianqian Xu (Key Laboratory of Intelligent Information Processing, Institute of Computing Technology, Chinese Academy of Sciences)\*; Jiechao Xiong (Tencent AI Lab); Zhiyong Yang (SKLOIS, Institute of Information Engineering, Chinese Academy of Sciences; SCS, University of Chinese Academy of Sciences); Xiaochun Cao (Chinese Academy of Sciences); Qingming Huang (University of Chinese Academy of Sciences); Yuan Yao (HongKong University of Science and Technology)

1173: CIAN: Cross-Image Affinity Net for Weakly Supervised Semantic Segmentation

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Yu Gao (Malong Technologies); Xintong Han (Malong Technologies)\*; Xun Wang (Malong Technologies); Weilin Huang (Malong Technologies); Matthew Scott (Malong Technologies)

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Chenze Shao (Institute of Computing Technology, Chinese Academy of Sciences (ICT/CAS))\*; Jinchao Zhang (Tencent); Yang Feng (Institute of Computing Technology, Chinese Academy of Sciences); Fandong Meng (Tencent WeChat AI - Pattern Recognition Center Tencent Inc.); Jie Zhou (Tencent)

1218: Nice Invincible Strategy for the Average-Payoff IPD

Shiheng Wang (The Hong Kong University of Science and Technology)\*; Fangzhen Lin (Hong Kong University of Science and Technology)

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Tom Silver (MIT)\*; Kelsey Allen (MIT); Alexander Lew (MIT); Leslie Kaelbling (MIT); Joshua Tenenbaum (MIT)

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Linjiang Huang (Institute of Automation, Chinese Academy of Sciences)\*; Yan Huang (Institute of Automation, Chinese Academy of Sciences); Wanli Ouyang (The University of Sydney); Liang Wang (NLPR, China)

1236: Part-Level Graph Convolutional Network for Skeleton-Based Action Recognition

Linjiang Huang (Institute of Automation, Chinese Academy of Sciences)\*; Yan Huang (Institute of Automation, Chinese Academy of Sciences); Wanli Ouyang (The University of Sydney); Liang Wang (NLPR, China)

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Bingfeng Zhang (Xi'an Jiaotong-Liverpool University); Jimin Xiao (Xi'an Jiaotong-Liverpool University)\*; Yunchao Wei (UTS); MINGJIE SUN (Xi'an Jiaotong-Liverpool University); Kaizhu Huang (Xi'an Jiaotong-Liverpool Univ.)

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Rongxiang Weng (Alibaba DAMO Academy)\*; Shujian Huang (Nanjing University); Hao-Ran Wei (Nanjing University); Heng Yu (Alibaba); Weihua Luo (Alibaba); Lidong Bing (Alibaba DAMO Academy); Jiajun Chen (Nanjing University)

1251: Stochastic Loss Function

Qingliang Liu (Fudan university)\*; Jinmei Lai (Fudan University)

1258: Neural Cognitive Diagnosis for Intelligent Education Systems

Fei Wang (University of Science and Technology of China)\*; Qi Liu (" University of Science and Technology of China, China"); Enhong Chen (University of Science and Technology of China); Zhenya Huang (University of Science and Technology of China ); Yuying Chen (University of Science and Technology of China ); Yu Yin (University of Science and Technology of China); Zai Huang (University of Science and Technology of China); Shijin WANG (iFLYTEK CO., LTD)

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Kun Kuang (Zhejiang University)\*; Ruoxuan Xiong (Stanford University); Peng Cui (Tsinghua University); Susan Athey (); Bo Li (Tsinghua University)

1266: Universal-RCNN: Universal Object Detector via Transferable Graph R-CNN

Hang Xu (Huawei Noah's Ark Lab)\*; Linpu Fang (South China University of Technology); Xiaodan Liang (Sun Yat-sen University); Wenxiong Kang (South China University of Technology); Zhenguo Li (Huawei Noah's Ark Lab)

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LU LIU (University of Technology Sydney)\*; Tianyi Zhou (University of Washington); Guodong Long (University of Technology Sydney); Jing Jiang (University of Technology Sydney); Chengqi Zhang (University of Technology Sydney)

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Jihan Yang (Sun Yat-sen University)\*; Ruijia Xu (Sun Yat-sen University); Ruiyu Li (Tencent); Xiaojuan Qi (University of Oxford); Xiaoyong Shen (Tencent); Guanbin Li (Sun Yat-sen University); Liang Lin (DarkMatter AI)

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Yehui Tang (Peking University)\*; Shan You (SenseTime Research); Chang Xu (University of Sydney); Jin Han (Peking University); Chen Qian (SenseTime); Boxin Shi (Peking University); Chao Xu (Peking University); Changshui Zhang (Tsinghua University)

1281: SADA: Semantic Adversarial Diagnostic Attacks for Autonomous Applications

Abdullah Hamdi (KAUST)\*; Matthias Müller (Intel Labs); Bernard Ghanem (KAUST)

1282: Monte Carlo Tree Search in continuous spaces using Voronoi optimistic optimization with regret bounds

Beomjoon Kim (MIT)\*; Kyungjae Lee (Seoul National University); Sungbin Lim (Kakao Brain); Leslie Kaelbling (MIT); Tomas Lozano-Perez (MIT)

1288: POST: POLicy-based Switch Tracking

Ning Wang (University of Science and Technology of China)\*; Wengang Zhou (University of Science and Technology of China); Guo-Jun Qi (Futurewei Technologies); Houqiang Li (University of Science and Technology of China)

1305: Overcoming Language Priors in VQA via Decomposed Linguistic Representations

Chenchen Jing (Beijing Institute of Technology); Yuwei WU (Beijing Institute of Technology (BIT), China)\*; Xiaoxun Zhang (Alibaba Group); Yunde Jia (Beijing Institute of Technology); Qi Wu (University of Adelaide)

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Tiancheng Shen (Tsinghua University); Jia Jia (Tsinghua University)\*; Yan Li (Tencent WeChat); Yihui Ma (Tsinghua University); Yaohua Bu (Tsinghua University); Hanjie Wang (Tencent WeChat); Bo Chen (Tencent WeChat); Tat-Seng Chua (National university of Singapore); Wendy Hall (University of Southampton)

1309: Revisiting Online Quantum State Learning

Feidiao Yang (Institute of Computing Technology, Chinese Academy of Sciences)\*; Jiaqing Jiang (Institute of Computing Technology, Chinese Academy of Sciences); Jialin Zhang (Institute of Computing Technology, CAS); Xiaoming Sun (Institute of Computing Technology, Chinese Academy of Sciences )

1317: Every Frame Counts: Joint Learning of Video Segmentation and Optical Flow  
Mingyu Ding (Renmin University of China); Zhe Wang (SenseTime Group Limited); Bolei Zhou (CUHK); Jianping Shi (SenseTime Group Limited); Zhiwu Lu (Renmin University of China)\*; Ping Luo (The University of Hong Kong)

1322: Improving Entity Linking by Modeling Latent Entity Type Information  
Shuang Chen (Harbin Institute of Technology)\*; Jinpeng Wang (Microsoft Research Asia); Feng Jiang (Harbin Institute of Technology, Harbin); Chin-Yew Lin (Microsoft Research Asia)

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Shafin Rahman (Australian National University)\*; Salman Khan (Australian National University (ANU)); Nick Barnes (CSIRO(Data61))

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1334: Forgetting to Learn Logic Programs  
Andrew Cropper (Oxford)\*

1335: Adaptive Trust Region Policy Optimization: Global Convergence and Faster Rates for Regularized MDPs  
Lior Shani (Technion)\*; Yonathan Efroni (Technion); Shie Mannor (Technion)

1337: HDK: Toward High-Performance Deep-Learning-Based Kirchhoff Analysis  
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1339: 3D Shape Completion with Multi-view Consistent Inference  
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1367: Exploiting Motion Information from Unlabeled Videos for Image Action Recognition

Yiyi Zhang (Shanghai Jiao Tong University)\*; Li Niu (Shanghai Jiao Tong University); Ziqi Pan (Shanghai Jiao Tong University); Meichao Luo (Shanghai Jiao Tong University); Jianfu Zhang (Shanghai Jiao Tong University); Dawei Cheng (Shanghai Jiao Tong University); Liqing Zhang (Shanghai Jiao Tong University)

1373: Scale-wise Convolution for Image Restoration

Yuchen Fan (University of Illinois at Urbana-Champaign)\*; Jiahui Yu (UIUC); Ding Liu (UIUC); Thomas Huang (UIUC)

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Songyang Zhang (University of Rochester); Houwen Peng (Microsoft Research)\*; Jianlong Fu (Microsoft Research); Jiebo Luo (U. Rochester)

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Shiming Ge (Chinese Academy of Sciences)\*; Kangkai Zhang (Chinese Academy of Sciences); Haolin Liu (Chinese Academy of Sciences); Yingying Hua (Chinese Academy of Sciences); Shengwei Zhao (Chinese Academy of Sciences); Xin Jin (Beijing Electronic Science and Technology Institute); Hao Wen (CloudWalk Technology)

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Jialin Gao (Shanghai Jiao Tong University); zhixiang shi (CloudWalk Technology); Guanshuo Wang (Shanghai Jiao Tong University); jiani li (cloudwalk technology); Yufeng Yuan (CloudWalk Technology); Shiming Ge (Chinese Academy of Sciences)\*; Xi Zhou (CloudWalk Technology)

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Xiang Li (Nanjing University of Science and Technology)\*; Shuo Chen (Nanjing University of Science and Technology); Jian Yang (Nanjing University of Science and Technology)

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Lei Zhang (Inception Institute of Artificial Intelligence)\*; Zhiqiang Lang (Northwestern Polytechnical University); Peng Wang (The University of Adelaide); Wei Wei (Northwestern Polytechnical University); Shengcai Liao (Inception Institute of Artificial Intelligence); Ling Shao (Inception Institute of Artificial Intelligence); Yanning Zhang (Northwestern Polytechnical University)

1394: Causal Transfer for Imitation Learning and Decision Making under Sensor-shift

Jalal Etesami (Bosch Research Center for AI, Germany); Philipp Geiger (Bosch Center for Artificial Intelligence)\*

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Hui Liu (Institute of Information Engineering, Chinese Academy of Sciences)\*; Yongzheng Zhang (Institute of Information Engineering, Chinese Academy of Sciences); Yipeng Wang (Institute of Information Engineering, Chinese Academy of Sciences); zheng Lin (iie); Yige Chen (Institute of Information Engineering, Chinese Academy of Sciences)

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Wentian Zhao (Beijing Institute of Technology); Xinxiao Wu (Beijing Institute of Technology)\*; Xiaoxun Zhang (Alibaba Group)

1404: Revisiting Bilinear Pooling: A Coding Perspective

Zhi Gao (Beijing Institute of Technology); Yuwei WU (Beijing Institute of Technology (BIT), China)\*; Xiaoxun Zhang (Alibaba Group); Jindou Dai (Beijing Institute of Technology); Yunde Jia (Beijing Institute of Technology); Mehrtash Harandi (Monash University)

1406: Deep Embedded Complementary and Interactive Information for Multi-view Classification



Jinglin Xu (Northwestern Polytechnical University)\*; Wenbin Li (Nanjing University); Xinwang Liu (National University of Defense Technology); Dingwen Zhang (Xidian University); Ji Liu (Kwai Inc.); Junwei Han (NWPU, China)

1407: Single Camera Training for Person Re-identification

Tianyu Zhang (Beihang University)\*; Lingxi Xie (Huawei Noah's Ark Lab); Longhui Wei (Huawei Noah's Ark Lab); Yongfei Zhang (Beihang University); Bo Li (Beihang University); Qi Tian (Huawei Noah's Ark Lab)

1421: A New Ensemble Adversarial Attack Powered by Long-term Gradient Memories

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1424: Graph Attention Based Proposal 3D ConvNets for Action Detection

Jun Li (Beihang University); Xianglong Liu (Beihang University)\*; Zhuofan Zong (Beihang University); Wanru Zhao (Beihang University); Mingyuan Zhang (Beihang University); Jingkuan Song (UESTC)

1435: Image Cropping with Composition and Saliency Aware Aesthetic Score Map

Yi Tu (Shanghai Jiao Tong University); Li Niu (Shanghai Jiao Tong University)\*; Weijie Zhao (Versa-AI); Dawei Cheng (Shanghai Jiao Tong University); Liqing Zhang (Shanghai Jiao Tong University)

1440: Sparsity-inducing Binarized Neural Networks

Peisong Wang (Institute of Automation, Chinese Academy of Sciences)\*; Xiangyu He (Institute of Automation, Chinese Academy of Sciences); Gang Li (Institute of Automation, Chinese Academy of Sciences); Tianli Zhao (CASIA); Jian Cheng ("Chinese Academy of Sciences, China")

1441: FAN-Face: a simple orthogonal improvement to deep face recognition

Jing Yang (University of Nottingham)\*; Adrian Bulat (Samsung AI Center, Cambridge); Georgios Tzimiropoulos (Samsung AI Centre, Cambridge & University of Nottingham)

1448: Revisiting Image Aesthetic Assessment via Self-Supervised Feature Learning

Kekai Sheng (Institute of Automation, Chinese Academy of Sciences)\*; Weiming Dong (NLPR, Institute of Automation, Chinese Academy of Sciences); Menglei Chai (Snap Inc.); Guohui Wang (Snap Inc.); Peng Zhou (North China Electric Power University); Feiyue Huang (Tencent); Bao-Gang Hu (Institute of Automation, Chinese Academy of Sciences); Chongyang Ma (Kuaishou Technology); Rongrong Ji (Xiamen University, China)

1451: Online Hashing with Efficient Updating of Binary Codes

Zhenyu Weng (Peking University Shenzhen Graduate School)\*; Yuesheng Zhu (Peking University Shenzhen Graduate School)

1453: Generative Adversarial Networks for Video-to-Video Domain Adaptation

Jiawei Chen (Youtu Lab, Tencent); Yuexiang Li (Youtu Lab, Tencent)\*; Kai Ma (Tencent); Yefeng Zheng (Tencent)

1460: Incremental multi-domain learning with network latent tensor factorization

Adrian Bulat (Samsung AI Center, Cambridge)\*; Jean Kossaifi (Imperial College London); Georgios Tzimiropoulos (Samsung AI Centre, Cambridge & University of Nottingham); Maja Pantic (Imperial College London / Samsung )

1465: Pairwise Learning with Differential Privacy Guarantees

Mengdi Huai (University of Virginia)\*; Di Wang (SUNY at Buffalo); Chenglin Miao (State University of New York at Buffalo); Jinhui Xu (SUNY Buffalo); Aidong Zhang (University of Virginia)

1482: Shape-Aware Organ Segmentation by Predicting Signed Distance Maps

Yuan Xue (Penn State University)\*; Hui Tang (Tencent Medical AI Lab); Zhi Qiao (Tencent Medical AI Lab); Guanzhong Gong (Shandong Cancer Hospital and Institute); Yong Yin (Shandong Cancer Hospital and Institute); Zhen Qian (Tencent America); Chao Huang (Tencent America); Wei Fan (Tencent); Xiaolei Huang (Penn State University)

1491: Weakly Supervised Disentanglement by Pairwise Similarities

Junxiang Chen (University of Pittsburgh)\*; Kayhan Batmanghelich (University of Pittsburgh / Carnegie Mellon University)

1493: Keywords-Guided Abstractive Sentence Summarization

Haoran Li (JD AI Research)\*; Junnan Zhu (Institute of Automation, Chinese Academy of Sciences); Jiajun Zhang (Institute of Automation Chinese Academy of Sciences); Chengqing Zong ("Institute of Automation, Chinese Academy of Sciences"); Xiaodong He (JD AI Research)

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Qintao Hu (University of Chinese Academy of Sciences, China)\*; Lijun Zhou (Chinese Academy of Sciences); Xiaoxiao Wang (University of California Davis); Yao Mao (IOE); Jianlin Zhang ( IOE); Qixiang Ye (University of Chinese Academy of Sciences, China)

1506: Mega-Reward: Achieving Human-Level Play without Extrinsic Rewards

Yuhang Song (University of Oxford); Jianyi Wang (BUAA); Thomas Lukasiewicz (University of Oxford); Zhenghua Xu (Hebei University of Technology)\*; Shangtong Zhang (University of Oxford); Andrzej Wojcicki (Lighthouse); Mai Xu (BUAA)

1509: Knowledge Integration Networks for Action Recognition

Shiwen Zhang (Malong Technologies)\*; Sheng Guo (Malong Technologies); Limin Wang (Nanjing University); Weilin Huang (Malong Technologies); Matthew Scott (Malong Technologies)

1511: Joint Commonsense and Relation Reasoning for Image and Video Captioning

Jingyi Hou (Beijing Institute of Technology); Xinxiao Wu (Beijing Institute of Technology)\*; Xiaoxun Zhang (Alibaba Group); Yayun Qi (Beijing Institute of Technology); Yunde Jia (Beijing Institute of Technology); Jiebo Luo (University of Rochester)

1513: Arena: A General Evaluation Platform and Building Toolkit for Multi-Agent Intelligence

Yuhang Song (University of Oxford); Andrzej Wojcicki (Lighthouse); Thomas Lukasiewicz (University of Oxford); Jianyi Wang (BUAA); Abi Aryan (UCLA); Zhenghua Xu (Hebei University of Technology)\*; Mai Xu (BUAA); Zihan Ding (Imperial College London); Lianlong Wu (University of Oxford)

1515: Coarse-to-Fine Hyper-Prior Modeling for Learned Image Compression

Yueyu Hu (Peking University)\*; Wenhan Yang (City University of Hong Kong); Jiaying Liu (Peking University)

1534: Asymptotic Risk of B\`ezier Simplex Fitting

Akinori Tanaka (RIKEN/Keio Univ.); Akiyoshi Sannai (RIKEN); Ken Kobayashi (Fujitsu Laboratories LTD.)\*; Naoki Hamada (Fujitsu Laboratories LTD.)

1536: Posterior-Guided Neural Architecture Search

Yizhou Zhou (University of Science and Technology of China)\*; Xiaoyan Sun (Microsoft Research Asia); Chong Luo (Microsoft Research Asia); Zheng-Jun Zha (University of Science and Technology of China); Wenjun Zeng (Microsoft Research)

1540: Brain-mediated Transfer Learning of Convolutional Neural Networks

Satoshi Nishida (Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology)\*; Yusuke Nakano (Center for Information and Neural Networks (CiNet), National

Institute of Information and Communications Technology); Antoine Blanc (Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology); Naoya Maeda (NTT DATA Corporation); Masataka Kado (NTT DATA Corporation); Shinji Nishimoto (Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology)

1545: Learning Saliency-free Model with Generic Features for Weakly-supervised Semantic Segmentation  
Wenfeng Luo (Sun Yat-Sen University)\*; Meng Yang (Sun Yat-sen University)

1547: A Multiarmed Bandit Based Incentive Mechanism for a Subset Selection of Customers for Demand Response in Smart Grids  
Shweta Jain (Indian Institute of Technology Ropar)\*; Sujit Gujar (Machine Learning Laboratory, International Institute of Information Technology, Hyderabad)

1551: Learning End-To-End Scene Flow by Distilling Single Tasks Knowledge  
Filippo Aleotti (University of Bologna); Matteo Poggi (University of Bologna)\*; Fabio Tosi (University of Bologna); Stefano Mattoccia (University of Bologna)

1552: Adversarial Domain Adaptation with Domain Mixup  
Minghao Xu (Shanghai Jiaotong University)\*; Jian Zhang (Shanghai Jiaotong University); Bingbing Ni (Shanghai Jiao Tong University); Teng Li (Anhui University); Chengjie Wang (Tencent); Qi Tian (Huawei Noah's Ark Lab); Wenjun Zhang (Shanghai Jiao Tong University)

1555: Object Instance Mining for Weakly Supervised Object Detection  
Chenhao Lin (SenseTime Research)\*; Siwen Wang (Dalian University of Technology); Dongqi Xu (SenseTime Research); Yu Lu (SenseTime Research); Wayne Zhang (SenseTime Research)

1557: Hierarchical Online Instance Matching for Person Search  
Di Chen (Nanjing University of Science and Technology)\*; Shanshan Zhang (Nanjing University of Science and Technology); Wanli Ouyang (The University of Sydney); Jian Yang (Nanjing University of Science and Technology); Bernt Schiele (MPI Informatics)

1559: Deep Camouflage Images  
Qing Zhang (Sun Yat-sen University)\*; Gelin Yin (Sun Yat-sen University); Yongwei Nie (South China University of Technology); WEI-SHI ZHENG (Sun Yat-sen University, China)

1572: Random Erasing Data Augmentation  
Zhun Zhong (Xiamen University)\*; Liang Zheng (Australian National University); Guoliang Kang (CMU); Shaozi Li (Xiamen University, China); Yi Yang (UTS)

1576: Pointwise Rotation-invariant Network with Adaptive Sampling and 3D Spherical Voxel Convolution  
Yang You (Shanghai Jiao Tong University); Yujing Lou (Shanghai Jiao Tong University); Qi Liu (Shanghai Jiao Tong University); Yu-Wing Tai (Tencent); weiming wang (shanghai jiaotong university); Lizhuang Ma (Shanghai Jiao Tong University); Cewu Lu (Shanghai Jiao Tong University)\*

1581: Lifted Fact-Alternating Mutex Groups and Pruned Grounding of Classical Planning Problems  
Daniel Fišer (FEE, CTU, Prague)\*

1590: Lexical Simplification with Pretrained Encoders  
Jipeng Qiang (Yangzhou University); Yun Li (Yangzhou University)\*; Yi Zhu (hefei university of technology); Yunhao Yuan (Yangzhou University); Xindong Wu (School of Compute Science and Information Engineering, HeFei University of Technology )

1591: Learning Cross-modal Context Graph Networks for Visual Grounding

Yongfei Liu (ShanghaiTech)\*; Bo Wan (ShanghaiTech University); Xiaodan Zhu (Department of Electrical and Computer Engineering, Queen's University); Xuming He (ShanghaiTech University)

1598: Partner Selection for the Emergence of Cooperation in Multi-Agent Systems using Reinforcement Learning  
Nicolas Anastassacos (The Alan Turing Institute)\*; Steve Hailes (University College London); Mirco Musolesi (UCL)

1602: Generative-Discriminative Complementary Learning  
Yanwu Xu (University of Pittsburgh)\*; Mingming Gong (University of Melbourne); Junxiang Chen (University of Pittsburgh); Tongliang Liu (The University of Sydney); Kun Zhang (Carnegie Mellon University); Kayhan Batmanghelich (University of Pittsburgh / Carnegie Mellon University)

1603: An Iterative Polishing Framework based on Quality Aware Masked Language Model for Chinese Poetry Generation  
Liming DENG (Ping An Technology (Shenzhen) Co., Ltd.)\*; Jie Wang (PingAn Technology); Hangming Liang (Ping An Technology (Shenzhen) Co., Ltd.); Hui Chen (Ping An Technology (Shenzhen) Co., Ltd.); Zhiqiang Xie (University of Science and Technology of China); Bojin Zhuang (Ping An Technology (Shenzhen) Co., Ltd.); Shaojun Wang (Ping An Technology (Shenzhen) Co., Ltd.); Jing Xiao (Ping An Insurance (Group) Company of China)

1604: Modeling Probabilistic Commitments for Maintenance Is Inherently Harder than for Achievement  
Qi Zhang (University of Michigan)\*; Edmund Durfee (University of Michigan); Satinder Singh (UMich)

1623: Neural Machine Translation with Byte-Level Subwords  
Changhan Wang (Facebook AI Research)\*; Kyunghyun Cho (New York University); Jiatao Gu (Facebook AI Research)

1625: Constructing Minimal Perfect Hash Functions Using SAT Technology  
Sean Weaver (U.S. National Security Agency); Marijn Heule (Carnegie Mellon University)\*

1627: A Multi-Scale Approach for Graph Link Prediction  
Lei Cai (Washington State University); Shuiwang Ji (Texas A&M University)\*

1629: AutoDAL: Distributed Active Learning with Automatic Hyperparameter Selection  
Xu Chen (SAS Inc)\*; Brett Wujek (SAS)

1632: General Partial Label Learning via Dual Bipartite Graph Autoencoder  
Brian Chen (Columbia University); Bo Wu (Columbia University); Alireza Zareian (Columbia University); Hanwang Zhang (Nanyang Technological University); Shih-Fu Chang (Columbia University)\*

1634: Multi-Task Self-Supervised Learning for Disfluency Detection  
Shaolei Wang (Harbin Institute of Technology)\*; Wanxiang Che (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology); Qi Liu (University of Oxford); Pengda Qin (Beijing University of Posts and Telecommunications); Ting Liu (哈尔滨工业大学); William Yang Wang (UC Santa Barbara)

1648: Spatial-Temporal Multi-Cue Network for Continuous Sign Language Recognition  
Hao Zhou (University of Science and Technology of China)\*; Wengang Zhou (University of Science and Technology of China); Yun Zhou (University of Science and Technology of China); Houqiang Li (University of Science and Technology of China)

1650: Adaptive Factorization Network: Learning Adaptive-Order Feature Interactions  
Weiyu Cheng (Shanghai Jiao Tong University); Yanyan Shen (Shanghai Jiao Tong University)\*; Linpeng Huang (Shanghai Jiao Tong University)

1655: Divide and Conquer: Question-Guided Spatio-Temporal Contextual Attention for Video Question Answering

Jianwen Jiang (Tsinghua University)\*; Ziqiang Chen (Tsinghua University); Haojie Lin (Tsinghua University); Xibin Zhao (Tsinghua University); Yue Gao (Tsinghua University)

1658: Release the power of online-training for robust visual tracking

Yifan Yang (UCAS)\*; Guorong Li (University of Chinese Academy of Sciences); Yuankai Qi (University of Adelaide); Qingming Huang (University of Chinese Academy of Sciences)

1664: RiskOracle: A Minute-level Citywide Traffic Accident Forecasting Framework

Zhengyang Zhou (University of Science and Technology of China); Yang Wang (University of Science and Technology of China)\*; Xike Xie (University of Science and Technology of China); Lianliang Chen (University of Science and Technology of China); Hengchang Liu (USTC)

1673: Deep Object Co-segmentation via Spatial-Semantic Network Modulation

Kaihua Zhang (NUIST)\*; Jin Chen (nuist); Bo Liu (JD.com); Qingshan Liu (Nanjing University of Information Science & Technology)

1680: Uncorrected least-squares temporal difference with lambda-return

Takayuki Osogami (IBM Research - Tokyo)\*

1681: Generating Persona Consistent Dialogues by Exploiting Natural Language Inference

Haoyu Song (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology)\*; Wei-Nan Zhang (Harbin Institute of Technology); Jingwen Hu (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology, China); Ting Liu (哈尔滨工业大学)

1685: Dynamic Sampling Network for Semantic Segmentation

Bin Fu (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Junjun He (SJTU); Zhengfu Zhang (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Yu Qiao (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences)\*

1687: Stochastic Online Learning with Probabilistic Graph Feedback

Shuai Li (Shanghai Jiao Tong University)\*; Wei Chen (Microsoft); Zheng Wen (DeepMind); Kwong-Sak LEUNG (The Chinese University of Hong Kong)

1690: Binarized Neural Architecture Search

Hanlin Chen (Beihang University); Li'an Zhuo (Beihang University); Baochang Zhang (Beihang University)\*; Xiawu Zheng (Xiamen University); Jianzhuang Liu (Shenzhen Institutes of Advanced Technology); David Doermann (University at Buffalo); Rongrong Ji (Xiamen University, China)

1692: Convergence of Opinion Diffusion is PSPACE-complete

Dmitry Chistikov (University of Warwick); Grzegorz Lisowski (University of Warwick); Mike Paterson (University of Warwick); Paolo Turrini (University of Warwick)\*

1698: Towards Socially Responsible AI: Cognitive Bias-Aware Multi-Objective Learning

Procheta Sen (Dublin City University)\*; Debasis Ganguly (IBM Research)

1703: Adversarial Deep Network Embedding for Cross-network Node Classification

Xiao Shen (Hong Kong Polytechnic University)\*; Quanyu Dai (Hong Kong Polytechnic University); Korris Chung (Hong Kong Polytechnic University); wei lu (University of electronic science and technology of China); Kup-Sze Choi (The Hong Kong Polytechnic University)

1706: Dynamic Instance Normalization for Arbitrary Style Transfer

Yongcheng Jing (Zhejiang University); Xiao Liu (Baidu); Yukang Ding (Baidu Research); Xinchao Wang (Stevens Institute of Technology); Errui Ding (Baidu Inc.); Mingli Song (Zhejiang University)\*; Shilei Wen (Baidu Research)

1710: Adaptive Two-Dimensional Embedded Image Clustering

Zhihui Li (University of New South Wales)\*; Lina Yao (University of New South Wales); Sen Wang (The University of Queensland); salil kanhere (UNSW Sydney); Xue Li (University of Queensland); Huaxiang Zhang (Shandong Normal University)

1718: Rank3DGAN: Semantic mesh generation using relative attributes

Yassir Saquil (University of Bath)\*; Qunce Xu (University of Bath); Yongliang Yang (University of Bath); Peter Hall (University of Bath)

1741: Corpus wide argument mining - a working solution

Liat Ein-Dor (IBM Research AI); Eyal Shnarch (IBM Research AI); Lena Dankin (IBM Research AI); Alon Halfon (IBM Research AI)\*; Benjamin Sznajder (IBM Research AI); Ariel Gera (IBM research AI); Carlos Alzate (IBM Research, Ireland); Martin Gleize (IBM Research); Leshem Choshen (IBM Research AI); Yufang Hou (IBM Research); Yonatan Bilu (Haifa Lab, IBM Research); Ranit Aharonov (Haifa Lab, IBM Research); Noam Slonim (IBM)

1743: Probing Brain Activation Patterns by Dissociating Semantics and Syntax in Sentences

Shaonan Wang (CASIA)\*; Jiajun Zhang (Institute of Automation Chinese Academy of Sciences); Nan Lin (Institute of Psychology Chinese Academy of Sciences); Chengqing Zong ("Institute of Automation, Chinese Academy of Sciences")

1752: Temporal Context Enhanced Feature Aggregation for Video Object Detection

Fei He (Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences)\*; Naiyu Gao (Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences); Qiaozhe Li (Chinese Academy of Sciences); Senyao Du (Horizon Robotics); Xin Zhao (Institute of Automation, Chinese Academy of Sciences); Kaiqi Huang (Institute of Automation, Chinese Academy of Sciences)

1753: Message Passing Attention Networks for Document Understanding

Giannis Nikolentzos (Ecole Polytechnique); Antoine Tixier (Ecole Polytechnique)\*; Michalis Vazirgiannis (École Polytechnique)

1758: Learning to Optimize Computational Resources: Frugal Training with Generalization Guarantees

Maria-Florina Balcan (Carnegie Mellon University); Tuomas Sandholm (Carnegie Mellon University); Ellen Vitercik (Carnegie Mellon University)\*

1759: Structured Output Learning with Conditional Generative Flows

You Lu (Virginia Tech)\*; Bert Huang (Virginia Tech)

1768: Privacy-Preserving Gaussian Process Regression - A Modular Approach to the Application of Homomorphic Encryption

Peter Fenner (IBM Research)\*; Edward Pyzer-Knapp (IBM Research)

1770: On Succinct Groundings of HTN Planning Problems

Gregor Behnke (Ulm University)\*; Daniel Höller (Ulm University); Alexander Schmid (Ulm University); Pascal Bercher (Ulm University); Susanne Biundo (Ulm University)

1771: Detecting Human-Object Interactions via Functional Generalization

Ankan Bansal (University of Maryland)\*; Sai Saketh Rambhatla (University of Maryland); Abhinav Shrivastava (University of Maryland); Rama Chellappa (University of Maryland)

1773: Envelope-based Approaches to Real-Time Heuristic Search

Kevin Gall (University of New Hampshire)\*; Bence Cserna (University of New Hampshire); Wheeler Ruml (University of New Hampshire)

1777: Computing Equilibria in Binary Networked Public Goods Games

Sixie Yu (Washington University in St. Louis)\*; Kai Zhou (Washington University in St. Louis); P. Jeffrey Brantingham (UCLA); Yevgeniy Vorobeychik (Washington University in St. Louis)

1783: Corpus-Level End-to-End Exploration for Interactive Systems

Zhiwen Tang (Georgetown University)\*; Grace Hui Yang (Georgetown University)

1788: Beyond Pairwise Comparisons in Social Choice: A Setwise Kemeny Aggregation Problem

Hugo Gilbert (Gran Sasso Science Institute, Italy)\*; Tom Portoleau (LAAS); Olivier Spanjaard (Sorbonne Université)

1790: Adversarial Learning of Privacy-Preserving and Task-Oriented Representations

Taihong Xiao (University of California at Merced)\*; Yi-Hsuan Tsai (NEC Labs America); Kihyuk Sohn (Google); Manmohan Chandraker (NEC Labs America); Ming-Hsuan Yang (University of California at Merced)

1796: Preventing Arbitrage From Collusion When Eliciting Probabilities

Rupert Freeman (Microsoft Research)\*; David Pennock (Microsoft Research); Dominik Peters (University of Oxford); Bo Waggoner (U. Colorado, Boulder)

1797: Label Error Correction and Generation Through Label Relationships

Zijun Cui (Rensselaer Polytechnic Institute)\*; Yong Zhang (Tencent AI Lab); Qiang Ji (Rensselaer Polytechnic Institute)

1798: Clouseau: Generating Communication Protocols from Commitments

Munindar Singh (North Carolina State University)\*; Amit Chopra (Lancaster University)

1807: OVL: One-View Learning for Human Retrieval

Wenjing Li (University of Science and Technology of China)\*; Zhongcheng Wu (University of Science and Technology of China)

1813: Expectation-Aware Planning: A General Framework for Synthesizing and Executing Self-Explaining Plans for Human-AI Interaction

Sarath Sreedharan (Arizona State University)\*; Tathagata Chakraborti (IBM Research AI); Christian Muise (IBM Research); Subbarao Kambhampati (Arizona State University)

1829: Cycle-CNN for Colorization towards Real Monochrome-Color Camera Systems

Xuan Dong (School of Computer Science, Beijing University of Posts and Telecommunications); Weixin Li (Beihang University)\*; Xiaojie Wang (Beijing University of Posts and Telecommunications); Yunhong Wang (State Key Laboratory of Virtual Reality Technology and System, Beihang University, Beijing 100191, China)

1830: Systematically exploring associations among multivariate data

Lifeng Zhang (Renmin University of China)\*

1833: CBNet: A Novel Composite Backbone Network Architecture for Object Detection

Yudong Liu (Peking University); Yongtao Wang (Peking University)\*; Siwei Wang (Peking University); Tingting Liang (Peking University); Qijie Zhao (Peking University); Zhi Tang (Peking University); Haibin Ling (Stony Brook University)

1834: Leveraging Multi-token Entities in Document-level Named Entity Recognition

Anwen Hu (Renmin University of China)\*; Zhicheng Dou (Renmin University, China); Ji-Rong Wen (Renmin University of China); Jian-Yun Nie (Université de Montréal)

1836: Multi-Task Driven Feature Models for Thermal Infrared Tracking

Qiao Liu (Harbin Institute of Technology, Shenzhen); Xin Li (Harbin Institute of Technology, Shenzhen); Zhenyu He (Harbin Institute of Technology (Shenzhen); Peng Cheng Laboratory)\*; Nana Fan (Harbin Institute of Technology Shenzhen); Di Yuan (Harbin Institute of Technology, Shenzhen; Monash University); Wei Liu (liuwei@szit.edu.cn); Yongsheng Liang (Harbin Institute of Technology)

1846: Improving Domain-Adapted Sentiment Classification by Deep Adversarial Mutual Learning

Qianmin Xue (East China Normal University); Wei Zhang (East China Normal University)\*; Hongyuan Zha (GEORGIA TECH)

1848: Generate, Segment and Refine: Towards Generic Manipulation Segmentation

Peng Zhou (University of Maryland)\*; Bor-Chun Chen (University of Maryland); Xintong Han (Malong Technologies); Mahyar Najibi (University of Maryland); Abhinav Shrivastava (University of Maryland); Ser-Nam Lim (Facebook AI); Larry Davis (University of Maryland)

1856: Unsupervised Nonlinear Feature Selection from High-dimensional Signed Networks

Qiang Huang (Jilin University)\*; TingYu Xia (Jilin University); HuiYan Sun (Jilin University); Makoto Yamada (RIKEN AIP / Kyoto University); Yi Chang (Jilin University)

1857: Towards Ghost-free Shadow Removal via Dual Hierarchical Aggregation Network and Shadow Matting GAN

Xiaodong Cun (University of Macau); Chi-Man Pun (University of Macau)\*; Shi cheng (Xi'an University of Technology)

1888: Topic Enhanced Sentiment Spreading Model in Social Networks Considering User Interest

Xiaobao Wang (Tianjin University)\*; Di Jin (Tianjin University); Kaska Musial-Gabrys (University of Technology Sydney); Jianwu Dang (Tianjin University)

1894: Multi-Point Semantic Representation for Intent Classification

Jinghan Zhang (College of Computer Science, Nankai University)\*; Yuxiao Ye (Alibaba Group); Yue Zhang (Westlake University); Likun Qiu (Ludong University); Bin Fu (Alibaba Group); Yang Li (Alibaba Group); Zhenglu Yang (Nankai University); Jian Sun (Alibaba Group)

1897: GBCNs: Genetic Binary Convolutional Networks for Enhancing the Performance of 1-bit DCNNs

Chunlei Liu (Beihang University); Wenrui Ding (Beihang University); Yuan Hu (Beihang University); Baochang Zhang (Beihang University)\*; Jianzhuang Liu (Shenzhen Institutes of Advanced Technology); Guodong Guo (Baidu)

1907: Reinforcing Neural Network Stability with Attractor Dynamics

Hanming Deng (Shanghai Jiao Tong University); Yang Hua (Queen's University Belfast); Tao Song (Shanghai Jiao Tong University)\*; Zhengui Xue (Shanghai Jiao Tong University); Ruhui Ma (Shanghai Jiao Tong University); Neil Robertson (Queen's University Belfast); Haibing Guan (Shanghai Jiao Tong University)

1917: Scalable methods for computing state similarity in deterministic Markov Decision Processes

Pablo Samuel Castro (Google)\*

1924: Peeking Behind the Ordinal Curtain: Improving Distortion via Cardinal Queries

Georgios Amanatidis (Sapienza University of Rome); Georgios Birmpas (University of Oxford); Aris Filos Ratsikas (University of Liverpool); Alexandros Voudouris (University of Oxford)\*

1933: Intention Nets: Psychology-inspired User Choice Behavior Modeling for Next-basket Prediction

Shoujin Wang (Macquarie University, Australia)\*; Liang Hu (University of Technology, Sydney); Yan Wang (Macquarie University, Australia); Quan Z. Sheng (Macquarie University); Mehmet Orgun (Macquarie University); Longbing Cao (University of Technology Sydney)



1950: AutoRemover: Automatic Object Removal for Autonomous Driving Videos

Rong Zhang (Zhejiang University); Wei Li (Baidu); Peng Wang (Baidu USA LLC.); Chenye Guan (Baidu); Jin Fang (Baidu); Yuhang Song (USC); Jinhui Yu (Zhejiang University); Baoquan Chen (Peking University); Weiwei Xu (Zhejiang University)\*; Yang Ruigang (Baidu)

1964: Training Decision Trees as Replacement for Convolution Layers

Wolfgang Fuhl (University of Tuebingen)\*; Gjergji Kasneci (University of Tuebingen); Wolfgang Rosenstiel (University of Tuebingen); Enkelejda Kasneci (University of Tuebingen)

1971: Importance-Aware Semantic Segmentation in Self-Driving with Discrete Wasserstein Training

Xiaofeng Liu (CMU)\*; Song Bai (UC Berkeley); Yuzhuo Han (DLTU); Yi Ge (Carnegie Mellon University); Tianxing Wang (Fudan); Xu Han (Johns Hopkins University); Site Li (Carnegie Mellon University); Jane You (HK Poly U); Jun Lu (Beth Israel Deaconess Medical Center)

1972: Adaptive Cross-modal Embeddings for Image-Text Alignment

JONATAS WEHRMANN (PUCRS)\*; Rodrigo Barros (PUCRS); Camila Kolling (PUCRS)

1980: An ADMM Based Framework for AutoML Pipeline Configuration

Sijia Liu (IBM Research); Parikshit Ram (IBM Research)\*; Deepak Vijaykeerthy (IBM Research); Djallel Bouneffouf (IBM Research); Gregory Bramble (IBM Research); Horst Samulowitz (IBM Research); Dakuo Wang (IBM Research); Andrew Conn (IBM); Alexander Gray (IBM)

2005: Less Is Better: Unweighted Data Subsampling via Influence Function

Zifeng Wang (Tsinghua-Berkeley Shenzhen Institute, Tsinghua University)\*; Hong Zhu (Huawei Noah's Ark Lab); Zhenhua Dong (Huawei Noah's Ark Lab); Xiuqiang He (Huawei Noah's Ark Lab); Shao-Lun Huang (Tsinghua-Berkeley Shenzhen Institute, Tsinghua University)

2006: Price of Fairness in Budget Division and Probabilistic Social Choice

Marcin Michorzewski (University of Warsaw); Dominik Peters (University of Oxford)\*; Skowron Piotr (University of Warsaw)

2012: Random Fourier Features via Fast Surrogate Leverage Weighted Sampling

Fanghui Liu (Shanghai Jiao Tong University)\*; Xiaolin Huang (Shanghai Jiao Tong University); Yudong Chen (Cornell University); Jie Yang (Shanghai Jiao Tong University); Johan Suykens (KU Leuven)

2014: Hyperbolic Interaction Model for Hierarchical Multi-Label Classification

Boli Chen (Beijing Jiaotong University)\*; Xin Huang (Beijing Jiaotong University); Lin Xiao (Beijing Jiaotong University); Zixin Cai (Beijing Jiaotong University); Liping Jing (Beijing Jiaotong University)

2016: Projective Quadratic Regression for Online Learning

Wenye Ma (Tencent)\*

2023: Object-Guided Instance Segmentation for Biological Images

Jingru Yi (Computer Science, Rutgers)\*; Hui Tang (Tencent Medical AI Lab); Pengxiang Wu (Computer Science, Rutgers); Bo Liu (JD.com); Daniel J. Hoepfner (Astellas Research Institute of America); Dimitris Metaxas (Rutgers); Lianyi Han (Tencent America); Wei Fan (Tencent)

2032: Associative Variational Auto-encoder with Distributed Latent Spaces and Associators

Dae Ung Jo (Seoul National University); Byeongju Lee (Seoul National University); Jongwon Choi (Samsung SDS); Haanju Yoo (Samsung Research); Jin Young Choi (Seoul National University)\*

2038: ABSent: Cross-Lingual Sentence Representation Mapping with Bidirectional GANs

Zuohui Fu (Rutgers University); Yikun Xian (Rutgers University); Shijie Geng (Rutgers University); Yingqiang Ge (Rutgers University); Yuting Wang (Rutgers University); Xin Dong (Rutgers University); Guang Wang (Rutgers University); Gerard de Melo (Rutgers University)\*

2041: Particle Filter Recurrent Neural Networks

Xiao Ma (National University of Singapore)\*; Peter Karkus (National University of Singapore); David Hsu (NUS); Wee Sun Lee (National University of Singapore)

2046: Joint Modeling of Local and Global Temporal Dynamics for Multivariate Time Series Forecasting with Missing Values

Xianfeng Tang (The Pennsylvania State University)\*; Huaxiu Yao (Pennsylvania State University); Yiwei Sun (Penn State University); Charu Aggarwal (IBM); Prasenjit Mitra (Pennsylvania State University); Suhang Wang (Pennsylvania State University)

2051: Cross-Modality Paired-Images Generation for RGB-Infrared Person Re-Identification

Guan'an Wang (Chinese Academy of Sciences)\*; Tianzhu Zhang (University of Science and Technology of China); Yang Yang (Institute of Automation, Chinese Academy of Sciences); Jian Cheng ("Chinese Academy of Sciences, China"); Jianlong Chang (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences); Zengguang Hou (Chinese Academy of Sciences)

2063: Zero-Shot Sketch-based Image Retrieval via Graph Convolution Network

Zhaolong Zhang (Fudan University)\*; Yuejie Zhang (Fudan University); Rui Feng (Fudan University); Tao Zhang (Shanghai University of Finance and Economics); Weiguo Fan (University of Iowa)

2066: Morphing and Sampling Network for Dense Point Cloud Completion

Minghua Liu (UCSD)\*; Lu Sheng (Beihang University); Sheng Yang (Tsinghua University); Jing Shao (SenseTime); Shimin Hu (Tsinghua University)

2068: Person Tube Retrieval via Language Description

Hehe Fan (UTS)\*; Yi Yang (University of Technology, Sydney)

2069: SG-Net: Syntax-Guided Machine Reading Comprehension

Zhuosheng Zhang (Shanghai Jiao Tong University)\*; Yuwei Wu (Shanghai Jiao Tong University); Junru Zhou (Shanghai Jiao Tong University); Sufeng Duan (Shanghai Jiao Tong University); Hai Zhao (Shanghai Jiao Tong University); Rui Wang (National Institute of Information and Communications Technology)

2072: Semantics-aware BERT for Language Understanding

Zhuosheng Zhang (Shanghai Jiao Tong University)\*; Yuwei Wu (Shanghai Jiao Tong University); Hai Zhao (Shanghai Jiao Tong University); Zuchao Li (Shanghai Jiao Tong University); Shuiliang Zhang (Shanghai Jiao Tong University); Xi Zhou (CloudWalk Technology); Xiang Zhou (CloudWalk Technology)

2073: Light Multi-segment Activation for Model Compression

Zhenhui Xu (Peking University)\*; Guolin Ke (Microsoft Research); Jia Zhang (Microsoft Research); Jiang Bian (Microsoft Research); Tieyan Liu (Microsoft Research)

2075: Overcoming Catastrophic Forgetting by Neuron-level Plasticity Control

Inyoung Paik (Deep Bio Inc.); Sangjun Oh (Deep Bio Inc.); Tae-Yeong Kwak (Deep Bio Inc.); Injung Kim (Handong Global University)\*

2078: Cross-Modality Attention with Semantic Graph Embedding for Multi-Label Classification

Renchun You (baidu)\*; Zhiyao Guo (Xiamen University); Cui Lei (Tsinghua University); Xiang Long (Baidu); Yingze Bao (Baidu USA LLC); Shilei Wen (Baidu Research)

2085: Weakly-Supervised Video Moment Retrieval via Semantic Completion Network  
Zhijie Lin (Zhejiang University)\*; Zhou Zhao (Zhejiang University); Zhu Zhang (Zhejiang University); Qi Wang (Alibaba Inc.); Huasheng Liu (Alibaba Inc.)

2087: Parsing as Pretraining

David Vilares (Universidade da Coruña)\*; Michalina Strzyz (Universidade da Coruña); Anders Søgaard (University of Copenhagen); Carlos Gómez-Rodríguez (Universidade da Coruña)

2096: Weakly-Supervised Opinion Summarization by Leveraging External Information

Chao Zhao (UCSC)\*; Snigdha Chaturvedi (UC Santa Cruz)

2099: From Few to More: Large-scale Dynamic Multiagent Curriculum Learning

Weixun Wang (Tianjin University); Tianpei Yang (Tianjin University)\*; Yong Liu (Nanjing University); Jianye Hao (Tianjin University); Xiaotian Hao (Tianjin University); Yujing Hu (NetEase Fuxi AI Lab); Yingfeng Chen (NetEase Fuxi AI Lab); Changjie Fan (NetEase Fuxi AI Lab); Yang Gao (Nanjing University)

2100: On the Discrepancy between the Theoretical Analysis and Practical Implementations of Compressed Communication for Distributed Deep Learning

Aritra Dutta (King Abdullah University of Science and Technology (KAUST))\*; El houcin Bergou (INRA-KAUST); Ahmed M. Abdelmoniem (KAUST); Chen-Yu Ho (KAUST); Atal Sahu (KAUST); Marco Canini (KAUST); Panos Kalnis (King Abdullah University of Science and Technology)

2107: Attention-over-Attention Field-aware Factorization Machine

Zhibo Wang (Wuhan University)\*; Jinxin Ma (Wuhan University); Yongquan Zhang (Wuhan University); Qian Wang (Wuhan University); Ju Ren (Central South University); Peng Sun (Zhejiang University)

2108: RefNet: A Reference-aware Network for Background Based Conversation

Chuan Meng (Shandong University)\*; Pengjie Ren (University of Amsterdam); Zhumin Chen (Shandong University); Christof Monz (University of Amsterdam); Jun Ma (Shandong University); Maarten de Rijke (University of Amsterdam)

2109: Discontinuous Constituent Parsing with Pointer Networks

Daniel Fernández-González (Universidade da Coruña)\*; Carlos Gómez-Rodríguez (Universidade da Coruña)

2111: POP  $\equiv$  POCL, right? --- Complexity Results for Partial Order (Causal Link) Makespan Minimization

Pascal Bercher (Ulm University)\*; Conny Olz (Ulm University)

2116: High Tissue Contrast MRI Synthesis Using Multi-Stage Attention-GAN for Glioma Segmentation

Mohammad Hamghalam (Shenzhen University)\*; Baiying Lei (Shenzhen university); tianfu Wang (Shenzhen university)

2119: Where to Go Next: Modeling Long- and Short-Term User Preferences for Point-of-Interest Recommendation

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2122: TrueLearn: A Family of Bayesian Algorithms to Match Lifelong Learners to Open Educational Resources

Sahan Bulathwela (University College London)\*; Maria Perez-Ortiz (University College London); Emine Yilmaz (University College London); John Shawe-Taylor (University College London)

2126: Learning from positive and unlabeled data without explicit estimation of class prior

Chenguang Zhang (Tianjin University)\*; Yuexian Hou (Tianjin University); Yan Zhang (Hainan University)

2128: Path Planning Problems with Side Observations - When Colonels Play Hide-and-Seek

Dong Quan Vu (Nokia Bell Labs)\*; Patrick Loiseau (Inria); Alonso Silva (Safran); Long Tran-Thanh (University of Southampton)

2129: Unsupervised Deep Learning via Affinity Diffusion

Jiabo Huang (Queen Mary University of London)\*; Qi Dong (Queen Mary University of London); Shaogang Gong (Queen Mary University of London); Xiatian Zhu (Samsung AI Centre, Cambridge)

2131: Motion-Attentive Transition for Zero-Shot Video Object Segmentation

Tianfei Zhou (Inception Institute of Artificial Intelligence)\*; Shunzhou Wang (Beijing Institute of Technology); Yi Zhou (Inception Institute of Artificial Intelligence); Yazhou Yao (Nanjing University of Science and Technology); Jianwu Li (Beijing Institute of Technology); Ling Shao (Inception Institute of Artificial Intelligence)

2138: Deep Domain-Adversarial Image Generation for Domain Generalisation

Kaiyang Zhou (University of Surrey)\*; Yongxin Yang (University of Surrey); Timothy Hospedales (Edinburgh University); Tao Xiang (University of Surrey)

2140: Temporal Planning with Intermediate Conditions and Effects

Alessandro Valentini (Fondazione Bruno Kessler); Andrea Micheli (Fondazione Bruno Kessler)\*; Alessandro Cimatti (FBK)

2149: Double-Oracle Sampling Method for Stackelberg Equilibrium Approximation in General-Sum Extensive-Form Games

Jan Karwowski (Warsaw University of Technology)\*; Jacek Mańdziuk (Warsaw University of Technology, Faculty of Mathematics and Information Science)

2150: Efficient Model-Based Diagnosis of Sequential Circuits

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2158: Towards Interpretation of Pairwise Learning

Mengdi Huai (University of Virginia)\*; Di Wang (SUNY at Buffalo); Chenglin Miao (State University of New York at Buffalo); Aidong Zhang (University of Virginia)

2159: Uncertainty-Aware Action Advising for Deep Reinforcement Learning Agents

Felipe Leno da Silva (University of Sao Paulo)\*; Pablo Hernandez-Leal (Borealis AI); Bilal Kartal (Borealis AI); Matthew Taylor (Borealis AI)

2162: Multiagent Evaluation Mechanisms

Tal Alon (Technion); Magdalen Dobson (Carnegie Mellon University); Ariel Procaccia (Carnegie Mellon University)\*; Inbal Cohen Talgam (Technion); Jamie Tucker-Foltz (University of Cambridge)

2165: RoadTagger: Robust Road Attribute Inference with Graph Neural Networks

Songtao He (MIT CSAIL)\*; Favyen Bastani (MIT CSAIL); Satvat Jagwani (MIT CSAIL); Edward Park (MIT CSAIL); Sofiane Abbar (Qatar Computing Research Institute); Mohammad Alizadeh (MIT CSAIL); Dr. Hari Balakrishnan (Massachusetts Institute of Technology); Sanjay Chawla (QCRI); Samuel Madden (MIT); Mohammad Amin Sadeghi (MIT)

2166: Hybrid Graph Neural Networks for Crowd Counting

Ao Luo (UESTC); Fan Yang (IIAI); Xin Li (IIAI); Dong Nie (UNC); Zhicheng Jiao (University of Pennsylvania); Shangchen Zhou (Nanyang Technological University); Hong Cheng (UESTC)\*

2172: Graph Few-shot Learning via Knowledge Transfer

Huaxiu Yao (Pennsylvania State University)\*; Chuxu Zhang (University of Notre Dame); Ying WEI (Tencent AI Lab); Meng Jiang (University of Notre Dame); Suhang Wang (Pennsylvania State University); Junzhou Huang (University of Texas at Arlington); Nitesh Chawla (Notre Dame); Zhenhui (Jessie) Li (Penn State University)

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2180: SK-Net: Deep Learning on Point Cloud via End-to-end Discovery of Spatial Keypoints  
Weikun Wu (Xiamen University); Yan Zhang (Xiamen University); David Wang (Ohio State University); Yunqi Lei (Xiamen University)\*

2192: Learning Long- and Short-Term User Literal-Preference with Multimodal Hierarchical Transformer Network for Personalized Image Caption  
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2193: Uncertainty-Aware Search Framework for Multi-Objective Bayesian Optimization  
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2195: Linear Context Transform Block  
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2214: MetaLight: Value-based Meta-reinforcement Learning for Traffic Signal Control  
Xinshi Zang (Shanghai Jiao Tong University)\*; Huaxiu Yao (Pennsylvania State University); Guanjie Zheng (Pennsylvania State University); Nan Xu (University of Southern California); Kai Xu (Shanghai Tianrang Intelligent Technology Co., Ltd); Zhenhui (Jessie) Li (Penn State University)

2215: Ladder Loss for Coherent Visual-Semantic Embedding  
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2217: Hashing based Answer Selection  
Dong Xu (Nanjing University); Wu-Jun Li (Nanjing University)\*

2220: GMAN: A Graph Multi-Attention Network for Traffic Prediction  
Chuanpan Zheng (Xiamen University); Xiaoliang Fan (Xiamen University)\*; Cheng Wang (Xiamen University); Jianzhong Qi (The University of Melbourne)

2226: Patchy Image Structure Classification Using Multi-Orientation Region Transform  
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2236: DualVD: An Adaptive Dual Encoding Model for Deep Visual Understanding in Visual Dialogue  
Xiaoze Jiang (Intelligent Computing & Machine Learning Lab, School of ASEE, Beihang University); Jing Yu (Institute of Information Engineering, Chinese Academy of Sciences)\*; Yingying Zhuang (Beijing University of Posts and Telecommunications); Zengchang Qin (Intelligent Computing & Machine Learning Lab, School of ASEE, Beihang University); Yue Hu (Institute of Information Engineering, Chinese Academy of Sciences); Qi Wu (University of Adelaide); Xingxing Zhang (Microsoft Research Asia)

2247: Adaptive Quantitative Trading: an Imitative Deep Reinforcement Learning Approach  
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2254: Find Objects and Focus on Highlights: Mining Object Semantics for Video Highlight Detection via Graph Neural Networks  
Yingying Zhang (Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences); Junyu Gao (CASIA); Xiaoshan Yang (CASIA); Chang Liu (Kuaishou); Yan Li (Kuaishou); Changsheng Xu (CASIA)\*

2261: Towards Cross-modality Medical Image Segmentation with Online Mutual Knowledge Distillation  
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2262: Tensor-SVD Based Graph Learning for Multi-View Subspace Clustering  
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2263: Neural Architecture Search using Deep Neural Networks and Monte Carlo Tree Search  
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2271: Video Frame Interpolation via Deformable Separable Convolution  
Xianhang Cheng (Wuhan University); Zhenzhong Chen (Wuhan University)\*

2276: NeoNav: Improving the Generalization of Visual Navigation via Generating Next Expected Observations  
Qiaoyun Wu (Nanjing University of Aeronautics and Astronautics); Dinesh Manocha (UMD); Jun Wang (Nanjing University of Aeronautics and Astronautics); Kai Xu (National University of Defense Technology)\*

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2290: Regret Minimisation in Multi-Armed Bandits Using Bounded Arm Memory  
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2299: Towards Awareness of Human Relational Strategies in Virtual Agents  
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2306: Finding Good Subtrees for Constraint Optimization Problems Using Frequent Pattern Mining  
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2307: Learning General Latent-Variable Graphical Models with Predictive Belief Propagation  
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2311: Solving Sequential Text Classification as Board-Game Playing

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2312: Learning Agent Communication under Limited Bandwidth by Message Pruning

Hangyu Mao (Peking University)\*; Zhengchao Zhang (Peking University); Zhen Xiao (Peking University); Zhibo Gong (); Yan Ni (Microsoft)

2313: Neighborhood Cognition Consistent Multi-Agent Reinforcement Learning

Hangyu Mao (Peking University)\*; Wulong Liu (Huawei Noah's Ark Lab); Jianye Hao (Tianjin University); Jun Luo (Huawei Technologies Canada Co. Ltd.); Dong Li (Huawei Noah's Ark Lab); Zhengchao Zhang (Peking University); Jun Wang (UCL); Zhen Xiao (Peking University)

2317: Grapy-ML: Graph Pyramid Mutual Learning for Cross-dataset Human Parsing

Haoyu He (University of Sydney); Jing Zhang (The University of Sydney)\*; Qiming Zhang (The University of Sydney); Dacheng Tao (The University of Sydney)

2318: SMIX( $\lambda$ ): Enhancing Centralized Value Functions for Cooperative Multi-Agent Reinforcement Learning

Chao Wen (Nanjing University of Aeronautics and Astronautics)\*; Xinghu Yao (Nanjing University of Aeronautics and Astronautics); Yuhui Wang (Nanjing University of Aeronautics and Astronautics, China); Xiaoyang Tan (Nanjing University of Aeronautics and Astronautics, China)

2320: Lifelong Spectral Clustering

Gan Sun (Massachusetts Institute of Technology)\*; Yang Cong (Chinese Academy of Sciences); Qianqian Wang (Xidian University); Jun Li (MIT); YUN FU (Northeastern University)

2343: Order Matters: Semantic-Aware Neural Networks for Binary Code Similarity Detection

Zeping Yu (Tencent Keen Lab)\*; Rui Cao (Tencent Keen Lab); Qiyi Tang (Tencent Keen Lab); Sen Nie (Tencent Keen Lab); Junzhou Huang (Tencent AI Lab); Shi Wu (Tencent Keen Lab)

2347: KPNet: Towards Minimal Face Detector

Guanglu Song (Beihang University); Yu Liu (The Chinese University of Hong Kong)\*; Yuhang Zang (Sensetime); Xiaogang Wang (Chinese University of Hong Kong, Hong Kong); Biao Leng (Beihang University); Qingsheng Yuan (National Computer network Emergency Response technical Team/Coordination Center of China)

2362: SSAH: Semi-supervised Adversarial Deep Hashing with Self-paced Hard Sample Generation

Sheng Jin (Harbin Institute of Technology)\*; Shangchen Zhou (Nanyang Technological University); Yao Liu (Alibaba Group); Chao Chen (zhejiang university); Xiaoshuai Sun (Xiamen University); Hongxun Yao (Harbin Institute of Technology); Xian-Sheng Hua (Alibaba Group)

2375: Ultrafast Video Attention Prediction with Coupled Knowledge Distillation

Kui Fu (Beihang University); peipei shi (iQIYI, Inc.); Yafei Song (Alibaba A.I. Labs; Peking University); Shiming Ge (Chinese Academy of Sciences); Xiangju Lu (iQIYI, Inc.); Jia Li (Beihang University)\*

2377: Interactive Rare-Category-of-Interest Mining from Large Datasets

Zhenguang Liu (Zhejiang Gongshang University)\*; Sihao Hu (Zhejiang University); Yifang Yin (National University of Singapore); Jianhai Chen (Zhejiang University); Kevin Chiew (Taiger Singapore Pte. Ltd.); Luming Zhang (Zhejiang University); Zetian Wu (Zhejiang University)

2379: OOGAN: Disentangling GAN with One-Hot Sampling and Orthogonal Regularization

Bingchen Liu (Rutgers, The State University of New Jersey)\*; Yizhe Zhu (Rutgers University ); Zuohui Fu (Rutgers University); Gerard de Melo (Rutgers University); Ahmed Elgammal (-)

2394: Multimodal Structure-Consistent Image-to-Image Translation

Che-Tsung Lin (National Tsing Hua University)\*; Yen-Yi Wu (National Tsing Hua University); Po-Hao Hsu (National Tsing Hua University); Shang-Hong Lai (National Tsing Hua University)

2405: Bi-level Actor-Critic for Multi-agent Coordination

Haifeng Zhang (University College London)\*; Weizhe Chen (Shanghai Jiao Tong University); Zeren Huang (Shanghai Jiao Tong University); Minne Li (UCL); Yaodong Yang (Huawei); Weinan Zhang (John Hopcroft Center, Shanghai Jiao Tong University); Jun WANG (UCL)

2416: Multi-Agent Game Abstraction via Graph Attention Neural Network

Yong Liu (Nanjing University)\*; Weixun Wang (Tianjin University); Yujing Hu (NetEase Fuxi AI Lab); Jianye Hao (Tianjin University); Xingguo Chen (Nanjing University of Posts and Telecommunications); Yang Gao (Nanjing University)

2425: Estimating Stochastic Linear Combination of Non-linear Regressions

Di Wang (SUNY at Buffalo)\*; Xiangyu Guo (University at Buffalo); Chaowen Guan (SUNY at Buffalo); Shi Li (University at Buffalo); Jinhui Xu (SUNY Buffalo)

2426: A Novel Model for Imbalanced Data Classification

Jian Yin (Sun Yat-Sen University); Chunjing Gan (Sun Yat-Sen University); Kaiqi Zhao (University of Auckland); Xuan Lin (Hunan University); Zhe Quan (HNU); Zhi-Jie Wang (Sun Yat-Sen University)\*

2437: Cross-Modal Subspace Clustering via Deep Canonical Correlation Analysis

Quanxue Gao (State Key Laboratory of Integrated Services Networks, Xidian University)\*; Huanhuan Lian (Xidian University); Qianqian Wang (Xidian University); Gan Sun (Massachusetts Institute of Technology)

2441: Exchangeable Feature Alignment for Arbitrary Style Transfer

Zhijie Wu (Shenzhen University)\*; Chunjin Song (Shenzhen University); Yang Zhou (Shenzhen University); Minglun Gong (University of Guelph); Hui Huang (Shenzhen University)

2445: F3Net: Fusion, Feedback and Focus for Salient Object Detection

Jun Wei (Institute of Computing Technology, Chinese Academy of Sciences)\*; Shuhui Wang (VIPL,ICT,Chinese academic of science); Qingming Huang (University of Chinese Academy of Sciences)

2452: A Coarse-to-Fine Adaptive Network for Appearance-Based Gaze Estimation

Yihua Cheng (Beihang University); Shiyao Huang (SenseTime Co Ltd); Fei Wang (SenseTime); Chen Qian (SenseTime); Feng Lu (Beihang University)\*

2455: Deterministic Value-Policy Gradients

Qingpeng Cai (Alibaba Group)\*; Ling Pan (IIIS, Tsinghua University); Pingzhong Tang (Tsinghua University)

2461: How Should an Agent Practice?

Janarthanan Rajendran (University of Michigan)\*; Richard Lewis (University of Michigan); Vivek Veeriah (University of Michigan); Honglak Lee (University of Michigan Ann Arbor, USA); Satinder Singh (UMich)

2462: Suspicion-Free Adversarial Attacks on Clustering Algorithms

Anshuman Chhabra (UC Davis)\*; Abhishek Roy (University of California, Davis); Prasant Mohapatra (University of California, Davis)

2485: LS-Tree: Model Interpretation When the Data Are Linguistic



Jianbo Chen (UC Berkeley)\*; Michael Jordan (UC Berkeley)

2489: ML-LOO: Detecting Adversarial Examples with Feature Attribution

Puyudi Yang (University of California, Davis)\*; Jianbo Chen (UC Berkeley); Cho-Jui Hsieh (UCLA); Jane-Ling Wang (UC Davis); Michael Jordan (UC Berkeley)

2494: Fractional Skipping: Toward Finer-Grained Dynamic Inference

Jianghao Shen (Rice University(1st), Texas A&M University (2nd))\*; Yue Wang (Rice University); Pengfei Xu (Rice University); Yonggan Fu (Rice University); Zhangyang Wang (TAMU); Yingyan Lin (Rice University)

2505: Learning Attentive Pairwise Interaction for Fine-Grained Classification

Peiqin Zhuang (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Yali Wang (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Yu Qiao (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences)\*

2509: Context-Transformer: Tackling Object Confusion for Few-Shot Detection

Ze Yang (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Yali Wang (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Xianyu Chen (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Jianzhuang Liu (Huawei Noah's Ark Lab); Yu Qiao (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences)\*

2511: A Knowledge-Aware Attentional Reasoning Network for Recommendation

Qiannan Zhu (University of Chinese Academy of Sciences, School of Cyber Security & Institute of Information Engineering, Chinese Academy of Sciences); Xiaofei Zhou (Institute of Information Engineering, Chinese Academy of Sciences)\*; Jia Wu (Macquarie University); Jianlong Tan (Institute of Information Engineering, Chinese Academy of Sciences & University of Chinese Academy of Sciences, School of Cyber Security); Li Guo ( )

2513: Collaborative Graph Convolutional Networks: Unsupervised Learning Meets Semi-Supervised Learning

Binyuan Hui (Tianjin University)\*; Pengfei Zhu (tianjin university); Qinghua Hu (Tianjin University)

2519: Multi-Task Learning with Generative Adversarial Training for Multi-Passage Machine Reading Comprehension

qiyu ren (Beijing University of Posts and Telecommunications)\*; Xiang Cheng (Beijing University of Posts and Telecommunications); Sen Su (Beijing University of Posts and Telecommunications)

2522: Region Focus Network for Joint Optic Disc and Cup Segmentation

Ge Li (Ping An Technology (Shenzhen) Co., Ltd.)\*; Changsheng Li (University of Electronic Science and Technology of China); Chan Zeng (University of Science Technology Beijing); Peng Gao (Ping An Technology (Shenzhen) Co. Ltd.); Guotong Xie (Ping An Technology (Shenzhen) Co. Ltd.)

2527: Video Cloze Procedure for Self-Supervised Spatio-Temporal Learning

Dezhao Luo (Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences, Beijing, China)\*; Chang Liu (University of Chinese Academy of Sciences); Yu Zhou (Institute of Information Engineering, Chinese Academy of Sciences); Dongbao Yang (Institute of Information Engineering, Chinese Academy of Sciences); can ma (iie); Qixiang Ye (University of Chinese Academy of Sciences, China); Weiping Wang (Institute of Information Engineering, CAS, China)

2531: Fine-Grained Named Entity Typing over Distantly Supervised Data Based on Refined Representations

Muhammad Asif Ali (CSE, UNSW)\*; Yifang Sun (University of New South Wales); Bing Li (University of New South Wales); Wei Wang (University of New South Wales)

2533: Transparent Classification with Multilayer Logical Perceptrons and Random Binarization

Zhuo Wang (Tsinghua University)\*; Wei Zhang (East China Normal University); Ning LIU (Tsinghua University); Jianyong Wang (Tsinghua University)

2537: Spherical Criteria for Fast and Accurate 360° Object Detection

Pengyu Zhao (Peking University); Ansheng You (Peking University); Yuanxing Zhang (Peking University)\*; Jiaying Liu (Peking University); Kaigui Bian (Peking University); Yunhai Tong (Peking University)

2541: HAL: Improved Text-Image Matching by Mitigating Visual Semantic Hubs

Fangyu Liu (University of Waterloo)\*; Rongtian Ye (Aalto University); Xun Wang (Malong Technologies); ShuaiPeng Li (Beijing Normal University)

2545: Large-scale Multi-view Subspace Clustering in Linear Time

Zhao Kang (University of Electronic Science and Technology of China)\*; Wangtao Zhou (University of Electronic Science and Technology); Zhitong Zhao (University of Electronic Science and Technology); Junming Shao (University of Electronic Science and Technology of China); Meng Han (University of Electronic Science and Technology); Zenglin Xu (University of Electronic Science and Technology of China)

2547: ReCO: A Large Scale Chinese Reading Comprehension Dataset on Opinion

Bingning Wang (Sogou Inc.)\*; Xiaochuan Wang (Sogou Inc.); Ting Yao (Sogou Inc.); Qi Zhang (Sogou Inc.); Jingfang Xu (Sogou Technology Inc.)

2559: EEMEFN: Low-Light Image Enhancement via Edge-Enhanced Multi-Exposure Fusion Network

Minfeng Zhu (State Key Lab of CAD&CG, Zhejiang University)\*; Pingbo Pan (University of Technology Sydney); Wei Chen (State Key Lab of CAD&CG, Zhejiang University); Yi Yang (UTS)

2565: A Unifying View on Individual Bounds and Heuristic Inaccuracies in Bidirectional Search

Vidal Alcazar (RIKEN Center for Advanced Intelligence Project)\*; Patricia Riddle (University of Auckland, New Zealand); Michael Barley (The University of Auckland, Department of Computer Science)

2578: PSENet: Psoriasis Severity Evaluation Network

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2580: Relation-Guided Spatial Attention and Temporal Refinement for Video-based Person Re-Identification

Xingze Li (University of Science and Technology of China)\*; Wengang Zhou (University of Science and Technology of China); Yun Zhou (University of Science and Technology of China); Houqiang Li (University of Science and Technology of China)

2584: Improved Subsampled Randomized Hadamard Transform for Linear SVM

Liang Lan (Hong Kong Baptist University)\*; Zijian Lei (HKBU)

2586: End-to-end Learning of Object Motion Estimation from Retinal Events for Event-based Object Tracking

Haosheng Chen (Xiamen University); David Suter (Edith Cowan University); Qiangqiang Wu (Xiamen University); Hanzi Wang (Xiamen University)\*

2595: Context Modulated Dynamic Networks for Actor and Action Video Segmentation with Language Queries

Hao Wang (Xidian University); Cheng Deng (Xidian University)\*; Fan Ma (University of Technology Sydney); Yi Yang (UTS)

2599: Dynamic Network Pruning with Interpretable Layerwise Channel Selection

Yulong Wang (Tsinghua University); Xiaolu Zhang (Ant Financial Services Group); Hang Su (Tsinghua University); Bo Zhang (Tsinghua University); Xiaolin Hu (Tsinghua University)\*

2613: Potential Passenger Flow Prediction: A Novel Study for Urban Transportation Development  
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2616: SetRank: A Setwise Bayesian Approach for Collaborative Ranking from Implicit Feedback  
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2618: Tell Me What They're Holding: Weakly-supervised Object Detection with Transferable Knowledge from Human-object Interaction  
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2627: Instance Enhancement Batch Normalization: An Adaptive Regulator of Batch Noise  
Senwei Liang (National University of Singapore); zhongzhan huang (Tsinghua University); Mingfu Liang (Northwestern University); Haizhao Yang (Purdue University)\*

2639: Unpaired Image Enhancement Featuring Reinforcement-Learning-Controlled Image Editing Software  
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2658: Towards Omni-Supervised Face Alignment for Large Scale Unlabeled Videos  
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2669: Semantics-Aligned Representation Learning for Person Re-identification  
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2690: Segmenting Medical MRI via Recurrent Decoding Cell  
Kai Xie (East China Normal University); 何良华 (同济大学); Ying Wen (East China Normal University)\*

2694: Graph LSTM with Context-Gated Mechanism for Spoken Language Understanding  
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2697: Hide-and-Tell: Learning to Bridge Photo Streams for Visual Storytelling  
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2703: Symbiotic Attention with Privileged Information for Egocentric Action Recognition  
Xiaohan Wang (University of Technology, Sydney)\*; Yu Wu (University of Technology Sydney); Linchao Zhu (University of Technology, Sydney); Yi Yang (UTS)

2711: Crowdfunding Dynamics Tracking: A Reinforcement Learning Approach  
Jun Wang (University of Science and Technology of China)\*; Hefu Zhang (University of Science and Technology of China); Qi Liu ("University of Science and Technology of China, China"); Zhen Pan (University of Science and Technology of China); Hanqing Tao (University of Science and Technology of China (USTC))

2718: Meta-Learning for Generalized Zero-Shot Learning

Vinay Kumar Verma (Indian Institute of Technology Kanpur)\*; Dhanajit Brahma (IIT Kanpur); Piyush Rai (IIT Kanpur)

2727: An Intrinsically-Motivated Approach for Learning Highly Exploring and Fast Mixing Policies

Mirco Mutti (Politecnico di Milano, Università di Bologna)\*; Marcello Restelli (Politecnico di Milano)

2729: Fine-Tuning by Curriculum Learning for Non-Autoregressive Neural Machine Translation

Junliang Guo (USTC); Xu Tan (Microsoft Research Asia); Linli Xu (University of Science and Technology China)\*; Tao Qin (Microsoft Research Asia); Tieyan Liu (Microsoft Research); Enhong Chen (University of Science and Technology of China)

2731: Learning from Weak-Label Data: A Deep Forest Expedition

Qian-Wei Wang (Nanjing University)\*; Liang Yang (Nanjing University); Yu-Feng Li (Nanjing University)

2733: Knowledge Graph Grounded Goal Planning for Open-Domain Conversation Generation

Jun Xu (

Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology)\*; Haifeng Wang (Baidu); Zheng-Yu Niu (Baidu); Hua Wu (Baidu, Inc.); Wanxiang Che ( Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology)

2736: Rethinking the Bottom-Up Framework for Query-based Video Localization

Long Chen (Zhejiang University)\*; Chujie Lu (Zhejiang University); Siliang Tang (Zhejiang University); Jun Xiao (Zhejiang University); Dong Zhang (Nanjing University of Science and Technology); Chilie Tan (Tongdun Technology); Xiaolin Li (Tongdun Technology)

2742: Beliefs We Can Believe In: Replacing Assumptions with Data in Real-Time Search

Maximilian Fickert (Saarland University); Tianyi Gu (University of New Hampshire); Leonhard Staut (Saarland University); Wheeler Ruml (University of New Hampshire)\*; Joerg Hoffmann (Saarland University); Marek Petrik (University of New Hampshire)

2747: Instance-Adaptive Graph for EEG Emotion Recognition

Tengfei Song (Southeast University)\*; Wenming Zheng (Southeast University); Suyuan Liu (Southeast University); Yuan Zong (Southeast University); Zhen Cui (Nanjing University of Science and Technology)

2755: SNEQ: Semi-supervised Attributed Network Embedding with Attention-based Quantisation

Tao He (Monash University)\*; Lianli Gao (The University of Electronic Science and Technology of China); Jingkuan Song (UESTC); Xin Wang (Tianjin University); Kejie Huang (Zhejiang University); Yuan-Fang Li (Monash University)

2761: Learning to Match on Graph for Fashion Compatibility Modeling

Xun Yang (National University of Singapore)\*; Xiaoyu Du (National University of Singapore); Meng Wang (Hefei University of Technology)

2762: Lifting Preferences over Alternatives to Preferences over Sets of Alternatives: The Complexity of Recognizing Desirable Families of Sets

Jan Maly (TU Wien)\*

2771: DCMN+: Dual Co-Matching Network for Multi-choice Reading Comprehension

Shuiliang Zhang (Shanghai Jiao Tong University)\*; Hai Zhao (Shanghai Jiao Tong University); Yuwei Wu (Shanghai Jiao Tong University); Zhuosheng Zhang (Shanghai Jiao Tong University); Xi Zhou (CloudWalk Technology); Xiang Zhou (CloudWalk Technology)

2772: Enhancing Personalized Trip Recommendation with Attractive Routes

Jiqing Gu (UESTC)\*; Chao Song (UESTC); Wenjun Jiang (Hunan University); Xiaomin Wang (University of Electronic Science and Technology of China); Ming Liu (University of Electronic Science and Technology of China)

2775: Reasoning on Knowledge Graphs with Debate Dynamics

Marcel Hildebrandt (Siemens)\*; Jorge Andres Quintero Serna (Siemens); Yunpu Ma (LMU); Martin Ringsquandl (Siemens); Mitchell Joblin (Siemens); Volker Tresp (Siemens AG and Ludwig Maximilian University of Munich)

2776: Domain Conditioned Adaptation Network

Shuang Li (Beijing Institute of Technology); Chi Harold Liu (Beijing Institute of Technology)\*; Qiuxia Lin (Beijing Institute of Technology); Binhui Xie (Beijing Institute of Technology); Zhengming Ding (Indiana University-Purdue University Indianapolis); Gao Huang (Tsinghua); Jian Tang (Syracuse University)

2778: End-to-End Thorough Body Perception for Person Search

Kun Tian (Horizon Robotics)\*; Houjing Huang (CASIA); Yun Ye (Beijing horizon information technology Co., Ltd.); Shiyu Li (Horizon Robotics); Jinbin Lin (Horizon Robotics); Guan Huang (Institute of Automation, Chinese Academy of Sciences)

2787: Accelerating Column Generation via Flexible Dual Optimal Inequalities with Application to Entity Resolution

Vishnu Lokhande (University of Wisconsin-Madison)\*; Shaofei Wang (University of Pennsylvania); Maneesh Singh (Verisk Analytics); Julian Yarkony (Verisk)

2796: A Variational Autoencoder with Deep Embedding Model for Generalized Zero-Shot Learning

Peirong Ma (Guangzhou University); Xiao Hu (Guangzhou University)\*

2801: Distributed Stochastic Gradient Descent with Event-Triggered Communication

Jemin George (Army Research Laboratory)\*; Prudhvi Gurram (Booz Allen Hamilton)

2803: Adversarial Localized Energy Networks for Structured Prediction

Pingbo Pan (University of Technology Sydney)\*; Ping Liu (UTS); Yan Yan (the University of Iowa); Tianbao Yang (University of Iowa); Yi Yang (UTS)

2804: High Performance Depthwise and Pointwise Convolutions on Mobile Devices

Pengfei Zhang (Chinese University of Hong Kong)\*; Eric Lo (Chinese University of Hong Kong); Baotong Lu (Chinese University of Hong Kong)

2813: Learning to Optimize Variational Quantum Circuits to Solve Combinatorial Problems

Sami Khairy (Illinois Institute of Technology)\*; Ruslan Shayduln (Clemson University); Lukasz Cincio (Los Alamos National Laboratory); Yuri Alexeev (Argonne National Laboratory); Prasanna Balaprakash (Argonne National Laboratory)

2824: AtLoc: Attention Guided Camera Localization

Bing WANG (University of Oxford)\*; Changhao Chen (University of Oxford); Chris Xiaoxuan Lu (University of Oxford); Peijun Zhao (University of Oxford); Niki Trigoni (University of Oxford); Andrew Markham (University of Oxford)

2834: Harnessing GANs for Zero-Shot Learning of New Classes in Visual Speech Recognition

Yaman Kumar (Adobe Systems, India)\*; Dhruva Sahrawat (NUS); Shubham Maheshwari (Indraprastha Institute of Information Technology); Debanjan Mahata (Bloomberg); Amanda Stent (Bloomberg); Yifang Yin (National University of Singapore); Rajiv Ratn Shah ("Indraprastha Institute of Information Technology, Delhi"); Roger Zimmermann (NUS)

2836: Differentiable Grammars for Videos

AJ Piergiovanni (Indiana University)\*; Anelia Angelova (Google); Michael Ryoo (Google Brain; Stony Brook University)

2840: Learning Graph Convolutional Network for Skeleton-based Human Action Recognition by Neural Searching  
Wei Peng (CMVS, University of Oulu)\*; Xiaopeng Hong (Xi'an Jiaotong University); Haoyu Chen (University of Oulu); Guoying Zhao (University of Oulu)

2853: Importance-Aware Learning for Neural Headline Editing  
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2859: Path Ranking with Attention to Type Hierarchies  
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2863: Efficient Heterogeneous Collaborative Filtering without Negative Sampling for Recommendation  
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2871: Structure Learning for Approximate Solution of Many-Player Games  
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2879: Atari-HEAD: Atari Human Eye-Tracking and Demonstration Dataset  
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2888: On the Generation of Medical Question-Answer Pairs  
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2895: STEP: Spatial Temporal Graph Convolutional Networks for Emotion Perception from Gaits  
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2899: Regional Tree Regularization for Interpretability in Deep Neural Networks  
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2901: Generalized and Sub-Optimal Bipartite Constraints for Conflict-Based Search  
Thayne Walker (University of Denver)\*; Nathan Sturtevant (University of Alberta); Ariel Felner (BGU)

2913: A Generalized Framework for Edge-preserving and Structure-preserving Image Smoothing

Wei Liu (University of Adelaide)\*; Pingping Zhang (Dalian University of Technology); Yinjie Lei (Sichuan University); Xiaolin Huang (Shanghai Jiao Tong University); Jie Yang (Shanghai Jiao Tong University); Ian Reid ("University of Adelaide, Australia")

2914: Plug-In, Trainable Gate for Streamlining Arbitrary Neural Networks  
Jaedeok Kim (Samsung Research)\*; Chiyoun Park (Samsung Research); HyunJoo Jung (Samsung Research); Yoonsuck Choe (Texas A&M University)

2920: LCD: Learned Cross-Domain Descriptors for 2D-3D Matching  
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2925: Relation Network for Person Re-identification  
Hyunjong Park (Yonsei University); Bumsub Ham (Yonsei University)\*

2928: Towards Query-Efficient Black-Box Adversary with Zeroth-Order Natural Gradient Descent  
Pu Zhao (Northeastern University)\*; Pin-Yu Chen (IBM Research); Siyue Wang (Northeastern University); Xue Lin (Northeastern University)

2930: Co-occurrence Estimation from Aggregated Data with Auxiliary Information  
Tomoharu Iwata (NTT)\*; Naoki Marumo (NTT)

2932: Towards Certificated Model Robustness Against Weight Perturbations  
Lily Weng (MIT); Pu Zhao (Northeastern University)\*; Sijia Liu (IBM Research); Pin-Yu Chen (IBM Research); Xue Lin (Northeastern University); Luca Daniel (Massachusetts Institute of Technology)

2940: Appearance and Motion Enhancement for Video-based Person Re-identification  
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2962: Variational Pathway Reasoning for EEG Emotion Recognition  
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2977: Topic Modeling on Document Networks with Adjacent-Encoder  
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2980: EAC-Net: Efficient and Accurate Convolutional Network for Video Recognition  
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2982: Regularized Training and Tight Certification for Randomized Smoothed Classifier with Provable Robustness  
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2987: Simple Pose: Rethinking and Improving a Bottom-up Approach for Multi-Person Pose Estimation  
Jia Li (University of Science and Technology of China); Wen Su (Faculty of Mechanical Engineering and Automation, Zhejiang Sci-Tech University); Zengfu Wang ( Institute of Intelligent Machines, Chinese Academy of Sciences)\*

2991: Self-Attention ConvLSTM for Spatiotemporal Prediction  
Zhihui Lin (Tsinghua University)\*; Maomao Li (Tsinghua university); Zhuobin Zheng ( Tsinghua University); Yangyang Cheng (Tsinghua University); Chun Yuan (Tsinghua University)

2994: FlowScope: Spotting Money Laundering Based on Graphs

Xiangfeng Li (Beijing University of Posts and Telecommunications)\*; Shenghua Liu (Institute of Computing Technology, CAS, China); Zifeng Li (University of Surrey); Xiaotian Han (Beijing University of Posts and Telecommunications); Chuan Shi (Beijing University of Posts and Telecommunications); Bryan Hooi (Carnegie Mellon University); He Huang (China Citic Bank); Xueqi Cheng (Institute of Computing Technology, CAS, China)

2997: Solving Set Cover and Dominating Set via Partial MaxSAT

Zhendong Lei (State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences School of Computer and Control Engineering, University of Chinese Academy of Sciences); Shaowei Cai (Institute of Software, Chinese Academy of Sciences)\*

2998: MIPaaL: Mixed Integer Program as a Layer

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3001: Idle Time Optimization for Target Assignment and Path Finding in Sortation Centers

Ngai Meng Kou (Alibaba)\*; Cheng Peng (Alibaba); Hang Ma (Simon Fraser University); T. K. Satish Kumar (University of Southern California); Sven Koenig (University of Southern California)

3004: DeepDualMapper: A Gated Fusion Network for Automatic Map Extraction using Aerial Images and Trajectories

Hao Wu (Fudan University)\*; Hanyuan Zhang (Fudan University); Xinyu Zhang (Fudan University); Weiwei Sun ("Fudan University, China"); Baihua Zheng (Singapore Management University); Yuning Jiang (Bytedance)

3007: Fastened CROWN: Tightened Neural Network Robustness Certificates

Zhaoyang Lyu (The Chinese University of Hong Kong)\*; Ching-Yun Ko (MIT); Zhifeng Kong (University of California San Diego); Ngai Wong (The University of Hong Kong); Dahua Lin (The Chinese University of Hong Kong); Luca Daniel (Massachusetts Institute of Technology)

3008: FusionDN: A Unified Densely Connected Network for Image Fusion

Han Xu (Wuhan University); Jiayi Ma (Wuhan University)\*; Zhuliang Le (Wuhan University); Junjun Jiang (Harbin Institute of Technology); Xiaojie Guo (Tianjin University)

3016: Rethinking the Image Fusion: A Fast Unified Image Fusion Network based on Proportional Maintenance of Gradient and Intensity

Hao Zhang (Wuhan University); Han Xu (Wuhan University); Yang Xiao (Huazhong Univ. of Sci.&Tech.); Xiaojie Guo (Tianjin University); Jiayi Ma (Wuhan University)\*

3019: Learning Hierarchy-Aware Knowledge Graph Embeddings for Link Prediction

Zhanqiu Zhang (University of Science and Technology of China); Jianyu Cai (University of Science and Technology of China); Yongdong Zhang (University of Science and Technology of China); Jie Wang (University of Science and Technology of China)\*

3032: Spiking-YOLO: Spiking Neural Network for Energy-Efficient Object Detection

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3035: All-Pay Bidding Games on Graphs

Guy Avni (IST Austria)\*; Rasmus Ibsen-Jensen (University of Liverpool); Josef Tkadlec (IST Austria)

3037: Absum: Simple Regularization Method for Reducing Structural Sensitivity of Convolutional Neural Networks



Sekitoshi Kanai (NTT Software Innovation Center/Keio University)\*; Yasutoshi Ida (NTT Software Innovation Center/Kyoto University); Yasuhiro Fujiwara (NTT Software Innovation Center); Masanori Yamada (NTT Secure Platform Laboratories); Shuichi Adachi (Keio University)

3057: PHASEN: A Phase-and-Harmonics-Aware Speech Enhancement Network  
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3062: Fair Procedures for Fair Stable Marriage Outcomes  
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3066: Unsupervised Domain Adaptation on Reading Comprehension  
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3070: AdaCare: Explainable Clinical Health Status Representation Learning via Scale-Adaptive Feature Extraction and Recalibration  
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3076: Going Deep: Graph Convolutional Ladder-Shape Networks  
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3077: Quadruply Stochastic Gradient Method for Large Scale Nonlinear Semi-Supervised Ordinal Regression AUC Optimization  
Wanli Shi (Nanjing University of Information Science & Technology); Xiang Li (Western University); Bin Gu (Nanjing University of Information Science & Technology)\*

3081: Safe Sample Screening for Robust Support Vector Machine  
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3084: Exact and Efficient Inference for Collective Flow Diffusion Model via Minimum Convex Cost Flow Algorithm  
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3089: Divide-and-Conquer Learning with Nyström: Optimal Rate and Algorithm  
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3091: Off-Policy Evaluation in Partially Observable Environments  
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3093: Effective Data Augmentation with Multi-Domain Learning GANs  
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3096: Computing Team-Maxmin Equilibria in Zero-Sum Multiplayer Extensive-Form Games

Youzhi Zhang (Nanyang Technological University)\*; Bo An (Nanyang Technological University)

3100: Domain Generalization Using a Mixture of Multiple Latent Domains

Toshihiko Matsuura (The University of Tokyo)\*; Tatsuya Harada (The University of Tokyo / RIKEN)

3106: Causally Denoise Word Embeddings Using Half-Sibling Regression

Zekun Yang (City University of Hong Kong)\*; Tianlin Liu (Jacobs University Bremen)

3118: Model and Reinforcement Learning for Markov Games with Risk Preferences

Wenjie Huang (Shenzhen Research Institute of Big Data)\*; Hai Pham Viet (Department of Computer Science, School of Computing, National University of Singapore); William Benjamin Haskell (Supply Chain and Operations Management Area, Krannert School of Management, Purdue University)

3134: Label Enhancement with Sample Correlations via Low-Rank Representation

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3138: Deep Discriminative CNN with Temporal Ensembling for Ambiguously-Labeled Image Classification

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3142: Attentive User-Engaged Adversarial Neural Network for Community Question Answering

Yuexiang Xie (Peking University)\*; Ying Shen (Peking University Shenzhen Graduate School); Yaliang Li (Alibaba Group); Min Yang (Chinese Academy of Sciences); Kai Lei (Peking University)

3143: Gradient Boosts the Approximate Vanishing Ideal

Hiroshi Kera (The University of Tokyo)\*; Yoshihiko Hasegawa (The University of Tokyo)

3148: Show, Recall, and Tell: Image Captioning with Recall Mechanism

Li WANG (MoE Key Lab of Artificial Intelligence, AI Institute, Shanghai Jiao Tong University, China)\*; Zechen BAI (Institute of Software, Chinese Academy of Science, China); Yonghua Zhang (Bytedance); Hongtao Lu (Shanghai Jiao Tong University)

3162: Knowledge Graph Alignment Network with Gated Multi-hop Neighborhood Aggregation

Zeun Sun (Nanjing University)\*; Chengming Wang (Nanjing University); Wei Hu (Nanjing University); Muhao Chen (UPenn); Jian Dai (Alibaba Group); Wei Zhang (Alibaba Group); Yuzhong Qu (Nanjing University)

3167: Online Metric Learning for Multi-Label Classification

Xiwen Gong (The University of Sydney)\*; Dong Yuan (The University of Sydney); Wei Bao (The University of Sydney)

3174: LTLf Synthesis with Fairness and Stability Assumptions

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3176: Relation-Aware Pedestrian Attribute Recognition with Graph Convolutional Networks

Zichang Tan (NLPR); Yang Yang (Institute of Automation, Chinese Academy of Sciences); Jun Wan (NLPR, CASIA)\*; Guodong Guo (West Virginia University); Stan Li (National Lab. of Pattern Recognition, China)

3183: Scalable Probabilistic Matrix Factorization with Graph-Based Priors

Jonathan Strahl (Aalto University)\*; Jaakko Peltonen (Tampere University); Hiroshi Mamitsuka ("Kyoto University, Japan"); Samuel Kaski (Aalto University)

3184: Graph-based Transformer with Cross-candidate Verification for Semantic Parsing

Bo Shao (Sun Yat-sen University, SYSU)\*; Yeyun Gong (Microsoft Research Asia); Weizhen Qi (University of Science and Technology of China); Guihong Cao (Microsoft); Jianshu Ji (Microsoft); Xiaola Lin (Sun Yat-sen University, SYSU)

3186: Balancing Spreads of Influence in a Social Network

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3189: Recovering Causal Structures from Low-Order Conditional Independencies

Marcel Wienöbst (Universität zu Lübeck)\*; Maciej Liskiewicz (Universität zu Lübeck)

3194: CAWA: An Attention-Network for Credit Attribution

Saurav Manchanda (University of Minnesota, Twin Cities)\*; George Karypis (University of Minnesota, Twin Cities)

3195: Learned Video Compression via Joint Spatial-Temporal Correlation Exploration

Haojie Liu (Nanjing University); Han Shen (Horizon Robotics); Lichao Huang (Horizon Robotics); Ming Lu (Nanjing University); Tong Chen (Nanjing University); Zhan Ma (Nanjing University)\*

3196: JSNet: Joint Instance and Semantic Segmentation of 3D Point Clouds

Lin Zhao (Huazhong University of Science and Technology); Wenbing Tao (Huazhong University of Science and Technology)\*

3203: Self-Attention Enhanced Selective Gate with Entity-Aware Embedding for Distantly Supervised Relation Extraction

Yang Li (University of Technology Sydney)\*; Guodong Long (University of Technology Sydney); Tao Shen (University of Technology Sydney); Tianyi Zhou (University of Washington); Lina Yao (University of New South Wales); Huan Huo (University of Technology Sydney); Jing Jiang (University of Technology Sydney)

3209: Dynamic Reward-based Dueling Deep Dyna-Q: Robust Policy Learning in Noisy Environments

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3210: Explaining Propagators for String Edit Distance Constraints

Felix Winter (TU Wien)\*; Nysret Musliu (TU Vienna); Peter Stuckey (Monash University)

3214: Planar Prior Assisted PatchMatch Multi-View Stereo

Qingshan Xu (Huazhong University of Science and Technology); Wenbing Tao (Huazhong University of Science and Technology)\*

3217: Learning Inverse Depth Regression for Multi-View Stereo with Correlation Cost Volume

Qingshan Xu (Huazhong University of Science and Technology); Wenbing Tao (Huazhong University of Science and Technology)\*

3218: Real-Time Object Tracking via Meta-Learning: Efficient Model Adaptation and One-Shot Channel Pruning

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3219: Symmetrical Synthesis for Deep Metric Learning

Geonmo Gu (NAVER corp); ByungSoo Ko (NAVER)\*

3224: Understanding and Improving Proximity Graph based Maximum Inner Product Search

Jie Liu (The Chinese University of Hong Kong); Xiao Yan (The Chinese University of Hong Kong)\*; Xinyan Dai (The Chinese University of Hong Kong); Zhirong Li (The Chinese University of Hong Kong); James Cheng (CUHK); YANG Ming-Chang (The Chinese University of Hong Kong)

3229: Norm-Explicit Quantization: Improving Vector Quantization for Maximum Inner Product Search

Xinyan Dai (The Chinese University of Hong Kong); Xiao Yan (The Chinese University of Hong Kong)\*; Kelvin K. W. Ng (The Chinese University of Hong Kong); Jie Liu (The Chinese University of Hong Kong); James Cheng (CUHK)

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Qing Guo (Nanyang Technological University)\*; Zhu Sun (Nanyang Technological University); Jie Zhang (Nanyang Technological University); Yin-Leng Theng (Nanyang Technological University)

3247: Measuring and Relieving the Over-smoothing Problem for Graph Neural Networks from the Topological View

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3250: Multi-type Resource Allocation with Partial Preferences

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3254: Unsupervised Neural Dialect Translation with Commonality and Diversity Modeling

Yu Wan (NLP2CT Lab, University of Macau)\*; Baosong Yang (University of Macau); Derek Wong (Natural Language Processing & Portuguese & Chinese Machine Translation Lab, Department of Computer and Information Science, University of Macau); Lidia S. Chao (University of Macau); Haihua Du (University of Macau); Ben C.H. Ao (NLP2CT)

3261: Weakly-Supervised Video Re-Localization with Multiscale Attention Model

Yung-Han Huang (National Taiwan University)\*; Kuang-Jui Hsu (Qualcomm); Shyh-Kang Jeng (National Taiwan University); Yen-Yu Lin (National Chiao Tung University)

3271: Complexity of Computing the Shapley Value in Games with Externalities

Oskar Skibski (University of Warsaw)\*

3274: Towards Accurate Low Bit-width Quantization with Multiple Phase Adaptations

Zhaoyi Yan (Peking University)\*; Yemin Shi (Peking University); Yaowei Wang (Beijing Institute of Technology); Mingkui Tan (South China University of Technology); Zheyang Li (Hikvision Research Institute); Wenming Tan (Hikvision Research Institute); Yonghong Tian (PKU)

3277: Global Context-Aware Progressive Aggregation Network for Salient Object Detection

Zuyao Chen (University of Chinese Academy of Sciences)\*; Qianqian Xu (Key Laboratory of Intelligent Information Processing, Institute of Computing Technology, Chinese Academy of Sciences); Runmin Cong (Beijing Jiaotong University); Qingming Huang (University of Chinese Academy of Sciences)

3278: Aggregated Learning: A Vector-Quantization Approach to Learning Neural Network Classifiers

Masoumeh Soflaei Shahrabak (University of Ottawa)\*; Hongyu Guo (National Research Council Canada); Ali Al-Bashabsheh (Big Data and Brain Computing, Beihang University); Yongyi Mao (University of Ottawa); Richong Zhang ("Beihang University, China")

3279: Mechanism Design with Predicted Task Revenue for Bike Sharing Systems

Hongtao Lv (Shanghai Jiao Tong University)\*; Chaoli Zhang (Shanghai Jiao Tong University); ZHENZHE ZHENG (Shanghai Jiao Tong University); Tie Luo (Missouri University of Science and Technology); Fan Wu (Shanghai Jiao Tong University); Guihai Chen (Shanghai Jiao Tong University)

3285: ODIN: ODE-Informed Regression for Parameter and State Inference in Time-Continuous Dynamical Systems  
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3296: Capturing Sentence Relations for Answer Sentence Selection with Multi-Perspective Graph Encoding  
Zhixing Tian (Institute of Automation, Chinese Academy of Sciences; University of Chinese Academy of Sciences)\*;  
Yuanzhe Zhang (Institute of Automation, Chinese Academy of Sciences); Xinwei Feng (Baidu Inc.); Wenbin Jiang  
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3304: Multiple Birds with One Stone: Beating 1/2 for EFX and GMMS via Envy Cycle Elimination  
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3314: Random Intersection Graphs and Missing Data  
Dror Salti (Ben Gurion University of The Negev)\*; Yakir Berchenko (Ben Gurion University of The Negev)

3316: DIANet: Dense-and-Implicit Attention Network  
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(Northwestern University); Haizhao Yang (Purdue University)\*

3320: Spatial-Temporal Gaussian Scale Mixture Modeling for Foreground Estimation  
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3321: A Causal Inference Method for Reducing Gender Bias in Word Embedding Relations  
Zekun Yang (City University of Hong Kong)\*; Juan Feng (City University of Hong Kong)

3324: PI-RCNN: An Efficient Multi-sensor 3D Object Detector with Point-based Attentive Cont-conv Fusion Module  
Liang Xie (Zhejiang University)\*; Chao Xiang (Zhejiang University); Zhengxu Yu (Zhejiang University); Guodong Xu  
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3325: Boundary Enhanced Neural Span Classification for Nested Named Entity Recognition  
Chuanqi Tan (Alibaba Inc.)\*; Wei Qiu (Alibaba inc); Mosha Chen (DAMO Academy, Alibaba Group); Rui Wang  
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3329: Coarse Correlation in Extensive-Form Games  
Gabriele Farina (Carnegie Mellon University)\*; Tommaso Bianchi (Politecnico di Milano); Tuomas Sandholm  
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3330: Graph-Based Reasoning over Heterogeneous External Knowledge for Commonsense Question Answering  
Shangwen Lv (Institute of Information Engineering, Chinese Academy of Sciences)\*; Daya Guo (Sun-Yat Sen  
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Beijing, China); Guihong Cao (Microsoft); Songlin Hu ( Institute of Information Engineering, Chinese Academy of  
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3333: Hypothetical Answers to Continuous Queries over Data Streams  
Luis Cruz-Filipe (University of Southern Denmark)\*; Graça Gaspar (Faculty of Sciences, University of Lisbon); Isabel  
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3339: Maximum Margin Multi-Dimensional Classification  
Bin-Bin Jia (School of Computer Science and Engineering, Southeast University); Min-Ling Zhang (Southeast University)\*

3351: A Frank-Wolfe Framework for Efficient and Effective Adversarial Attacks  
Jinghui Chen (University of Virginia)\*; Dongruo Zhou (UCLA); Jinfeng Yi (JD Research); Quanquan Gu (University of California, Los Angeles)

3353: Learning Sparse Sharing Architectures for Multiple Tasks  
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3355: CASE: Context-Aware Semantic Expansion  
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3356: Defending with Shared Resources on a Network  
Minming Li (City University of Hong Kong); Long Tran-Thanh (University of Southampton); Xiaowei Wu (University of Vienna)\*

3364: On Performance Estimation in Automatic Algorithm Configuration  
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3369: MTSS: Learn from Multiple Domain Teachers and Become a Multi-domain Dialogue Expert  
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3373: An Ordinal Data Clustering Algorithm with Automated Distance Learning  
Yiqun Zhang (Hong Kong Baptist University); Yiu-ming CHEUNG (Hong Kong Baptist University)\*

3380: Maximum Likelihood Embedding of Logistic Random Dot Product Graphs  
Luke O'connor (Harvard University); Muriel Medard (MIT); Soheil Feizi (University of Maryland)\*

3390: Augmenting the Power of (Partial) MaxSat Resolution with Extension  
Francisco Larrosa (Universitat Politècnica de Catalunya)\*; Emma Rollon (Universitat Politècnica de Catalunya)

3401: Improving the Robustness of Wasserstein Embedding by Adversarial PAC-Bayesian Learning  
Daizong Ding (Fudan University)\*; Mi Zhang (Fudan University); Xudong Pan (Fudan University); Min Yang (Fudan University); Xiangnan He (University of Science and Technology of China)

3409: Refining Tournament Solutions via Margin of Victory  
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3419: Skeleton-based Semantic Parsing for Complex Questions over Knowledge Bases  
Yawei Sun (Nanjing University); Lingling Zhang (Nanjing University); Gong Cheng (Nanjing University)\*; Yuzhong Qu (Nanjing University)

3422: Unsupervised Domain Adaptation via Discriminative Manifold Embedding and Alignment  
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3426: Memory Augmented Graph Neural Networks for Sequential Recommendation

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3429: Distributionally Robust Counterfactual Risk Minimization

Louis Faury (Criteo AI Lab)\*; Ugo Tanielian (UPMC-Criteo); Elvis Dohmatob (Criteo); Elena Smirnova (Criteo); Flavian Vasile (Criteo)

3430: Improved PAC-Bayesian Bounds for Linear Regression

Vera Shalaeva (Inria Lille-Nord); Alireza FAKHRIZADEH ESFAHANI (Universite de Lille); Pascal Germain (Inria)\*; Mihaly Petreczky (CNRS)

3433: Online Active Learning of Reject Option Classifiers

Kulin Shah (International Institute of Information Technology, Hyderabad); Naresh Manwani (International Institute of Information Technology, Hyderabad)\*

3435: Interpretable and Differentially Private Predictions

Frederik Harder (Max Planck Institute)\*; Matthias Bauer (MPI Tübingen); Mijung Park (MPI Tuebingen)

3436: On Measuring and Mitigating Biased Inferences of Word Embeddings

Sunipa Dev (University of Utah)\*; Tao Li (University of Utah); Jeff Phillips (University of Utah); Vivek Srikumar (University of Utah)

3445: Persuading Voters: It's Easy to Whisper, It's Hard to Speak Loud

Matteo Castiglioni (Politecnico di Milano); Andrea Celli (Politecnico di Milano)\*; Nicola Gatti (Politecnico di Milano)

3450: Private Bayesian Persuasion with Sequential Games

Andrea Celli (Politecnico di Milano)\*; Stefano Coniglio (University); Nicola Gatti (Politecnico di Milano)

3455: Deep Bayesian Nonparametric Learning of Rules and Plans from Demonstrations with a Learned Automaton Prior

Brandon Araki (MIT)\*; Kiran Vodrahalli (Columbia University); Thomas Leech (MIT); Cristian-Ioan Vasile (Massachusetts Institute of Technology); Mark Donahue (MIT Lincoln Laboratory); Daniela Rus (MIT CSAIL)

3461: Modeling Dialogues with Hashcode Representations: A Nonparametric Approach

Sahil Garg (USC)\*; Irina Rish (University of Montreal); Guillermo Cecchi (IBM); Palash Goyal (ISI USC); Shuyang Gao (ISI USC); Sarik Ghazarian (ISI USC); Greg Ver Steeg (USC Information Sciences Institute); Aram Galstyan (USC Information Sciences Institute)

3463: Weighted Automata Extraction from Recurrent Neural Networks via Regression on State Spaces

Takamasa Okudono (National Institute of Informatics)\*; Masaki Waga (National Institute of Informatics); Taro Sekiyama (National Institute of Informatics); Ichiro Hasuo (National Institute of Informatics & SOKENDAI)

3465: Transductive Ensemble Learning for Neural Machine Translation

Yiren Wang (University of Illinois at Urbana-Champaign)\*; Lijun Wu (Sun Yat-sen University); Yingce Xia (Microsoft Research Asia); Tao Qin (Microsoft Research Asia); Cheng Xiang Zhai (University of Illinois at Urbana-Champaign); Tiegian Liu (Microsoft Research)

3470: FET-GAN: Font Effect Transfer via K-shot Adaptive Instance Normalization

Wei Li (Zhejiang University)\*; Yongxing He (Zhejiang University); Yanwei Qi (Zhejiang University); Zejian Li (Zhejiang University); Yongchuan Tang (Zhejiang University, Zhejiang Lab)

3476: Finding Needles in a Moving Haystack: Prioritizing Alerts with Adversarial Reinforcement Learning  
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3482: HirePeer: Impartial Peer-Assessed Hiring at Scale in Expert Crowdsourcing Markets  
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3488: Contiguous Cake Cutting: Hardness Results and Approximation Algorithms  
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3491: Image-Adaptive GAN based Reconstruction  
Shady Abu Hussein (Tel Aviv University); Tom Tirer (Tel Aviv University)\*; Raja Giryes (Tel Aviv University)

3492: A Unified Framework for Knowledge Intensive Gradient Boosting: Leveraging Human Experts for Noisy Sparse Domains  
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3498: Swap Stability in Schelling Games on Graphs  
Aishwarya Agarwal (University of Oxford); Edith Elkind (Oxford); Jiarui Gan (University of Oxford); Alexandros Voudouris (University of Oxford)\*

3499: What Makes A Good Story? Designing Composite Rewards for Visual Storytelling  
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3508: Expressing Objects just like Words: Recurrent Visual Embedding for Image-Text Matching  
Tianlang Chen (University of Rochester)\*; Jiebo Luo (U. Rochester)

3512: Improving Question Generation with Sentence-level Semantic Matching and Answer Position Inferring  
Xiyao Ma (University of Florida)\*; Qile Zhu (University of Florida); Yanlin Zhou (University of Florida); Xiaolin Li (Tongdun Technology)

3515: AdaFilter: Adaptive Filter Fine-tuning for Deep Transfer Learning  
Yunhui Guo (University of California, San Diego)\*; Yandong Li (University of Central Florida); Liqiang Wang (University of Central Florida); Tajana Rosing (University of California, San Diego)

3516: Hard Examples for Common Variable Decision Heuristics  
Marc Vinyals (Technion)\*

3522: Toward A Thousand Lights: Decentralized Deep Reinforcement Learning for Large-Scale Traffic Signal Control  
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3528: Leveraging Title-Abstract Attentive Semantics for Paper Recommendation  
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3531: A Near-Optimal Change-Detection Based Algorithm for Piecewise-Stationary Combinatorial Semi-Bandits  
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3537: Graph-Driven Generative Models for Heterogeneous Multi-Task Learning  
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3543: Pairwise Fairness for Ranking and Regression  
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3544: The HSIC Bottleneck: Deep Learning without Back-Propagation  
Wan-Duo Ma (Victoria University of Wellington)\*; J.P. Lewis (Victoria University of Wellington); W. Bastiaan Kleijn (Victoria University of Wellington)

3550: Decoupled Attention Network for Text Recognition  
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3573: Infinity Learning: Learning Markov Chains from Aggregate Steady-State Observations  
Jianfei Gao (Purdue University); Amit Sheoran (Purdue University); Mohamed Zahran (Purdue University); Sonia Fahmy (Purdue University); Bruno Ribeiro (Purdue University)\*

3574: Replicate, Walk, and Stop on Syntax: an Effective Neural Network Model for Aspect-Level Sentiment Classification  
Yaowei Zheng (Beihang University.); Richong Zhang ("Beihang University, China"); Samuel Mensah (Beihang University); Yongyi Mao (University of Ottawa)

3576: Repetitive Reprediction Deep Decipher for Semi-Supervised Learning  
Guo-Hua Wang (Nanjing University)\*; Jianxin Wu (Nanjing University)

3579: Reliable and Efficient Anytime Skeleton Learning  
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3588: Semi-supervised Multi-modal Learning with Balanced Spectral Decomposition  
Peng Hu (Institute for Infocomm Research, A\*STAR); Hongyuan Zhu (Astar)\*; Xi Peng (College of Computer Science, Sichuan University); Jie Lin (Institute for Infocomm Research (I2R), Singapore)

3590: When Radiology Report Generation meets Knowledge Graph  
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3605: CoCoX: Generating Conceptual and Counterfactual Explanations via Fault-Lines  
Arjun Akula (University of California, Los Angeles (UCLA))\*; Shuai Wang (University of Illinois at Chicago); Song-Chun Zhu (UCLA)

3612: Visual Domain Adaptation by Consensus-based Transfer to Intermediate Domain

Jongwon Choi (Samsung SDS)\*; Youngjoon Choi (Samsung SDS); Jihoon Kim (Samsung SDS); Jinyeop Chang (Samsung SDS); Ilhwan Kwon (Samsung SDS); Youngjune Gwon (Samsung SDS); Seungjai Min (Samsung SDS)

3623: Unsupervised Interlingual Semantic Representations from Sentence Embeddings for Zero-Shot Cross-Lingual Transfer

Channy Hong (Harvard University)\*; Jaeyeon Lee (Superb AI); Jung Kwon Lee (Superb AI)

3625: Training-Time-Friendly Network for Real-Time Object Detection

Zili Liu (ZJU)\*; Tu Zheng (ZJU); Guodong Xu (Zhejiang University); Zheng Yang (FABU); Haifeng Liu (ZJU); Deng Cai (ZJU)

3632: IntroVNMT: An Introspective Model for Variational Neural Machine Translation

Xin Sheng (University of Science and Technology of China)\*; Linli Xu (University of Science and Technology of China); Junliang Guo (USTC); Jingchang Liu (The Hong Kong University of Science and Technology); Ruoyu Zhao (University of Science and Technology of China); Yinlong Xu (University of Science and Technology of China)

3644: An Annotated Corpus of Reference Resolution for Interpreting Common Grounding

Takuma Udagawa (University of Tokyo)\*; Akiko Aizawa (National Institute of Informatics)

3656: P-SIF: Document Embeddings Using Partition Averaging

Vivek Gupta (University of Utah)\*; Ankit Saw (IIT KHARAGPUR); Pegah Nokhiz (University of Utah); Praneeth Netrapalli (Microsoft Research); Piyush Rai (IIT Kanpur); Partha Talukdar (Indian Institute of Science)

3657: Segment-then-Rank: Non-factoid Question Answering on Instructional Videos

Kyungjae Lee (Yonsei University)\*; Nan Duan (Microsoft Research); Lei Ji (Microsoft); Jason Li (Microsoft); Seungwon Hwang (Yonsei University, Korea)

3667: Learning Student Networks with Few Data

Shumin Kong (University of Sydney)\*; Tianyu Guo (Peking University); Shan You (SenseTime Research); Chang Xu (University of Sydney)

3674: Multi-channel Reverse Dictionary Model

Lei Zhang (Tsinghua University); Fanchao Qi (Tsinghua University)\*; Zhiyuan Liu (Tsinghua University); Yasheng Wang (NoahArk Lab, Huawei); Qun Liu (Huawei Noah's Ark Lab); Maosong Sun (Tsinghua University)

3684: Towards Fine-Grained Temporal Network Representation via Time-Reinforced Random Walk

Zhining Liu (University of Electronic Science and Technology of China)\*; Dawei Zhou (University of Illinois at Urbana-Champaign); Yada Zhu (IBM); Jinjie Gu (Ant Financial); Jingrui He (University of Illinois at Urbana-Champaign)

3685: Regularized Fine-grained Meta Face Anti-spoofing

Rui Shao (Department of Computer Science, Hong Kong Baptist University)\*; Xiangyuan Lan (Department of Computer Science, Hong Kong Baptist University); PongChi Yuen (Department of Computer Science, Hong Kong Baptist University)

3688: Fast Learning of Temporal Action Proposal via Dense Boundary Generator

Chuming Lin (Tencent); Jian Li (Tencent Youtu)\*; Yabiao Wang (Tencent); Ying Tai (Tencent Youtu); Donghao Luo (Tencent); Zhipeng Cui (Tencent); Chengjie Wang (Tencent); Jilin Li (Tencent); Feiyue Huang (Tencent); Rongrong Ji (Xiamen University, China)

3697: A Restricted Black-box Adversarial Framework Towards Attacking Graph Embedding Models

Heng Chang (Tsinghua University)\*; Yu Rong (Tencent AI Lab); Tingyang Xu (Tencent AI Lab); Wenbing Huang (Tsinghua University); Honglei Zhang (Tencent AI Lab); Peng Cui (Tsinghua University); Wenwu Zhu (Tsinghua University); Junzhou Huang (University of Texas at Arlington)

3705: Temporally Grounding Language Queries in Videos by Contextual Boundary-aware Prediction  
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3709: Sentence Generation for Entity Description with Content-plan Attention  
Bayu Trisedya (The University of Melbourne)\*; Jianzhong Qi (The University of Melbourne); Rui Zhang (" University of Melbourne, Australia")

3711: Recurrent Nested Model for Sequence Generation  
Wenhao Jiang (Tencent AI Lab)\*; Lin Ma (Tencent AI Lab); Wei Lu (UESTC)

3715: Spatial Classification With Limited Observations Based On Physics-Aware Structural Constraint  
Arpan Man Sainju (University of Alabama); Wenchong He (University of Alabama); Zhe Jiang (University of Alabama)\*; Da Yan (University of Alabama at Birmingham)

3716: Generate (non-software) Bugs to Fool Classifiers  
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3721: Translation-based Matching Adversarial Network for Cross-lingual Natural Language Inference  
Kunxun Qi (Guangdong University of Foreign Studies)\*; Jianfeng Du (Guangdong University of Foreign Studies)

3731: Learning to Incorporate Structure Knowledge for Image Inpainting  
Jie Yang (ucas); Zhiquan Qi (University of Chinese Academy of Sciences)\*; Yong Shi (University of Chinese Academy of Sciences)

3736: Fact-aware Sentence Split and Rephrase with Permutation Invariant Training  
Yinuo Guo (Peking University)\*; Tao Ge (Microsoft); Furu Wei (Microsoft Research Asia)

3743: Adversarial Transformations for Semi-Supervised Learning  
Tepei Suzuki (Denso IT Laboratory)\*; Ikuro Sato (Denso IT Laboratory)

3750: 3D Human Pose Estimation via Explicit Compositional Depth Maps  
Haiping Wu (McGill University)\*; Bin Xiao (Bytedance AI Lab)

3751: Shared Generative Latent Representation Learning for Multi-view Clustering  
Ming Yin (School of automation, Guangdong University of Technology)\*; Weitian Huang (School of automation, Guangdong University of Technology); Junbin Gao (University of Sydney, Australia)

3769: Modelling and Solving Online Optimisation Problems  
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3770: Latent-Variable Non-Autoregressive Neural Machine Translation with Deterministic Inference Using a Delta Posterior  
Raphael Shu (The University of Tokyo)\*; Jason Lee (New York University); Hideki Nakayama (The University of Tokyo); Kyunghyun Cho (New York University)

3784: Active Learning with Query Generation for Cost-Effective Text Classification

Yifan Yan (Nanjing University of Aeronautics and Astronautics); Sheng-Jun Huang (Nanjing University of Aeronautics and Astronautics)\*; Jin Xu (Tencent Inc.); Meng Liao (Tencent Inc.); Shaoyi Chen (Tencent Inc.)

3786: Monte-Carlo Tree Search in Continuous Action Spaces with Value Gradients

Jongmin Lee (KAIST)\*; Wonseok Jeon (MILA, McGill University); Geon-Hyeong Kim (KAIST); Kee-Eung Kim (KAIST)

3787: RTN: Reparameterized Ternary Network

Yuhang Li (University of Electronic Science and Technology of China)\*; Xin Dong (Harvard University); Sai Zhang (Harvard University); Haoli Bai (The Chinese University of Hong Kong); Yuanpeng Chen (University of Electronic Science and Technology of China); Wei Wang (NUS)

3796: Patch Proposal Network for Fast Semantic Segmentation of High-Resolution Images

Tong Wu (Xiamen University); Zhenzhen Lei (XMU); Bingqian Lin (Sun Yat-sen University); Li Cui-hua (Xiamen university); Yanyun Qu (XMU)\*; Yuan Xie (East China Normal University)

3800: Federated Latent Dirichlet Allocation: A Local Differential Privacy Based Framework

Yansheng Wang (Beihang University); Yongxin Tong (Beihang University)\*; Dingyuan Shi (Beihang University)

3821: Learning the Graphical Structure of Electronic Health Records with Graph Convolutional Transformer

Edward Choi (Google)\*; Zhen Xu (Google); Yujia Li (Deepmind); Michael Dusenberry (Google); Gerardo Flores (Google); Yuan Xue (Google); Andrew Dai (Google Brain)

3822: Span-based Neural Buffer: Towards Efficient and Effective Utilization of Long-Distance Context for Neural Sequence Models

Yangming Li (Ant Financial Services Group)\*; Kaisheng Yao (Ant Financial Services Group); Libo Qin (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology); Shuang Peng (Ant Financial Services Group); Yijia Liu (Alibaba Group); Xiaolong Li (Ant Financial)

3823: Cross-Modality Attention Network for Temporal Inconsistent Audio-Visual Event Localization

hanyu xuan (Nanjing University of Science and Technology)\*; Zhenyu Zhang (Nanjing University of Science and Technology); Shuo Chen (Nanjing University of Science and Technology); Jian Yang (Nanjing University of Science and Technology); Yan Yan (Nanjing University of Science and Technology)

3824: GTNet: Generative Transfer Network for Zero-Shot Object Detection

Shizhen Zhao (Huazhong University of Science and Technology); Changxin Gao (Huazhong University of Science and Technology)\*; Yuanjie Shao (Huazhong University of Science and Technology); Lerenhan Li (Huazhong University of Science and Technology); Changqian Yu (Huazhong University of Science and Technology); Zhong Ji (Tianjin University); Nong Sang (Huazhong University of Science and Technology)

3834: Automated Spectral Kernel Learning

Jian Li (Institute of Information Engineering, CAS); Yong Liu (Institute of Information Engineering, CAS)\*; Weiping Wang (Institute of Information Engineering, CAS, China)

3843: A Simple and Efficient Tensor Calculus

Sören Laue (Friedrich Schiller University Jena / Data Assessment Solutions GmbH Hannover)\*; Matthias Mitterreiter (Friedrich Schiller University Jena); Joachim Giesen (Friedrich Schiller University Jena)

3845: TEINet: Towards an Efficient Architecture for Video Recognition

Zhaoyang Liu (National Key Lab for Novel Software Technology, Nanjing University, China); Donghao Luo (Tencent); Yabiao Wang (Tencent); Limin Wang (Nanjing University)\*; Ying Tai (Tencent YouTu); Chengjie Wang (Tencent); Jilin Li (Tencent); Feiyue Huang (Tencent); Tong Lu (Nanjing University)

3848: Heuristic Black-box Adversarial Attacks on Video Recognition Models

Zhi-Peng Wei (Jilin University); Jingjing Chen (Fudan University)\*; Xingxing Wei (Beihang University); Lingxi Jiang (Fudan University); Yu-Gang Jiang (Fudan University); Tat-Seng Chua (National Univ. of Singapore); Fengfeng Zhou (Jilin University)

3849: Time-inconsistent Planning: Simple Motivation Is Hard to Find  
Fedor Fomin (University of Bergen); Torstein Strømme (University of Bergen)\*

3858: Conclusion-Supplement Answer Generation for Non-Factoid Questions  
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3861: Dynamic Graph Representation for Occlusion Handling in Biometrics  
Min Ren (Center for Research on Intelligent Perception and Computing (CRIPAC), Institute of Automation, Chinese Academy of Sciences (CASIA), University of Chinese Academy of Sciences(UCAS))\*; Yunlong Wang (Center for Research on Intelligent Perception and Computing (CRIPAC) National Laboratory of Pattern Recognition (NLPR) Institute of Automation, Chinese Academy of Sciences (CASIA) ); Zhenan Sun (Chinese of Academy of Sciences); Tieniu Tan (NLPR, China)

3862: Adversarial Fence Patrolling: Non-Uniform Policies for Asymmetric Environments  
Yaniv Oshrat (Bar-Ilan University)\*; Noa Agmon (Bar-Ilan University); Sarit Kraus (Bar-Ilan University)

3868: Improving Neural Relation Extraction with Positive and Unlabeled Learning  
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3879: Zero-Shot Learning from Adversarial Feature Residual to Compact Visual Feature  
Bo Liu (NLPR-IA-CAS)\*; Qiulei Dong (NLPR-IA-CAS); Zhanyi Hu (National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences)

3880: Resilient Logic Programs: Answer Set Programs Challenged by Ontologies  
Sanja Lukumbuzya (Vienna University of Technology)\*; Magdalena Ortiz (TU Wien, Austria); Mantas Simkus (TU Vienna)

3881: Few Shot Network Compression via Cross Distillation  
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3888: Empirical Bounds on Linear Regions of Deep Rectifier Networks  
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3896: SPAN: A Stochastic Projected Approximate Newton Method  
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3901: Fine-Grained Machine Teaching with Attention Modeling  
Jiacheng Liu (Shanghai Jiao Tong University); Xiaofeng Hou (Shanghai Jiao Tong University); Feilong Tang (Shanghai Jiao Tong University)\*

3906: Deep Reinforcement Learning for Active Human Pose Estimation  
Erik Gärtner (Lund University)\*; Aleksis Pirinen (Lund University); Cristian Sminchisescu (Lund University)

3910: Robust Tensor Decomposition via Orientation Invariant Tubal Nuclear Norms  
Andong Wang (Nanjing Univ. of Sci.&Tech.)\*; Chao Li (RIKEN); Zhong Jin (Nanjing University of Science and Technology); Qibin Zhao (RIKEN AIP)

3914: Model Watermarking for Image Processing Networks

Jie Zhang (University of Science and Technology in China); Dongdong Chen (Microsoft Cloud AI)\*; Jing Liao (City University of Hong Kong); Han Fang (University of Science and Technology of China); Weiming Zhang (University of Science and Technology of China); Wenbo Zhou (University of Science and Technology of China); Hao Cui (University of Science and Technology of China); Nenghai Yu (University of Science and Technology of China)

3919: Learning Multi-level Dependencies for Robust Word Recognition

Zhiwei Wang (Michigan State University)\*; Hui Liu (Michigan State University); Jiliang Tang (Michigan State University); Yan Huang (TAL Education Group); Zitao Liu (TAL AI Lab)

3924: Tracklet Self-Supervised Learning for Unsupervised Person Re-Identification

Guile Wu (Queen Mary University of London)\*; Xiatian Zhu (Samsung AI Centre, Cambridge); Shaogang Gong (Queen Mary University of London)

3925: Learning from Easy to Complex: Adaptive Multi-curricula Learning for Neural Dialogue Generation

Hengyi Cai (Institute of Computing Technology, Chinese Academy of Sciences; University of Chinese Academy of Sciences)\*; Hongshen Chen (JD.com); Cheng Zhang (Institute of Computing Technology, Chinese Academy of Sciences); Yonghao Song (Institute of Computing Technology, Chinese Academy of Sciences); Xiaofang Zhao (Institute of Computing Technology, Chinese Academy of Sciences); Yangxi Li (National Computer network Emergency Response technical Team/Coordination Center of China); Dongsheng Duan (National Computer network Emergency Response technical Team/Coordination Center of China); Dawei Yin (JD.com)

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Yu Dong (Shenzhen Institutes of Advanced Technology of the Chinese Academy of Science); Yihao Liu (University of Chinese Academy of Sciences); He Zhang (Rutgers); Yu Qiao (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences); Shifeng Chen (SIAT)\*

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Yu Zheng (Southwestern University of Finance and Economics); Bowei Chen (University of Glasgow); Timothy Hospedales (Edinburgh University); Yongxin Yang (University of Edinburgh)\*

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Sciences; CAS Center for Excellence in Brain Science and Intelligence Technology); Mingyue Niu (National Laboratory of Pattern Recognition, CASIA; School of Artificial Intelligence, University of Chinese Academy of Sciences); Bocheng Zhao (National Laboratory of Pattern Recognition, CASIA; School of Artificial Intelligence, University of Chinese Academy of Sciences)

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Dominik Linzner (TU Darmstadt)\*; Heinz Koepl (TU Darmstadt)

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Zhongwei Qiu (University of Science and Technology Beijing); Kai Qiu (Microsoft Research)\*; Jianlong Fu (Microsoft Research); Dongmei Fu (University of Science and Technology Beijing)

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Jingkang Wang (University of Toronto); Yang Liu (UCSC); Bo Li (University of Illinois at Urbana–Champaign)\*

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Wei Pang (BUPT); Xiaojie Wang (Beijing University of Posts and Telecommunications)\*

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Nicola Zaltron (IT University of Copenhagen); Luisa Zurlo (IT University of Copenhagen); Sebastian Risi (IT University of Copenhagen)\*

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Su-Jin Shin (KAIST); Kyungwoo Song (KAIST); Il-Chul Moon (KAIST)\*

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David Kempe (USC)\*

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Mohammad Rostami (University of Pennsylvania)\*; Soheil Kolouri (HRL Laboratories LLC); Praveen Pilly (HRL Laboratories LLC); James McClelland (Stanford University)

4483: Reinforcement-Learning based Portfolio Management with Augmented Asset Movement Prediction States

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4484: CSPN++: Learning Context and Resource Aware Convolutional Spatial Propagation Networks for Depth Completion

Xinjing Cheng (Baidu Research)\*; Peng Wang (Baidu USA LLC); Chenye Guan (Baidu); Yang Ruigang (Baidu)

4492: Learning Fair Naive Bayes Classifiers by Discovering and Eliminating Discrimination Patterns

YooJung Choi (UCLA)\*; Golnoosh Farnadi (Polytechnique Montreal); Behrouz Babaki (Polytechnique Montreal); Guy Van den Broeck (UCLA)

4495: Robust Self-weighted Multi-view Projection Clustering

Beilei Wang (Northwest University); Yun Xiao (NorthWest University)\*; Zhihui Li (University of New South Wales); Xuanhong Wang (Xi'an University of Posts & Telecommunications); Xiaojiang Chen (NorthWest University); Dingyi Fang (NorthWest University)

4499: Differentiable Reasoning on Large Knowledge Bases and Natural Language

Pasquale Minervini (University College London)\*; Matko Bošnjak (DeepMind / UCL); Tim Rocktäschel (Facebook AI Research & University College London); Sebastian Riedel (UCL); Edward Grefenstette (Facebook AI Research)

4500: EC-GAN: Inferring Brain Effective Connectivity via Generative Adversarial Networks

Jinduo Liu (Beijing University of Technology)\*; Junzhong Ji (Beijing University of Technology); Guangxu Xun (University of Virginia); Liuyi Yao (University at Buffalo, USA); Mengdi Huai (University of Virginia); Aidong Zhang (University of Virginia)

4504: Alternating Language Modeling for Cross-Lingual Pre-Training

Jian Yang (BeiHang University)\*; Shuming Ma (Microsoft Research Asia); Dongdong Zhang (Microsoft Research Asia); Shuangzhi Wu (Harbin Institute of Technology); Zhoujun Li (Beihang University); Ming Zhou (Microsoft Research)

4514: CGD: Multi-view Clustering via Cross-view Graph Diffusion

Chang Tang (China University of Geosciences)\*; Xinwang Liu (National University of Defense Technology); Xinzhong Zhu (Zhejiang Normal University); En Zhu (National University of Defense Technology); Zhigang Luo (National University of Defense Technology); Wen Gao (PKU)

4519: Tweedie-Hawkes Processes: Interpreting the Phenomena of Outbreaks

Tianbo Li (Nanyang Technological University)\*; Yiping Ke (Nanyang Technological University)

4535: Multi-type Self-attention Guided Degraded Saliency Detection

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4545: RIS-GAN: Explore Residual and Illumination with Generative Adversarial Networks for Shadow Removal

Ling Zhang (Wuhan University of Science and Technology); Chengjiang Long (Kitware Inc)\*; Xiaolong Zhang (Wuhan University of Science and Technology); Chunxia Xiao (Wuhan University)

4548: Auto-GAN: Self-Supervised Collaborative Learning for Medical Image Synthesis

Bing Cao (Xidian University); Han Zhang (University of North Carolina at Chapel Hill)\*; Nannan Wang (Xidian University); Xinbo Gao (Xidian University); Dinggang Shen (UNC)

4552: Online Knowledge Distillation with Diverse Peers

Defang Chen (Zhejiang University); Jian-Ping Mei (Zhejiang University of Technology)\*; Can Wang (Zhejiang University, China); Yan Feng (Zhejiang University); Chun Chen (Zhejiang University)

4560: Rule-Guided Compositional Representation Learning on Knowledge Graphs

Guanglin Niu (Beihang University); Yongfei Zhang (Beihang University)\*; Bo Li (Beihang University); Peng Cui (Tsinghua University); si liu (Beihang University); Jingyang Li (Beihang University); Xiaowei Zhang (Qingdao University)

4566: Feature Deformation Meta-Networks in Image Captioning of Novel Objects

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4588: Co-GCN for Multi-View Semi-Supervised Learning

Shu Li (Nanjing University)\*; Wen-Tao Li (Nanjing University); Wei Wang (Nanjing University)

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Guangxiang Zhu (Tsinghua University)\*; Jianhao Wang (Tsinghua University); Zhizhou Ren (Tsinghua University); Zichuan Lin (Tsinghua University); Chongjie Zhang (Tsinghua University)

4601: Pyramid Constrained Self-Attention Network for Fast Video Salient Object Detection

Yuchao Gu (Nankai University); Lijuan Wang (Nankai University); Ziqin Wang (Xi'an Jiaotong University); Yun Liu (Nankai University); Ming-Ming Cheng (Nankai University)\*; Shao-Ping Lu (Nankai University)

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Soo Ye Kim (KAIST); Jihyong Oh (KAIST); Munchurl Kim (KAIST-VICLab)\*

4712: A Simultaneous Discover-Identify Approach to Causal Inference in Linear Models

Chi Zhang (University of California, Los Angeles)\*; Bryant Chen (IBM Research AI); Judea Pearl (University of California, Los Angeles)

4719: Modeling Electrical Motor Dynamics using Encoder-Decoder with Recurrent Skip Connection

Sagar Verma (IIIT Delhi)\*; Nicolas Henwood (Schneider Electric); Marc Castella (Telecom SudParis); Francois Malrait (Schneider Electric); Jean-Christophe Pesquet (CentraleSupelec)

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Xinlong Wang (University of Adelaide)\*; Wei Yin (University of Adelaide); Tao Kong (Bytedance); Yuning Jiang (Bytedance); Lei Li (ByteDance AI Lab); Chunhua Shen (University of Adelaide)

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4763: Trading Convergence Rate with Computational Budget in High Dimensional Bayesian Optimization

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4773: Channel Attention Is All You Need for Video Frame Interpolation

Myungsub Choi (Seoul National University); Heewon Kim (Seoul National University); Bohyung Han (Seoul National University); Ning Xu (-); Kyoung Mu Lee (Seoul National University)\*

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4800: GDFace: Gated Deformation for Multi-view Face Image Synthesis

Xuemiao Xu (South China University of Technology); Keke Li (South China University of Technology); Cheng Xu (South China University of Technology); Shengfeng He (South China University of Technology)\*

4802: D2D-LSTM: LSTM-based Path Prediction of Content Diffusion Tree in Device-to-Device Social Networks

Heng Zhang (Tianjin University)\*; Xiaofei Wang (College of Intelligence and Computing, Tianjin University); Jiawen Chen (Tianjin University); Chenyang Wang (Tianjin University); Jianxin Li (Deakin University)

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Adrian Goldwaser (University of New South Wales)\*; Michael Thielscher (University of New South Wales)

4815: Hiding in Multilayer Networks

Marcin Waniek (New York University Abu Dhabi)\*; Tomasz Michalak (University of Warsaw); Talal Rahwan (New York University Abu Dhabi)

4824: FPETS : Fully Parallel End-to-End Text-to-Speech System

Wenxuan Wang (Chinese University of Hong Kong, Shenzhen)\*; zhiba su (Turing Robot); Dabiao Ma (Turing Robot); Yuhao Lu (Turing Robot Co.,Ltd.)

4835: Deep Time-Stream Framework for Click-Through Rate Prediction by Tracking Interest Evolution

Shu-ting Shi (Nanjing University); Wenhao Zheng (Nanjing University); Jun Tang (Alibaba Group); Qing-Guo Chen (Alibaba); Yao Hu (Alibaba Youku Cognitive and Intelligent Lab); Jianke Zhu (Zhejiang University); Ming Li (Nanjing University)\*

4837: Fatigue-aware Bandits for Dependent Click Models

Junyu Cao (University of California, Berkeley)\*; Wei Sun (IBM Research); Zuo-Jun Shen (University of California, Berkeley); Markus Ettl (IBM Research)

4849: Multi-View Spectral Clustering with Optimal Neighborhood Laplacian Matrix

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Yixin Zhang (University of Science and Technology of China); Zilei Wang (University of Science and Technology of China)\*

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4870: Progressive Boundary Refinement Network for Temporal Action Detection

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4888: Image Enhanced Event Detection in News Articles

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Yueying Kao (Samsung Research China – Beijing (SRC-B))\*; Weiming Li (Samsung Research China – Beijing (SRC-B)); Qiang Wang (samsung research center of Beijing); Zhouchen Lin (Peking University); Wooshik Kim (SAIT); Sunghoon Hong (SAIT)

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Yakov Babichenko (Technion); Oren Dean (Technion - Israel institute of technology)\*; Moshe Tennenholtz (Technion – Israel Institute of Technology)

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Hao Shao (Tsinghua University); Shengju Qian (The Chinese University of Hong Kong); Yu Liu (The Chinese University of Hong Kong)\*

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5306: Designing Committees for Mitigating Biases  
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5378: Revisiting the Foundations of Abstract Argumentation - Semantics Based on Weak Admissibility and Weak Defense

Ringo Baumann (University of Leipzig)\*; Gerhard Brewka (University of Leipzig); Markus Ulbricht (University of Leipzig)

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Libo Qin (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology)\*; Wanxiang Che (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology); Yangming Li (Ant Financial Services Group); Minheng Ni (Research Center for Social Computing and Information Retrieval, Harbin Institute of Technology); Ting Liu (哈尔滨工业大学)

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5438: FFA-Net: Feature Fusion Attention Network for Single Image Dehazing

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5440: Realistic Face Reenactment via Self-Supervised Disentangling of Identity and Pose

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5441: ODSS: Efficient Hybridization for Optimal Coalition Structure Generation.

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5443: Abstract Interpretation of Decision Tree Ensemble Classifiers

Francesco Ranzato (Dip. Matematica, University of Padova)\*; Marco Zanella (Dip. Matematica, University of Padova)

5480: Complexity and Expressive Power of Disjunction and Negation in Limit Datalog

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Guannan Liang (University of Connecticut); Qianqian Tong (UCONN); Chunjiang Zhu (University of Connecticut); Jinbo Bi (University of Connecticut)\*

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5489: Predicting AC-Optimal Power Flows: Combining Deep Learning and Lagrangian Dual Methods  
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Kexin Huang (Harvard University); Cao Xiao (IQVIA); Nghia Hoang (IBM Research); Lucas Glass (IQVIA); Jimeng Sun (CS)\*

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5606: MIMAMO Net: Integrating Micro- and Macro-motion for Video Emotion Recognition

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Wei Chen (Microsoft); Binghui Peng (Columbia University); Grant Schoenebeck (University of Michigan); Biaoshuai Tao (University of Michigan)\*

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5716: Deep Mixed Effect Model using Gaussian Processes: A Personalized and Reliable Prediction for Healthcare

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5727: JEC-QA: A Legal-Domain Question Answering Dataset

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5737: Learning Weighted Model Integration Distributions

Paolo Morettin (University of Trento); Samuel Kolb (KU Leuven); Stefano Teso (KU Leuven)\*; Andrea Passerini (University of Trento)

5738: Integrating Linguistic Knowledge to Sentence Paraphrase Generation

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5756: Compressed Self-Attention for Deep Metric Learning

Ziye Chen (School of Computer Science, Wuhan University); Yanwu Xu (University of Pittsburgh); Mingming Gong (University of Melbourne); Chaohui Wang (Laboratoire d'Informatique Gaspard Monge, Université Paris-Est); Bo Du (School of Computer Science, Wuhan University)\*; Kun Zhang (Carnegie Mellon University)

5758: Robust Adversarial Objects against Deep Learning Models

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5766: TextNAS: A Neural Architecture Search Space tailored for Text Representation

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5771: On Adaptivity in Information-Constrained Online Learning  
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5776: Reinforcement Learning based Meta-path Discovery in Large-scale Heterogeneous Information Networks  
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5847: CAG: A Real-time Low-cost Improved-Robustness High-transferability Content-aware Adversarial Attack Generator  
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5855: Integrating Overlapping Datasets Using Bivariate Causal Discovery  
Anish Dhir (Babylon Health); Ciarán Lee (University College London and Babylon Health)\*

5868: Using approximation within Constraint Programming to solve the Parallel Machine Scheduling Problem with Additional Unit Resources  
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5873: Temporal Pyramid Recurrent Neural Network  
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5874: Go From the General to the Particular: Multi-Domain Translation with Domain Transformation Networks  
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5880: Generalization Error Bounds of Gradient Descent for Learning Over-parameterized Deep ReLU Networks  
Yuan Cao (UCLA); Quanquan Gu (University of California, Los Angeles)\*

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5897: End-to-End Game-Focused Learning of Adversary Behavior in Security Games  
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5908: PCONV: The Missing but Desirable Sparsity in DNN Weight Pruning for Real-time Execution on Mobile Device  
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5915: A Graph Auto-Encoder for Haplotype Assembly and Viral Quasispecies Reconstruction  
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5916: Robust Named Entity Recognition with Truecasing Pretraining  
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5933: Non-local U-Nets for Biomedical Image Segmentation

Zhengyang Wang (Texas A&M University); Na Zou (Texas A&M University); Dinggang Shen (UNC Chapel Hill); Shuiwang Ji (Texas A&M University)\*

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Hongyang Gao (Texas A&M University); Lei Cai (Washington State University); Shuiwang Ji (Texas A&M University)\*

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Christian Perez (Uber AI Labs)\*; Felipe Petroski Such (Uber AI Labs); Theofanis Karaletsos (Uber AI Labs)

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Albert Akhriev (IBM Research); Jakub Marecek (IBM Research)\*; Andrea Simonetto (IBM Research)

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YUNQI MIAO (University of Warwick); Zijia Lin (Microsoft); guiguang ding (Tsinghua University, China); Jungong Han (University of Warwick)\*

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Hongyu Guo (National Research Council Canada)\*

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Zihe Wang (Shanghai University of Finance and Economics); Zhide Wei (Peking University); Jie Zhang (University of Southampton)\*

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6413: Multi-Range Attentive Bicomponent Graph Convolutional Network for Traffic Forecasting  
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6424: Independence Promoted Graph Disentangled Networks

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6490: One-Shot Learning for Long-Tail Visual Relation Detection

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6497: Optimizing Nondecomposable Data Dependent Regularizers via Lagrangian Reparameterization offers Significant Performance and Efficiency Gains

Sathya Ravi (University of Illinois at Chicago)\*; Abhay Venkatesh (UW Madison); Glenn Fung (American Family Insurance); Vikas Singh (University of Wisconsin-Madison USA)

6506: Recognizing Instagram Filtered Images with Feature De-stylization

Zhe Wu (Comcast Research Lab)\*; Zuxuan Wu (UMD); Bharat Singh (Amazon); Larry Davis (University of Maryland)

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6543: OF-MSRN: Optical Flow-Auxiliary Multi-Task Regression Network for Direct Quantitative Measurement, Segmentation and Motion Estimation

Chengqian Zhao (Shandong Normal University); Cheng Feng (Southern University of Science and Technology); Dengwang Li (Shandong Normal University); Shuo Li (the University of Western Ontario)\*

6549: Fast and efficient Boolean matrix factorization by geometric segmentation

Changlin Wan (Department of Electrical and Computer Engineering, Purdue University)\*; Wennan Chang (Department of Electrical and Computer Engineering, Purdue University); Tong Zhao (Amazon); Mengya Li (Indiana University); Sha Cao (Indiana University); Chi Zhang (Indiana University)

6557: A New Dataset and Boundary-Attention Semantic Segmentation for Face Parsing



Yinglu Liu (JD AI)\*; Hailin Shi (JD AI); Hao Shen (JD); Yue Si (JD AI Research); Xiaobo Wang (JD AI Research); Tao Mei (AI Research of JD.com)

6564: Automatic Generation of Headlines for Online Math Questions

Ke Yuan (Peking University)\*; dafang he (The Penn State University); Zhuoren Jiang (Sun Yat-sen University); Liangcai Gao (Peking University); Zhi Tang (Peking University); C. Lee Giles (Penn State)

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Hai Wu (University of Science and Technology of China)\*; Hongtao Xie (University of Science and Technology of China); Chuanbin Liu (University of Science and Technology of China); Zheng-Jun Zha (University of Science and Technology of China); Jun Sun (Anhui Provincial Children's Hospital); Yongdong Zhang (University of Science and Technology of China)

6583: Effective AER Object Classification Using Segmented Probability-Maximization Learning in Spiking Neural Networks

Qianhui Liu (Zhejiang University); Haibo Ruan (Zhejiang University); Dong Xing (Zhejiang University); Huajin Tang (Zhejiang University); Gang Pan (Zhejiang University)\*

6597: Asymmetrical Hierarchical Networks with Attentive Interactions for Interpretable Review-Based Recommendation

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6618: DARB: A Density-Adaptive Regular-Block Pruning for Deep Neural Networks

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6620: Reinforcement Mechanism Design: With Applications to Dynamic Pricing in Sponsored Search Auctions

Weiran Shen (Carnegie Mellon University)\*; Binghui Peng (Columbia University); Hanpeng Liu (Tsinghua University); Michael Zhang (Chinese University of Hong Kong); Ruohan Qian (Baidu Inc.); Yan Hong (Baidu Inc.); Zhi Guo (Baidu Inc.); Zongyao Ding (Baidu Inc.); Pengjun Lu (Baidu Inc.); Pingzhong Tang (Tsinghua University)

6627: OMuLeT: Online Multi-Lead Time Location Prediction for Hurricane Trajectory Forecasting

Ding Wang (Michigan State University)\*; Boyang Liu (Michigan State University); Pang-Ning Tan (MSU); Lifeng Luo (Michigan State University)

6640: Multi-View Partial Multi-label Learning with Graph-based Disambiguation

Ze-Sen Chen (Southeast University); Xuan Wu (Alibaba Group); Qing-Guo Chen (Alibaba); Yao Hu (Alibaba Youku Cognitive and Intelligent Lab); Min-Ling Zhang (Southeast University)\*

6641: Outlier Detection Ensemble with Embedded Feature Selection

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6643: Learning Relationships between Text, Audio, and Video via Deep Canonical Correlation for Multimodal Language Analysis

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6644: Video Face Super-Resolution with Motion-Adaptive Feedback Cell

Jingwei Xin (Xidian University); Nannan Wang (Xidian University)\*; Jie Li (Xidian University); Xinbo Gao (Xidian University); Zhifeng Li (Tencent AI Lab)

6647: Story Realization: Expanding Plot Events into Sentences

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6654: Facial Attribute Capsules for Noise Face Super Resolution

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6672: Neural Semantic Parsing in Low-Resource Settings with Back-Translation and Meta-Learning

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7370: Generating Interactive Worlds with Text

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7380: Multi-Component Graph Convolutional Collaborative Filtering

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7388: Co-Attention Hierarchical Network: Generating Coherent Long Distractors for Reading Comprehension

Xiaorui Zhou (Beijing Institute of Technology); Senlin Luo (Beijing Institute of Technology); Yunfang Wu (北京大学)\*

7400: Two Birds with One Stone: Investigating Invertible Neural Networks for Inverse Problems in Morphology

Gözde Şahin (TU Darmstadt)\*; Iryna Gurevych (Darmstadt University)

7408: Distilling Knowledge from Well-informed Soft Labels for Neural Relation Extraction

Zhenyu Zhang (Institute of Information Engineering, Chinese Academy of Sciences)\*; Xiaobo Shu (Institute of Information Engineering, Chinese Academy of Sciences); Bowen Yu (Institute of Information Engineering, Chinese Academy of Sciences); Tingwen Liu (Institute of Information Engineering, CAS); Jiapeng Zhao (Institute of Information Engineering, UCAS); Quangang Li (Institute of Information Engineering, CAS); Li Guo (Institute of Information Engineering, CAS, China)

7415: Filtration and Distillation: Enhancing Region Attention for Fine-Grained Visual Categorization

Chuanbin Liu (University of Science and Technology of China); Hongtao Xie (University of Science and Technology of China)\*; Zheng-Jun Zha (University of Science and Technology of China); Lingfeng Ma (USTC); Lingyun Yu (University of Science and Technology of China); Yongdong Zhang (University of Science and Technology of China)

7419: Syntactically Look-Ahead Attention Network for Sentence Compression

Hidetaka Kamigaito (Tokyo Institute of Technology)\*; Manabu Okumura (Tokyo Institute of Technology)

7425: A New Approach to Plan-Space Explanation: Analyzing Plan-Property Dependencies in Oversubscription Planning

Rebecca Eifler (Saarland University); Michael Cashmore (University of Strathclyde); Joerg Hoffmann (Saarland University)\*; Daniele Magazzeni (King's College London); Marcel Steinmetz (Saarland University)

7426: Author Name Disambiguation on Heterogeneous Information Network with Adversarial Representation Learning

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7427: Fully Convolutional Network for Consistent Voxel-wise Correspondence

Yungeng Zhang (Peking University); Yuru Pei (Peking University)\*; Yuke Guo (Luoyang Institute of Science and Technology); Gengyu Ma (Usens Inc); Tianmin Xu (Peking University); Hongbin Zha (Peking University, China)

7428: D-SPIDER-SFO: A Decentralized Optimization Algorithm with Faster Convergence Rate for Nonconvex Problems

Taoxing Pan (University of Science and Technology of China); Jun Liu (Infinia ML Inc.); Jie Wang (University of Science and Technology of China)\*

7432: GraLSP: Graph Neural Networks with Local Structural Patterns

Yilun Jin (The Hong Kong University of Science and Technology)\*; guojie song (PKU, China); Chuan Shi (Beijing University of Posts and Telecommunications)

7439: Modelling Diversity of Solutions

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7441: Cross-Lingual Low-Resource Set-to-Description Retrieval for Global E-Commerce

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Yan Feng (Tsinghua University); Bin Chen (Tsinghua University); Tao Dai (Tsinghua University)\*; Shutao Xia (Tsinghua University)

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7453: Generating Diverse Translation by Manipulating Multi-Head Attention

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7454: Geometry-driven Self-supervised Method for 3D Human Pose Estimation

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7460: Heterogeneous Transfer Learning With Weighted Instance-Correspondence Data

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Xujin Chen (Chinese Academy of Sciences); Minming Li (City University of Hong Kong); Chenhao Wang (City University of Hong Kong)\*

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Yufei Han (Symantec Research Labs)\*; Xiangliang Zhang (" King Abdullah University of Science and Technology, Saudi Arabia")

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Hyoungun Kim (UNC at Chapel Hill); Hao Tan (UNC, Chapel Hill); Mohit Bansal (University of North Carolina at Chapel Hill)\*

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Chuanming Wang (Beijing University of Posts and Telecommunications); Huiyuan Fu (Beijing University of Posts and Telecommunications)\*; Charles Ling (Western University); Peilun Du (Beijing University of Posts and Telecommunications); Huadong Ma (Beijing University of Posts and Telecommunications)

10399: Estimating the Density of States of Boolean Satisfiability Problems on Classical and Quantum Computing Platforms  
Tuhin Sahai (United Technologies Research Center)\*; Anurag Mishra (United Technologies Research Center ); Jose Miguel Pasini (United Technologies Research Center); Susmit Jha (SRI International)

10447: Meta-Learning PAC-Bayes Priors in Model Averaging  
Yimin Huang (Huawei Noah's Ark Lab)\*; Weiran Huang (Huawei Noah's Ark Lab); Liang Li (Noah's Ark Lab); Zhenguo Li (Huawei Noah's Ark Lab)

10477: MaskGEC: Improving Neural Grammatical Error Correction via Dynamic Masking  
Zewei Zhao (Peking University)\*; Houfeng Wang (Peking University)

10517: Mining on Heterogeneous Manifolds for Zero-shot Cross-modal Image Retrieval  
Fan Yang (The University of Tokyo); Zheng Wang (National Institute of Informatics); Jing Xiao (Wuhan University)\*; Shin'ichi Satoh (National Institute of Informatics)