Research Track Papers Schedule

SESSION 1

Tuesday, August 16, 10:00 AM-12:00 PM, Room 206, (Graphs and Networks). Session Chair: Tim Weninger (University of Notre Dame)

Streaming Graph Neural Networks with Generative Replay

Junshan Wang (Alibaba)*; Wenhao Zhu (Peking University); Guojie Song (Peking University); Liang Wang (Alibaba group)

Graph Rationalization with Environment-based Augmentations

Gang Liu (University of Notre Dame)*; Tong Zhao (Snap Inc.); JIAXIN XU (UNIVERSITY OF NOTRE DAME); Tengfei Luo (University of Notre Dame); Meng Jiang (University of Notre Dame)

Causal Attention for Graph Classification

Yongduo Sui (University of Science and Technology of China)*; Xiang Wang (National University of Singapore); Jiancan Wu (University of Science and Technology of China); Min Lin (University of Montreal); Xiangnan He (University of Science and Technology of China); Tat-Seng Chua (National university of Singapore)

Minimizing Congestion for Balanced Dominators

Yosuke Mizutani (University of Utah)*; Annie Staker (University of Utah); Blair D Sullivan (University of Utah)

SMORE: Knowledge Graph Completion and Multi-hop Reasoning in Massive Knowledge Graphs

Hongyu Ren (Stanford University)*; Hanjun Dai (Google Brain); Bo Dai (Google Brain); Xinyun Chen (UC Berkeley); Denny Zhou (Google Brain); Jure Leskovec (Stanford University); Dale Schuurmans (Google / University of Alberta)

FlowGEN: A Generative Model for Flow Graphs

Ambuj K Singh (UCSB); Arlei Silva (Rice University); Furkan Kocayusufoglu (UC, Santa Barbara)*

Tuesday, August 16, 10:00 AM-12:00 PM, Room 207B, (Interdisciplinary Applications: Biology, Climate and Physics). Session Chair: Zhe Jiang (University of Florida)

Graph-in-Graph Network for Automatic Gene Ontology Description Generation

Fenglin Liu (Peking University)*; Bang Yang (Peking University); Xian Wu (Tencent Medical AI Lab); Shen Ge (Tencent Medical AI Lab); Adelaide Chambers (University of Washington); Sheng Wang (Paul G. Allen School of Computer Science, , University of Washington)

Deep Representations for Time-varying Brain Datasets

Sikun Lin (University of California, Santa Barbara)*; Shuyun Tang (University of California, Santa Barbara); Ambuj K Singh (UCSB); Scott T Grafton (UC Santa Barbara)

Geometric Graph Representation Learning on Protein Structures

Sarp Aykent (Auburn University)*; Tian Xia (Auburn University)

RetroGraph: Retrosynthetic Planning with Graph Search

Shufang Xie (Gaoling School of Artificial Intelligence, Renmin University of China)*; Peng Han (KAUST); Yingce Xia (Microsoft Research Asia); Lijun Wu (Microsoft Research); Tao Qin (Microsoft Research Asia); Chenjuan Guo (Aalborg University); Bin Yang (Aalborg University); Rui Yan (Peking University)

KRATOS: Context-aware cell type classification and interpretation using joint dimensionality reduction and clustering

Zihan Zhou (Purdue University); Zijia Du (Shanghai Jiao Tong University); Somali Chaterji (Purdue University)*

Dense feature tracking of atmospheric winds with deep optical flow

Thomas J Vandal (NASA Ames)*; Kate Duffy (NASA Ames); Akira Sewnath (NASA Goddard Space Flight Center); Will McCarty (NASA); Ramakrishna Nemani (NASA Ames Research Center)

Tuesday, August 16, 10:00 AM-12:00 PM, Room 208AB, (Causal Analysis and Explainability), Session Chair: Yanfang (Fanny) Ye

Analysis and Explainability). Session Chair: Yanfang (Fanny) Ye (University of Notre Dame)

Causal Discovery on Non-Euclidean Data

Jing Yang (Heifei University of Technology); Kai Xie (Heifei University of Technology); Ning An (Hefei University of Technology)*

Improving Data-driven Heterogeneous Treatment Effect Estimation Under Structure Uncertainty

Christopher Tran (University of Illinois at Chicago)*; Elena Zheleva (University of Illinois at Chicago)

ML4S: Learning Causal Skeleton from Vicinal Graphs

Pingchuan Ma (HKUST)*; Rui Ding (Microsoft Research); Haoyue Dai (Carnegie Mellon University); Yuanyuan Jiang (Renmin University of China); Shuai Wang (HKUST); Shi Han (Microsoft Research); Dongmei Zhang (Microsoft Research Asia)

Discovering Invariant and Changing Mechanisms from Data

Sarah Mameche (CISPA Helmholtz-Zentrum fŸr Informationssicherheit)*; David Kaltenpoth (CISPA Helmholtz Center for Information Security); Jilles Vreeken (CISPA Helmholtz Center for Information Security)

Variational Flow Graphical Model

Shaogang Ren (Baidu Research, USA)*; Belhal Karimi (Baidu Research); Dingcheng Li (Baidu Research); Ping Li (Baidu Research)

Framing Algorithmic Recourse for Anomaly Detection

Debanjan Datta (Virginia Tech)*; Feng Chen (UT Dallas); Naren Ramakrishnan (Virginia Tech)

Tuesday, August 16, 10:00 AM-12:00 PM, Room 209ABC, (Data Privacy, Ethics and Data Science for Society). Session Chair: Tong Yu (Adobe Research)

What Makes Your Data Unavailable To Deep Learning?

Da Yu (Sun Yat-sen University)*; Huishuai Zhang (Microsoft Research Asia); Wei Chen (Chinese Academy of Sciences); Jian Yin (Sun Yat-Sen University); Tie-Yan Liu (Microsoft Research)

MetaV: A Meta-Verifier Approach to Task-Agnostic Model Fingerprinting

Xudong Pan (Fudan University)*; Yifan Yan (Fudan University); Mi Zhang (Fudan University); Min Yang (Fudan University)

Scalable Differentially Private Clustering via Hierarchically Separated Trees

Vincent Cohen-Addad (Google); Alessandro Epasto (Google)*; Silvio Lattanzi (Google); Vahab Mirrokni (Google); andres munoz (Google); David Saulpic (LIP6); Chris Schwiegelshohn (Aarhus University); Sergei Vassilvitskii (Google)

MetroGAN: Simulating Urban Morphology with Generative Adversarial Network

Weiyu Zhang (Institude of Remote Sensing and Geographic Information System, Peking University); Yiyang Ma (Wangxuan Institute of Computer Technology, Peking University); Di Zhu (University of Minnesota, Twin Cities); Lei Dong (PKU); Yu Liu (Peking University)*

A Nearly-Linear Time Algorithm for Minimizing Risk of Conflict

in Social Networks

Liwang Zhu (Fudan University)*; Zhongzhi Zhang (Fudan University)

Tuesday, August 16, 10:00 AM - 12:00 PM, Room 102A, (Adverserial Learning and Information Security). Session Chair: Jinghui Chen (Penn State University)

A Model-Agnostic Approach to Differentially Private Topic Mining

Han Wang (Illinois Institute of Technology); Jayashree Sharma (Illinois Institute of Technology); Shuya Feng (Illinois Institute of Technology); Kai Shu (Illinois Institute of Technology); Yuan Hong (Illinois Institute of Technology)*

Model Integrity Authentication in Gradient Boosting Machine

Weijie Zhao (Rochester Institute of Technology)*; Yingjie Lao (Clemson University); Ping Li (Baidu)

Pairwise Adversarial Training for Unsupervised Class-imbalanced Domain Adaptation

WEILI SHI (University of Georgia)*; Ronghang Zhu (University of Georgia); Sheng Li (University of Georgia)

LeapAttack: Hard-Label Adversarial Attack on Text via Gradient-Based Optimization

Muchao Ye (The Pennsylvania State University)*; Jinghui Chen (Penn State University); Chenglin Miao (University of Georgia); Ting Wang (Penn State); Fenglong Ma (Pennsylvania State University)

Bilateral Dependency Optimization: Defending Against Model-inversion Attacks

Xiong Peng (NUDT)*; Feng Liu (UTS/RIKEN); Jingfeng Zhang (RIKEN); long lan (NUDT); Junjie Ye (PolyU Hong Kong); Tongliang Liu (The University of Sydney); Bo Han (HKBU / RIKEN)

SESSION 2

Tuesday, August 16, 1:30 PM-3:30 PM, Room 206, (Graphs and Networks). Session Chair: Chuxu Zhang (Brandeis University)

Task-Adaptive Few-shot Node Classification

Song Wang (University of Virginia); Kaize Ding (Arizona State University); Chuxu Zhang (Brandeis University); Chen Chen (University of Virginia); Jundong Li (University of Virginia)*

Core-periphery Models for Hypergraphs

Marios Papachristou (Cornell University)*; Jon Kleinberg (Cornell)

Geometer: Graph Few-Shot Class-Incremental Learning via Prototype Representation

Bin Lu (Shanghai Jiao Tong University); Xiaoying Gan (Shanghai Jiao Tong University)*; Lina Yang (Shanghai Jiao Tong University); Weinan Zhang (Shanghai Jiao Tong University); Luoyi Fu (Shanghai Jiao Tong University); Xinbing Wang (Shanghai Jiao Tong University)

Avoiding Biases due to Similarity Assumptions in Node Embeddings

Deepayan Chakrabarti (University of Texas at Austin)*

Deepayan Chakrabarti (University of Texas at Austin)*

Repository Embedding via Heterogeneous Graph Adversarial Contrastive Learning

Yiyue Qian (University of Notre Dame)*; Yiming Zhang (Case Western Reserve University); Qianlong Wen (University of Notre Dame); Yanfang Ye (University of Notre Dame); Chuxu Zhang (Brandeis University)

Towards a Native Quantum Paradigm for Graph Representation Learning: a Sampling-based Recurrent Embedding Approach

Ge Yan (Shanghai Jiaotong University); Yehui Tang (Shanghai Jiao Tong University); Junchi Yan (Shanghai Jiao Tong University)*

Tuesday, August 16, 1:30 PM-3:30 PM, Room 207B, (Interdisciplinary Applications: Medicine, Humanities and Social Good). Session Chair: Tyler Derr (Vanderbilt University)

Fair and interpretable models for survival analysis

Md Mahmudur Rahman (University of Maryland Baltimore County); Sanjay Purushotham (University of Maryland, Baltimore County)*

SIPF: Sampling Method for Inverse Protein Folding

Tianfan Fu (Georgia Institute of Technology)*; Jimeng Sun (UIUC)

Antibody Complementarity Determining Regions (CDRs) design using Constrained Energy Model

Tianfan Fu (Georgia Institute of Technology)*; Jimeng Sun (UIUC)

Deconfounding Actor-Critic Network with Policy Adaptation for Dynamic Treatment Regimes

Changchang Yin (The Ohio State University)*; Ruoqi Liu (The Ohio State University); Jeffrey Caterino (The Ohio State University); Ping Zhang (The Ohio State University)

Predicting Opinion Dynamics via Sociologically-Informed Neural Networks

Maya Okawa (NTT)*; Tomoharu Iwata (NTT)

Incremental Cognitive Diagnosis for Intelligent Education

Shiwei Tong (University of Science and Technology of China (USTC))*; Jiayu Liu (University of Science and Technology of China); Yuting Hong (ustc); Zhenya Huang (University of Science and Technology of China); Le Wu (Hefei University of Technology); Qi Liu (" University of Science and Technology of China, China"); Wei Huang (University of Science and Technology of China); Enhong Chen (University of Science and Technology of China); Dan Zhang (iFLYTEK CO.LTD.)

Tuesday, August 16, 1:30 PM-3:30 PM, Room 208AB, (Anomaly Detection). Session Chair: Sanjay Chawla (Qatar Computing Research Institute, HBKU)

Detecting Cash-out Users via Dense Subgraphs

Yingsheng Ji (Tsinghua University)*; zheng zhang (China Etek Service & Technology); xinlei tang (Fudan university); Jiachen Shen (China Etek Service & Technology Co.,Ltd.); Xi Zhang (Beijing University of Posts and Telecommunications); Guangwen Yang (Tsinghua University)

Scaling Time Series Anomaly Detection to Trillions of Datapoints and Ultra-fast Arriving Data Streams

Yue Lu (University of California, Riverside)*; Renjie Wu (University of California, Riverside); Abdullah Mueen (University of New Mexico, USA); Maria A. Zuluaga

(EURECOM); Eamonn Keogh (UC Riverside)

Adaptive Model Pooling for Online Deep Anomaly Detection from a Complex Evolving Data Stream

Susik Yoon (UIUC); Youngjun Lee (KAIST); Jae-Gil Lee (KAIST)*; Byung Suk Lee (University of Vermont)

Subset Node Anomaly Tracking over Large Dynamic Graphs

Xingzhi Guo (Stony Brook University)*; Baojian Zhou (Fudan University); Steven Skiena (Stony Brook University)

PAC-Wrap: Semi-Supervised PAC Anomaly Detection

Shuo Li (University of Pennsylvania)*; Xiayan Ji (University of Pennsylvania); Edgar Dobriban (University of Pennsylvania); Oleg Sokolsky (University of Penssylvania); Insup Lee (University of Pennsylvania)

Toward Learning Robust and Invariant Representations with Alignment Regularization and Data Augmentation

Haohan Wang (Carnegie Mellon University)*; Zeyi Huang (Carnegie Mellon University); Xindi Wu (Carnegie Mellon University); Eric Xing (MBZUAI, CMU, and Petuum Inc.)

Tuesday, August 16, 1:30 PM-3:30 PM, Room 209ABC, (Spatio-Temporal Data). Session Chair: Xiaorui Liu (NC State University)

Modeling Network-level Traffic Flow Transitions on Sparse Data

Xiaoliang Lei (Xi'an Jiaotong University); hao mei (New jersey institue of technology); Bin Shi (Xi'an jiaotong University); Hua Wei (NIIT)*

Selective Cross-city Transfer Learning for Traffic Prediction via Source City Region Re-weighting

Yilun Jin (The Hong Kong University of Science and Technology)*; Kai Chen (HKUST); Qiang Yang (Hong Kong UST)

Semisupervised Drifted Stream Learning with Short Lookback

Weijieying Ren (universivity of Central Florida); Pengyang Wang (University of Macau); Xiaolin Li (Nanjing University); Charles E Hughes (University of Central Florida); Yanjie Fu (University of Central Florida)*

TrajGAT: A Graph-based Long-term Dependency Modeling Approach for Trajectory Similarity Computation

Di Yao (Institute of Computing Technology, Chinese Academy of Sciences)*; Haonan Hu (Institute of Computing Technology, Chinese Academy of Sciences); Lun Du (Microsoft Research); Gao Cong (Nanyang Technological Univesity); Shi Han (Microsoft Research); Jingping Bi (Institute of Computing Technology, Chinese Academy of Sciences)

Spatio-Temporal Trajectory Similarity Learning in Road Networks

Ziquan Fang (Zhejiang University); Yuntao Du (Zhejiang University); xinjun zhu (zhejiang university); Danlei Hu (Zhejiang University); Lu Chen (Zhejiang University); Yunjun Gao (Zhejiang University)*; Christian S Jensen (Aalborg University)

SESSION 3

Tuesday, August 16, 4:00 PM-6:00 PM, Room 206,

(Classsification and Clustering). Session Chair: Matteo Riondato (Amherst College)

Contrastive Learning with Complex Heterogeneity

Lecheng Zheng (University of Illinois at Urbana-Champaign)*; Jinjun Xiong (University at Buffalo); Yada Zhu (IBM); Jingrui He (University of Illinois at Urbana-Champaign)

Delayed Feedback Modeling with a Time Window Assumption

Shota Yasui (Cyberagent)*; Masahiro Kato (Cyberagent / The University of Tokyo)

Partial Label Learning with Semantic Label Representations

Shuo He (University of Electronic Science and Technology of China); Lei Feng (Chongqing University); Fengmao Lv (Southwest Jiaotong University); Wen Li (University of Electronic Science and Technology of China); Guowu Yang (Big Data Research Center and School of Computer Science and Engineering,University of Electronic Science and Technology of China)*

A Generalized Backward-Compatibility Metric

Tomoya Sakai (NEC Corporation)*

On missing labels, long-tails and propensities in extreme multi-label classification

Erik Schultheis (Aalto University); Marek Wydmuch (Poznan University of Technology); Rohit Babbar (Aalto University); Krzysztof Dembczynski (Yahoo Research)*

HyperAid: Denoising in hyperbolic spaces for tree-fitting and hierarchical clustering

Eli Chien (UIUC)*; Puoya Tabaghi (University of Illinois at Urbana-Champaign); Olgica Milenkovic (University of Illinois UC)

Tuesday, August 16, 4:00 PM-6:00 PM, Room 207B, (Deep Learning Applications). Session Chair: Lu Lin (Penn State University)

ERNet: Unsupervised Collective Extraction and Registration in Neuroimaging Data

Yao Su (Worcester Polytechnic Institute)*; Zhentian Qian (Worcester Polytechnic Institute); Lifang He (Lehigh University); Xiangnan Kong (Worcester Polytechnic Institute)

Learned Token Reduction for Efficient Transformer Inference

Sehoon Kim (University of California, Berkeley)*; Sheng Shen (UC Berkeley); David Thorsley (Samsung Semiconductor, Inc.); Amir Gholami (UC Berkeley); Woosuk Kwon (UC Berkeley); Joseph Hassoun (Samsung Semiconductor, Inc.); Kurt Keutzer (EECS, UC Berkeley)

Comprehensive Fair Meta-learned Recommender System

Tianxin Wei (University of Illinois Urbana Champaign)*; Jingrui He (University of Illinois at Urbana-Champaign)

Group-wise Reinforcement Feature Generation for Optimal and Explainable Representation Space Reconstruction

Dongjie Wang (University of Central Florida)*; Yanjie Fu (University of Central Florida); Kunpeng Liu (University of Central Florida); Xiaolin Li (Nanjing University);

Yan Solihin (University of Central Florida)

Probing Schema Linking Information from Pre-trained Language Models for Text-to-SQL Parsing

Lihan Wang (Chinese Academy of Sciences)*; Bowen Qin (Chinese Academy of Sciences); Binyuan Hui (Alibaba Group); Bowen Li (University of Edinburgh); Min Yang (Chinese Academy of Sciences); Bailin Wang (Unviersity of Edinburgh); Binhua Li (Alibaba Group)

Tuesday, August 16, 4:00 PM-6:00 PM, Room 208AB (Deep Learning: New Architectures and Models). Session Chair: Dongkuan Xu (NC State University)

Demystify Hyperparameters for Stochastic Optimization with Transferable Representations

Jianhui Sun (University of Virginia)*; Mengdi Huai (University of Virginia); Kishlay Jha (University of Virginia); Aidong Zhang (University of Virginia)

Global Self-Attention as a Replacement for Graph Convolution

Md Shamim Hussain (Rensselaer Polytechnic Institute)*; Mohammed Zaki (RPI); Dharmashankar Subramanian (IBM Research)

ROLAND: Graph Learning Framework for Dynamic Graphs

Jiaxuan You (Stanford University)*; Tianyu Du (Stanford University); Jure Leskovec (Stanford University)

Multi-fidelity Hierarchical Neural Processes

Dongxia Wu (University of California, San Diego)*; Matteo Chinazzi (Northeastern

University); Alessandro Vespignani (Northeastern University); Yian Ma (UCSD); Rose Yu (University of California, San Diego)

Graph Neural Networks with Node-wise Architecture

Zhen Wang (Alibaba Group)*; Yaliang Li (Alibaba Group); Zhewei Wei (Renmin University of China); Weirui Kuang (Alibaba Group); Bolin Ding ("Data Analytics and Intelligence Lab, Alibaba Group")

Improving Social Network Embedding via New Second-Order Continuous Graph Neural Networks

Yanfu Zhang (University of Pittsburgh); Shangqian Gao (University of Pittsburgh); Jian Pei (Simon Fraser University); Heng Huang (University of Pittsburgh)*

Tuesday, August 16, 4:00 PM-6:00 PM, Room 209ABC, (Ethics, Explainability and Society). Session Chair: Reza Zafarani (Syracuse University)

Explaining Recurrent Neural Networks by Learning Automata with Adaptive States

Dat Hong (The University of Iowa); Alberto Segre (The University of Iowa); Tong Wang (University of Iowa)*

Optimal Interpretable Clustering Using Oblique Decision Trees

Magzhan Gabidolla (University of California, Merced)*; Miguel A Carreira-Perpinan (UC Merced)

Fair Representation Learning: An Alternative to Mutual Information

Ji Liu (Nanjing University); Zenan Li (Nanjing University); Yuan Yao (Nanjing University)*; Feng Xu (Nanjing University); Xiaoxing Ma (Nanjing University); Miao

Xu (University of Queensland); Hanghang Tong (University of Illinois at Urbana-Champaign)

Fair Labelled Clustering

Seyed A Esmaeili (University of Maryland, College Park)*; Sharmila Duppala (University of Maryland, College Park); Brian Brubach (Wellesley College); John P Dickerson (University of Maryland)

Learning Fair Representation via Distributional Contrastive Disentanglement

Changdae Oh (University of Seoul); Heeji Won (Korea University); Junhyuk So (University Of Seoul); Taero Kim (University of Seoul); Yewon Kim (University of Seoul); Hosik Choi (University of Seoul); Kyungwoo Song (University of Seoul)*

Adaptive Fairness-Aware Online Meta-Learning for Changing Environments

Chen Zhao (Kitware Inc.)*; Feng Mi (University of Texas at Dallas); Xintao Wu (University of Arkansas); Kai Jiang (University of Texas at Dallas); Latifur Khan (The university of Texas at Dallas); Feng Chen (UT Dallas)

SESSION 4

Wednesday, August 17, 10:00 AM-12:00 PM, Room 206, (Graph Mining). Session Chair: Feng Chen (UT at Dallas)

Few-shot Heterogeneous Graph Learning via Cross-domain Knowledge Transfer

Qiannan Zhang (King Abdullah University of Science and Technology)*; Xiaodong Wu (King Abdullah University of Science and Technology); Qiang Yang (King Abdullah University of Science and Technology); Chuxu Zhang (Brandeis University); Xiangliang Zhang (University of Notre Dame)

Multiplex Heterogeneous Graph Convolutional Network

Pengyang Yu (Ocean University of China); Chaofan Fu (Ocean University of China); Yanwei Yu (Ocean University of China)*; Chao Huang (University of Hong Kong); Zhongying Zhao (Shandong University of Science and Technology); Junyu Dong (Ocean University of China)

Disentangled Heterogeneous Dynamic Graph Learning for Opioid Overdose Prediction

Qianlong Wen (University of Notre Dame)*; Zhongyu Ouyang (University of Notre Dame); Jianfei Zhang (University of Alberta); Yiyue Qian (University of Notre Dame); Yanfang Ye (University of Notre Dame); Chuxu Zhang (Brandeis University)

JuryGCN: Quantifying Jackknife Uncertainty on Graph Convolutional Networks

Jian Kang (University of Illinois at Urbana-Champaign)*; Qinghai Zhou (University of Illinois at Urbana-Champaign); Hanghang Tong (University of Illinois at Urbana-Champaign)

SL-VAE: Variational Autoencoder for Source Localization in Graph Information Diffusion

Chen Ling (Emory University)*; Junji Jiang (Tianjin University); Junxiang Wang (Emory University); Zhao Liang (Emory University)

Towards an Optimal Asymmetric Graph Structure for Robust Semi-supervised Node Classification

Zixing Song (The Chinese University of Hong Kong)*; Yifei Zhang (The Chinese

University of Hong Kong); Irwin King (The Chinese University of Hong Kong)

Wednesday, August 17, 10:00 AM-12:00 PM, Room 207B, (Time Series and Spatiotemporal Data). Session Chair: Abdullah Mueen (University of New Mexico)

Graph-Flashback Network for Next Location Recommendation

Xuan Rao (University of Electronic Science and Technology of China)*; Lisi Chen (KAUST); Yong Liu (Nanyang Technological University); Shuo Shang (KAUST); Bin Yao (Shanghai Jiao Tong University); Peng Han (KAUST)

MSDR: Multi-Step Dependency Relation Networks for Spatial Temporal Forecasting

Dachuan Liu (University of Electronic Science and Technology of China); Jin Wang (UCLA); Shuo Shang (KAUST); Peng Han (KAUST)*

Quantifying and Reducing Registration Uncertainty of Spatial Vector Labels on Earth Imagery

Wenchong He (University of Florida)*; Marcus Kriby (University of Alabama); Zhe Jiang (University of Florida); Yiqun Xie (The University of Maryland); Xiaowei Jia (University of Pittsburgh); Da Yan (University of Alabama at Birmingham); Yang Zhou (Auburn University)

Multi-Agent Graph Convolutional Reinforcement Learning for Dynamic Electric Vehicle Charging Pricing

Weijia Zhang (School of Computer Science, University of Science and Technology of China)*; Hao Liu (HKUST); Jindong Han (The Hong Kong University of Science and Technology); Yong Ge (The University of Arizona); Hui Xiong (Hong Kong University of Science and Tech)

Mining Spatio-Temporal Relations via Self-Paced Graph Contrastive Learning

Rongfan Li (School of Information and Software Engineering, University of Electronic Science and Technology of China); Xinke Jiang (University of Electronic Science and Technology of China); Fan Zhou (School of Information and Software Engineering, University of Electronic Science and Technology of China)*; Goce Trajcevski (Iowa State University); Jin Wu (School of Information and Software Engneering, University of Electronic Science and Technology of China); Ting Zhong (School of Information and Software Engineering, University of Electronic Science and Technology of China)

Beyond Point Prediction: Capturing Zero-Inflated & Heavy-Tailed Spatiotemporal Data with Deep Extreme Mixture Models

Tyler Wilson (Michigan State University); Andrew R McDonald (Michigan State University)*; Asadullah Hill Galib (Michigan State University); Pang-Ning Tan (Michigan State University); Lifeng Luo (Michigan State University)

Wednesday, August 17, 10:00 AM-12:00 PM, Room 208AB, (Deep Learning Applications). Session Chair: Hua Wei (NJIT)

Robust and Informative Text Augmentation (RITA) via Constrained Worst-Case Transformations for Low-Resource Named Entity Recognition

Hyunwoo Sohn (North Carolina State University)*; Baekkwan Park (The University of Missouri)

Deep Learning For Prognosis Using Task-fMRI: A Novel Architecture and Training Scheme

Ge Shi (UC Davis)*; Jason Smucny (University of California Davis); Ian Davidson (UC Davis)

Learning Models of Individual Behavior in Chess

Reid H McIlroy-Young (University of Toronto)*; Russell Wang (University of California, Berkeley); Siddhartha Sen (Microsoft Research); Jon Kleinberg (Cornell); Ashton Anderson (University of Toronto)

Robust Event Forecasting with Spatiotemporal Confounder Learning

Songgaojun Deng (STEVENS INSTITUTE OF TECHNOLOGY)*; Huzefa Rangwala (George Mason University); Yue Ning (Stevens Institute of Technology)

Physics-infused Machine Learning for Crowd Simulation

Guozhen Zhang (Tsinghua University)*; Zihan Yu (Tsinghua University); Depeng Jin (Tsinghua University); Yong Li (Tsinghua University)

Learning Binarized Graph Representations with Multi-faceted Quantization Reinforcement for Top-K Recommendation

Yankai Chen (The Chinese University of Hong Kong)*; Huifeng Guo (Huawei Noah's Ark Lab); Yingxue Zhang (Huawei Technologies Canada); Chen Ma (City University of Hong Kong); Ruiming Tang (Huawei Noah's Ark Lab); Jingjie Li (Huawei Noah's Ark Lab); Irwin King (The Chinese University of Hong Kong)

Wednesday, August 17, 10:00 AM-12:00 PM, Room 209ABC, (Online Learning and Transfer Learning). Session Chair: Qi Li (Iowa State University)

S2RL: Do We Really Need to Perceive All States in Deep Multi-Agent Reinforcement Learning?

Shuang Luo (Zhejiang University); Yinchuan Li (Huawei NoahÕs Ark Lab); Jiahui Li (Zhejiang University); Kun Kuang (Zhejiang University); Furui Liu (Huawei Noah's Ark Lab); Yunfeng Shao (Huawei Noah's Ark Lab); Chao Wu (Zhejiang University)*

Neural Bandit with Arm Group Graph

Yunzhe Qi (University of Illinois at Urbana-Champaign)*; Yikun Ban (University of Illinois at Urbana-Champaign); Jingrui He (University of Illinois at Urbana-Champaign)

Domain Adaptation with Dynamic Open-Set Targets

Jun Wu (University of Illinois at UrbanaÐChampaign)*; Jingrui He (University of Illinois at Urbana-Champaign)

Active Model Adaptation Under Unknown Shift

Jie-Jing Shao (Nanjing University)*; Yunlu Xu (Hikvision Research Institute); Zhanzhan Cheng (Zhejiang University & Hikvision Research Institute); Yu-Feng Li (Nanjing University)

External Knowledge Infusion for Tabular Pre-training Models with Dual-adapters

Can Qin (Northeastern University)*; Sungchul Kim (Adobe); Handong Zhao (Adobe Research); Tong Yu (Adobe Research); Ryan A. Rossi (Adobe Research); YUN FU (Northeastern University)

Spatio-Temporal Graph Few-Shot Learning with Cross-City Knowledge Transfer

Bin Lu (Shanghai Jiao Tong University); Xiaoying Gan (Shanghai Jiao Tong University)*; Weinan Zhang (Shanghai Jiao Tong University); Huaxiu Yao (Stanford University); Luoyi Fu (Shanghai Jiao Tong University); Xinbing Wang (Shanghai Jiao Tong University)

Wednesday, August 17, 10:00 AM -12:00 PM, Room 102A, (Few Shot Learning). Session Chair: Carl Yang (Emory University)

Collaboration Equilibrium in Federated Learning

Sen Cui (Department of Automation, Tsinghua University)*; Jian Liang (Alibaba Group); Weishen Pan (Tsinghua University); Kun Chen (University of Connecticut); Changshui Zhang (Tsinghua University); Fei Wang (Cornell University)

Connected Low-Loss Subspace Learning for a Personalization in Federated Learning

Seok-Ju Hahn (Ulsan National Institute of Science and Technology); Minwoo Jeong (Kakao Enterprise); Junghye Lee (Ulsan National Institute of Science and Technology)*

FedMSplit: Correlation-Adaptive Federated Multi-Task Learning across Multimodal Split Networks

Jiayi Chen (University of Virginia)*; Aidong Zhang (University of Virginia)

p-Meta: Towards On-device Deep Model Adaptation

Zhongnan Qu (ETH Zurich)*; Zimu Zhou (Singapore Management University); Yongxin Tong (Beihang University); Lothar Thiele (ETH ZŸrich)

Dual Bidirectional Graph Convolutional Networks for Zero-shot Node Classification

Qin Yue (Shanxi University); Jiye Liang (Shanxi University)*; Junbiao Cui (Shanxi University); Liang Bai (Shanxi University, China)

Finding Meta Winning Ticket to Train Your MAML

Dawei Gao (Alibaba-inc); Yuexiang Xie (Alibaba Group)*; Zimu Zhou (Singapore Management University); Zhen Wang (Alibaba Group); Yaliang Li (Alibaba Group); Bolin Ding ("Data Analytics and Intelligence Lab, Alibaba Group")

SESSION 5

Wednesday, August 17, 1:30 PM-3:30 PM, Room 206, (Text Mining). Session Chair: Goce Trajcevski (Iowa State University)

SagDRE: Sequence-Aware Graph-Based Document-Level Relation Extraction with Adaptive Margin Loss

Ying Wei (Iowa State University)*; Qi Li (Iowa State University)

Variational Graph Author Topic Modeling

Delvin Ce Zhang (Singapore Management University)*; Hady Lauw (Singapore Management University)

Label-enhanced Prototypical Network with Contrastive Learning for Multi-label Few-shot Aspect Category Detection

Han Liu (Dalian University of Technology)*; Feng Zhang (Peking University); Xiaotong Zhang (Dalian University of Technology); Siyang Zhao (Dalian University of Technology); Junjie Sun (Dalian University of Technology); Hong Yu (Dalian University of Technology); Xianchao Zhang (Dalian University of Technology)

Open-Domain Aspect-Opinion Co-Mining with Double-Layer Span Extraction

Adithya Mr. Kulkarni (Iowa State University)*; Mohna Chakraborty (Iowa State University); Qi Li (Iowa State University)

University); Qi Li (Iowa State University)

Unsupervised Key Event Detection from Massive Text Corpus

Yunyi Zhang (University of Illinois at Urbana-Champaign)*; Fang Guo (Westlake University); Jiaming Shen (Google Research); Jiawei Han (UIUC)

Few-Shot Fine-Grained Entity Typing with Automatic Label Interpretation and Instance Generation

Jiaxin Huang (University of Illinois Urbana-Champaign)*; Yu Meng (University of Illinois Urbana-Champaign); Jiawei Han (UIUC)

Wednesday, August 17, 1:30 PM-3:30 PM, Room 207B, (Graph Mining). Session Chair: Leman Akoglu (Carnegie Mellon University)

Joint Knowledge Graph Completion and Question Answering

Lihui Liu (University of Illinois at Urbana-Champaign)*; Boxin Du (University of Illinois at Urbana-Champaign); Jiejun Xu (HRL); Yinglong Xia (Facebook); Hanghang Tong (University of Illinois at Urbana-Champaign)

Learning Causal Effects on Hypergraphs

Jing Ma (University of Virginia)*; Mengting Wan (Microsoft); Longqi Yang (Microsoft); Jundong Li (University of Virginia); Brent Hecht (Microsoft); Jaime Teevan (Microsoft)

Meta-Learned Metrics over Multi-Evolution Temporal Graphs

Dongqi Fu (University of Illinois at Urbana-Champaign)*; Liri Fang (University of Illinois Urbana-Champaign); Ross Maciejewski (Arizona State University); Vetle I Torvik (University of Illinois at Urbana-Champaign); Jingrui He (University of Illinois

Torvik (University of Illinois at Urbana-Champaign); Jingrui He (University of Illinois at Urbana-Champaign)

On Structural Explanation of Bias in Graph Neural Networks

Yushun Dong (University of Virginia)*; Song Wang (University of Virginia); Yu Wang (Vanderbilt university); Tyler Derr (Vanderbilt University); Jundong Li (University of Virginia)

Accurate Node Feature Estimation with Structured Variational Graph Autoencoder

Jaemin Yoo (Carnegie Mellon University)*; Hyunsik Jeon (Seoul National University); Jinhong Jung (Jeonbuk National University); U Kang (Seoul National University)

GUIDE: Group Equality Informed Individual Fairness in Graph Neural Networks

Weihao Song (University of Virginia)*; Yushun Dong (University of Virginia); Ninghao Liu (University of Georgia); Jundong Li (University of Virginia)

Wednesday, August 17, 1:30 PM-3:30 PM, Room 208AB, (Mining, Inference and Learning). Session Chair: Somali Chaterji (Purdue University)

Detecting Arbitrary Order Beneficial Feature Interactions for Recommender Systems

Yixin Su (The University of Melbourne)*; Yunxiang Zhao (The University of Melbourne); Sarah Erfani (University of Melbourne); Junhao Gan (University of Melbourne); Rui Zhang (ruizhang.info)

pureGAM: Learning an Inherently Pure Additive Model

Xingzhi Sun (Yale University)*; Ziyu Wang (Peking University); Rui Ding (Microsoft Research); Shi Han (Microsoft Research); Dongmei Zhang (Microsoft Research Asia)

Balancing Bias and Variance for Active Weakly Supervised Learning

Hitesh Sapkota (Rochester Institute of Technology); Qi Yu (Rochester Institute of Technology)*

Training Graph Neural Networks in Extreme Low-Data Regime

Danning Lao (Shanghai Jiao Tong University)*; Xinyu Yang (Shanghai Jiao Tong University); Qitian Wu (Shanghai Jiao Tong University); Junchi Yan (Shanghai Jiao Tong University)

Practical Counterfactual Policy Learning for Top-K Recommendations

Yaxu Liu (National Taiwan University)*; Jui-Nan Yen (National Taiwan University); Bowen Yuan (National Taiwan University); Rundong Shi (Meituan); Peng Yan (Meituan); Chih-Jen Lin (National Taiwan University)

Wednesday, August 17, 1:30 PM-3:30 PM, Room 209ABC, (Recommendation Systems). Session Chair: Tong Zhao (Snap Research)

Addressing Unmeasured Confounder for Recommendation with Sensitivity Analysis

Sihao Ding (University of Science and Technology of China)*; Peng Wu (Peking University); Fuli Feng (University of Science and Technology of China); Yitong Wang (University of Science and Technology of China); Xiangnan He (University of Science and Technology of China); Yong Liao (University of Sciences and Technology of

China); Yongdong Zhang (University of Science and Technology of China)

Towards Representation Alignment and Uniformity in Collaborative Filtering

Chenyang Wang (Tsinghua University)*; Yuanqing Yu (Tsinghua University); Weizhi Ma (Tsinghua University); Min Zhang (Tsinghua University); Chong Chen (Tsinghua University); Yiqun LIU (Tsinghua University); Shaoping Ma (Tsinghua University)

CoRGi: Content-Rich Graph Neural Networks with Attention

Jooyeon Kim (RIKEN)*; Angus Lamb (Microsoft); Simon Woodhead (Eedi); Simon Pyton Jones (Microsoft); Cheng Zhang (Microsoft); Miltiadis Allamanis (MSR Cambridge)

Knowledge-enhanced Black-box Attacks for Recommendations

Jingfan Chen (Nanjing University)*; Wenqi FAN (The Hong Kong Polytechnic University); Guanghui Zhu (Nanjing University); Xiangyu Zhao (City University of Hong Kong); Chunfeng Yuan (Nanjing University); Qing Li (The Hong Kong Polytechnic University); Yihua Huang (Nanjing University)

Towards Universal Sequence Representation Learning for Recommender Systems

Yupeng Hou (Renmin University of China)*; Shanlei Mu (Renmin University of China); Wayne Xin Zhao (Renmin University of China); Yaliang Li (Alibaba Group); Bolin Ding ("Data Analytics and Intelligence Lab, Alibaba Group"); Ji-Rong Wen (Renmin University of China)

Wednesday, August 17, 1:30 PM-3:30 PM, Room 102A , (Graph and Networks). Session Chair: Fenglong Ma (Penn State University)

Ultrahyperbolic Knowledge Graph Embeddings

Bo Xiong (University of Stuttgart)*; Shichao Zhu (Institute of Information Engineering, Chinese Academy of Sciences); Mojtaba Nayyeri (University of Stuttgart); Chengjin Xu (University of Bonn); Shirui Pan (Monash University); Chuan Zhou (Chinese Academy of Sciences); Steffen Staab ("IPVS, Universität Stuttgart, DE and WAIS, University of Southampton, UK")

Core-periphery Partitioning and Quantum Annealing

Catherine F Higham (University of Glasgow); Desmond J Higham (University of Edinburgh); Francesco Tudisco (Gran Sasso Science Institute)*

A Spectral Representation of Networks: The Path of Subgraphs

Shengmin Jin (Syracuse University)*; Hao Tian (Syracuse University); Jiayu Li (Syracuse University); Reza Zafarani (Syracuse University)

Enhancing Machine Learning Approaches for Graph Optimization Problems with Diversifying Graph Augmentation

Chen-Hsu Yang (National Tsing Hua University); Chih-Ya Shen (National Tsing Hua University)*

Efficient Join Order Selection Learning with Graph-based Representation

Jin Chen (University of Electronic Science and Technology of China(UESTC)); Guanyu Ye (University of Electronic Science and Technology of China); Yan Zhao (Aalborg University); Shuncheng Liu (University of Electronic Science and Technology of China); Liwei Deng (University of Electronic Science and Technology of China); Xu Chen (University of Electronic Science and Technology of China); rui zhou (Huawei Technologies Co., Ltd.); Kai Zheng (University of Electronic Science and Technology of China)*

SESSION 6

Thursday, August 18, 10:00 AM-12:00 PM, Room 206, (Graph Mining). Session Chair: Yao Ma (NJIT)

COSTA: Covariance-Preserving Feature Augmentation for Graph Contrastive Learning

Yifei Zhang (The Chinese University of Hong Kong)*; Hao Zhu (Australian National University); Zixing Song (The Chinese University of Hong Kong); Piotr Koniusz (ANU College of Engineering and Computer Science); Irwin King (The Chinese University of Hong Kong)

RLogic: Recurrent Logical Rule Learning from Knowledge Graphs

Kewei Cheng (UCLA)*; Jiahao Liu (Tongji University); Wei Wang (UCLA); Yizhou Sun (UCLA)

Nimble GNN Embedding with Tensor-Train

Chunxing Yin (Georgia Institute of Technology)*; Da Zheng (Amazon); Israt Nisa (Amazon); Christos Faloutsos (Amazon); George Karypis (Amazon); Richard Vuduc (Georgia Institute of Technology)

Condensing Graphs via One-Step Gradient Matching

Wei Jin (Michigan State University)*; Xianfeng Tang (Amazon); Haoming Jiang (Georgia Tech); Zheng Li (Amazon); Danqing Zhang (Amazon); Jiliang Tang (Michigan State University); Bing Yin (Amazon)

Graph Structural Attack by Perturbing Spectral Distance

Lu Lin (University of Virginia)*; Ethan Blaser (University of Virginia); Hongning Wang (University of Virginia)

Feature Overcorrelation in Deep Graph Neural Networks: A New Perspective

Wei Jin (Michigan State University)*; Xiaorui Liu (Michigan State University); Yao Ma (Michigan State University); Charu Aggarwal (IBM); Jiliang Tang (Michigan State University)

Thursday, August 18, 10:00 AM-12:00 PM, Room 207B, (Mining, Inference and Learning). Session Chair: Liang Zhao (Emory University)

Sample-Efficient Kernel Mean Estimator with Marginalized Corrupted Data

Xiaobo Xia (The University of Sydney)*; Shuo Shan (Southeast University); Mingming Gong (University of Melbourne); Nannan Wang (Xidian University); Fei Gao (Hangzhou Dianzi University); Haikun Wei (Southeast University); Tongliang Liu (The University of Sydney)

Non-stationary A/B Tests

Yuhang Wu (Department of Industrial Engineering and Operations Research, University of California, Berkeley); Guangyu Zhang (Amazon); Zeyu Zheng (Department of Industrial Engineering and Operations Research, University of California, Berkeley)*; Zuohua Zhang (Amazon.com); Chu Wang (Amazon)

Nonlinearity Encoding for Extrapolation of Neural Networks

Gyoung S. Na (KRICT)*; Chanyoung Park (KAIST)

Batch Stochastic Bin Packing in Cloud: A Chance-constrained Optimization Approach

Jie Yan (Microsoft Research)*; Yunlei Lu (MSRA); Liting Chen (Microsoft); Si Qin (Microsoft Research); Yixin Fang (Microsoft); Qingwei Lin (Microsoft Research); Thomas Moscibroda (Microsoft, USA); Saravan Rajmohan (Microsoft 365); Dongmei Zhang (Microsoft Research Asia)

LinE: Logical Query Reasoning over Hierarchical Knowledge Graphs

Zijian Huang (University of Auckland); Meng-Fen Chiang (University of Auckland)*; Wang-Chien Lee (Pennsylvania State University, USA)

Learning Task-relevant Representations for Generalization via Characteristic Functions of Reward Sequence Distributions

Rui Yang (University of Science and Technology of China); Jie Wang (University of Science and Technology of China)*; Zijie Geng (University of Science and Technology of China); Mingxuan Ye (University of Science and Technology of China); Shuiwang Ji (Texas A&M University); Bin Li (University of Science and Technology of China); Feng Wu (University of Science and Technology of China)

Thursday, August 18, 10:00 AM-12:00 PM, Room 208AB, (Recommendation Systems). Session Chair: Chu Wang and Shervin Malmasi (Amazon)

Towards Unified Conversational Recommender Systems via Knowledge-Enhanced Prompt Learning

Xiaolei Wang (Renmin University of China); Kun Zhou (Renmin University of China); Ji-Rong Wen (Renmin University of China); Wayne Xin Zhao (Renmin University of China)*

Debiasing Learning for Membership Inference Attacks Against Recommender Systems

Zihan Wang (Shandong University)*; Na Huang (Shandong University); Fei Sun (Alibaba Group); Pengjie Ren (Shandong University); Zhumin Chen (Shandong University); Hengliang Luo (Meituan); Maarten de Rijke (University of Amsterdam); Zhaochun Ren (Shandong University)

BLISS: A Billion scale Index using Iterative Re-partitioning

Gaurav Gupta (Rice University)*; Tharun Medini (ThirdAI Corp.); Anshumali Shrivastava (Rice University); Alex J Smola (Amazon)

Debiasing the Cloze Task in Sequential Recommendation with Bidirectional Transformers

Khalil Damak (University of Louisville)*; Sami Khenissi (University of Louisville); Olfa Nasraoui (university of Louisville)

User-Event Graph Embedding Learning for Context-Aware Recommendation

Dugang Liu (Shenzhen University)*; Mingkai He (Shenzhen University); Jinwei Luo (Shenzhen University); Jiangxu Lin (Southeast University); Meng Wang (Southeast University); Xiaolian Zhang (Huawei 2012 lab); Weike Pan (Shenzhen University); Zhong Ming (Shenzhen University)

Aligning Dual Disentangled User Representations from Ratings and Textual Content

Nhu-Thuat Tran (Singapore Management University)*; Hady Lauw (Singapore Management University)

Thursday, August 18, 10:00 AM-12:00 PM, Room 209ABC,

(Unstructured and Temporal Data). Session Chair: Rajesh Gupta (UC San Diego)

Knowledge Enhanced Search Result Diversification

Zhan Su (Renmin University of China)*; Zhicheng Dou (Renmin University of China); Yutao Zhu (UniversitŽ de MontrŽal); Ji-Rong Wen (Renmin University of China)

Mask and Reason: Pre-Training Knowledge Graph Transformers for Complex Logical Queries

Xiao Liu (Tsinghua University)*; Shiyu Zhao (Tsinghua University); Kai Su (Tsinghua University); Yukuo Cen (Tsinghua University); Jiezhong Qiu (Tencent); Mengdi Zhang (Meituan-Dianping Group); Wei Wu (Meituan-Dianping Group); Yuxiao Dong (Tsinghua University); Jie Tang (Tsinghua University)

Learning the Evolutionary and Multi-scale Graph Structure for Multivariate Time Series Forecasting

Junchen Ye (Beihang University)*; Zihan Liu (Beihang University); Bowen Du (Beihang Univeristy); Leilei Sun (Beihang Univerisity); Weimiao Li (BeiHang University); Yanjie Fu (University of Central Florida); Hui Xiong (Hong Kong University of Science and Tech)

Task-Aware Reconstruction for Time-Series Transformer

Ranak Roy Chowdhury (University of California, San Diego)*; Xiyuan Zhang (University of California, San Diego); Jingbo Shang (UC San Diego); Rajesh Gupta (UC San Diego); Dezhi Hong (UC San Diego)

Multi-Variate Time Series Forecasting on Variable Subsets

Jatin Chauhan (Google AI)*; Aravindan Raghuveer (Google Research); Rishi Saket (Google Research); Jay Nandy (Google Research); Balaraman Ravindran (Indian Institute of Technology, Madras)

ProActive: Self-Attentive Temporal Point Process Flows for Activity Sequences

Vinayak Gupta (IIT Delhi)*; Srikanta Bedathur (IIT Delhi)

Thursday, August 18, 10:00 AM-12:00 PM, Room 202A (Ethics, Explainabiliy and Fairness). Session Chair: Mengdi Huai (University of Virginia)

Fair Ranking as Fair Division: Impact-Based Individual Fairness in Ranking

Yuta Saito (Cornell University)*; Thorsten Joachims (Cornell)

Make Fairness More Fair: Fair Item Utility Estimation and Exposure Re-Distribution

Jiayin Wang (Tsinghua University)*; Weizhi Ma (Tsinghua University); Jiayu Li (Tsinghua University); Hongyu Lu (Tsinghua University); Min Zhang (Tsinghua University); Biao Li (Kuaishou Inc.); Yiqun LIU (Tsinghua University); Peng Jiang (Kuaishou Inc.); Shaoping Ma (Tsinghua University)

Fair View Graph Neural Network for Fair Node Representation Learning

Yu Wang (Vanderbilt university)*; Yuying Zhao (Vanderbilt university); Yushun Dong (University of Virginia); Huiyuan Chen (Case Western Reserve University); Jundong Li (University of Virginia); Tyler Derr (Vanderbilt University)

Invariant Preference Learning for General Debiasing in Recommendation

Zimu Wang (Tsinghua University)*; Yue He (Tsinghua University); Jiashuo Liu

Zimu Wang (Tsinghua University) ; Yue He (Tsinghua University); Jiashuo Liu (Tsinghua University); Wenchao Zou (Siemens China); Philip S Yu (UNIVERSITY OF ILLINOIS AT CHICAGO); Peng Cui (Tsinghua University)

RES: A Robust Framework for Visual Explanation Supervision

Yuyang Gao (Emory University)*; Tong Sun (George Mason University); Guangji Bai (Emory University); Siyi Gu (Emory University); Sungsoo Hong (George Mason University); Zhao Liang (Emory University)

ExMeshCNN: An Explainable Convolutional Neural Network Architecture for 3D Shape Analysis

SeongGyeom Kim (Hanyang University); Dong-Kyu Chae (Hanyang University)*

Thursday, August 18, 10:00 AM-12:00 PM, Room 102A, (Potpourri Applications). Session Chair: Yiqun Xie (University of Maryland)

Robust Inverse Framework using Self-Supervised Learning: An application to Hydrology

Rahul Ghosh (University of Minnesota)*; Arvind Renganathan (University of Minnesota); Kshitij Tayal (University of Minnesota); Xiang Li (University of Minnesota Twin Cities); Ankush Khandelwal (University of Minnesota); Xiaowei Jia (University of Pittsburgh); Christopher Duffy (Penn State); John L Nieber (University of Minnesota); Vipin Kumar (University of Minnesota)

Domain Adaptation in Physical Systems via Graph Kernel

Haoran Li (Arizona State University)*; Hanghang Tong (University of Illinois at Urbana-Champaign); Yang Weng (Arizona State University)

State Dependent Parallel Neural Hawkes Process for Limit Order Book Event Stream Prediction and Simulation

Zijian Shi (University of Bristol)*; John Cartlidge (University of Bristol)

Sparse Conditional Hidden Markov Model for Weakly Supervised Named Entity Recognition

Yinghao Li (Georgia Institute of Technology)*; Le Song (Biomap & MBZUAI); Chao Zhang (Georgia Institute of Technology)

Intrinsic-Motivated Sensor Management: Exploring with Physical Surprise

Jingyi Yuan (Arizona State University)*; Yang Weng (Arizona State University); Erik Blasch (AFRL)

SESSION 7

Thursday, August 18, 1:30 PM-3:30 PM, Room 206, (Mining, Inference, and Learning). Session Chair: Krzysztof Dembczynski (Yahoo Research)

Efficient Approximate Algorithms for Empirical Variance with Hashed Block Sampling

Xingguang Chen (The Chinese University of Hong Kong); Fangyuan ZHANG (The Chinese Univesity of Hong Kong); Sibo Wang (The Chinese University of Hong Kong)*

Discovering Significant Patterns under Sequential False Discovery Control

Sebastian Dalleiger (CISPA Helmholtz Center for Information Security)*; Jilles Vreeken (CISPA Helmholtz Center for Information Security)

Flexible Modeling and Multitask Learning using Differentiable Tree Ensembles

Shibal Ibrahim (Massachusetts Institute of Technology)*; Hussein Hazimeh (MIT); Rahul Mazumder (Massachusetts Institute of Technology)

How does Heterophily Impact Robustness of Graph Neural Networks? Theoretical Connections and Practical Implications

Jiong Zhu (University of Michigan)*; Junchen Jin (University of Michigan, Ann Arbor); Donald Loveland (University of Michigan Ann Arbor); Michael Schaub (RWTH Aachen University); Danai Koutra (U Michigan)

Saliency-regularized Deep Multi-task Learning

Guangji Bai (Emory University)*; Zhao Liang (Emory University)

Geometric Policy Iteration for Markov Decision Processes

Yue Wu (UC Davis)*; Jesus de Loera (UC Davis)

Thursday, August 18, 1:30 PM-3:30 PM, Room 207B, (Data Cleaning, Transformation and Integration). Session Chair: Kunpeng Liu (Portland State University)

Evaluating Knowledge Graph Accuracy Powered by Optimized Human-machine Collaboration

Yifan Qi (Fudan University); Weiguo Zheng (Fudan University)*; Liang Hong ("Wuhan University, China"); Lei Zou (Peking University)

Communication-Efficient Robust Federated Learning with Noisy Labels

Junyi Li (University of Pittsburgh); Jian Pei (Simon Fraser University); Heng Huang (University of Pittsburgh)*

In Defense of Core-set: A Density-aware Core-set Selection for Active Learning

Yeachan Kim (Deargen Inc.)*; Bonggun Shin (Deargen Inc.)

HyperLogLogLog: Cardinality Estimation With One Log More

Matti Karppa (IT University of Copenhagen)*; Rasmus Pagh (University of Copenhagen)

Learning Optimal Priors for Task-Invariant Representations in Variational Autoencoders

Hiroshi Takahashi (NTT Computer and Data Science Laboratories)*; Tomoharu Iwata (NTT); Atsutoshi Kumagai (NTT Computer and Data Science Laboratories); Sekitoshi Kanai (NTT); Masanori Yamada (NTT Social Informatics Laboratories); Yuuki Yamanaka (NTT Social Informatics Laboratories); Hisashi Kashima (Kyoto University)

PARSRec: Explainable Personalized Attention-fused Recurrent Sequential Recommendation Using Session Partial Actions

Ehsan Gholami (University of California, Davis)*; Mohammad Motamedi (University of California, Davis); Ashwin Aravindakshan (University of California-Davis)

Thursday, August 18, 1:30 PM-3:30 PM, Room 208AB, (Clustering, Imbalanced Data and Tensors). Session Chair:

Claudia Plant (University of Vienna)

The DipEncoder: Enforcing Multimodality in Autoencoders

Collin Leiber (LMU Munich)*; Lena Greta Marie Bauer (University of Vienna, ds:UniVie); Michael Neumayr (LMU Munich); Claudia Plant (University of Vienna, Austria); Christian Boehm (University of Munich)

Clustering with fair center representation: parameterized approximation algorithms and heuristics

Suhas Thejaswi (Aalto Univeristy)*; Ameet Gadekar (Aalto University); Bruno Ordozgoiti (Queen Mary University of London); Micha_ Osadnik (Aalto University)

An Embedded Feature Selection Framework for Control

Jiawen Wei (Central South University); Fangyuan Wang (Zhejiang Sci-Tech University); Wanxin Zeng (Central South university); Wenwei Lin (Central South University); Ning Gui (Central South University)*

SOS: Score-based Oversampling Minor Classes for Tabular Data

jayoung kim (Yonsei University); ChaeJeong Lee (Yonsei University); Yehjin Shin (Yonsei University); Sewon Park (Samsung SDS); Minjung Kim (Samsung SDS); Noseong Park (Yonsei University, Korea)*; Jihoon Cho (Samsung SDS)

Low-rank Nonnegative Tensor Decomposition in Hyperbolic Space

Bo Hui (Auburn University)*; Wei-Shinn Ku (Auburn University)

Thursday, August 18, 1:30 PM-3:30 PM, Room 4, (User Modeling, Knowledge and Ontologies, Web and Commerce).

Session Chair: Hongning Wang (University of Virginia)

CrossCBR: Cross-view Contrastive Learning for Bundle Recommendation

Yunshan Ma (National University of Singapore)*; Yingzhi He (National University of Singapore); An Zhang (National University of Singapore); Xiang Wang (National University of Singapore); Tat-Seng Chua (National university of Singapore)

HICF: Hyperbolic Informative Collaborative Filtering

Menglin Yang (The Chinese University of Hong Kong)*; Li Zhihao (Harbin Institute of Technology, Shenzhen); Min Zhou (Huawei Technologies co. ltd); Jiahong Liu (Harbin Institute of Technology(Shenzhen)); Irwin King (The Chinese University of Hong Kong)

Dual-Geometric Space Embedding Model for Two-View Knowledge Graphs

Roshni Iyer (University of California, Los Angeles)*; Yunsheng Bai (University of California, Los Angeles); Wei Wang (UCLA); Yizhou Sun (UCLA)

Disentangled Ontology Embedding for Zero-shot Learning

Yuxia Geng (Zhejiang University)*; Jiaoyan Chen (University of Oxford); Wen Zhang (Zhejiang University); yajing xu (zhejiang university); Zhuo Chen (Zhejiang University); Jeff Z. Pan (The University of Edinburgh); yufeng huang (Zhejiang University); Feiyu Xiong (Alibaba); Huajun Chen (Zhejiang University)

Scalar is Not Enough: Vectorization-based Unbiased Learning to Rank

Mouxiang Chen (Zhejiang University)*; Chenghao Liu (Salesforce); Zemin Liu (Singapore Management University); Jianling Sun (Zhejiang University)

Learning Relevant Information in Conversational Search and Recommendation using Deep Reinforcement Learning

Ali Montazeralghaem (University of Massachusetts Amherst)*; James Allan (University of Massachusetts Amherst)

Thursday, August 18, 1:30 PM-3:30 PM, Room 102A , (Time Series and Streaming Data). Session Chair: Jaemin Yoo (Carnegie Mellon University)

Local Evaluation of Time Series Anomaly Detection Algorithms

Alexis Huet (Huawei Technologies France)*; Jose M Navarro (Huawei Technologies Co. Ltd.); dario rossi (Huawei)

Learning to Rotate: Quaternion Transformer for Complicated Periodical Time Series Forecasting

Weiqi Chen (Alibaba Group)*; Wenwei WANG (Alibaba Group); Bingqing Peng (Alibaba Group); Qingsong Wen (Alibaba Group U.S.); Tian Zhou (Alibaba DAMO Academy); Liang Sun (Alibaba Group)

Learning Differential Operators for Interpretable Time Series Modeling

Yingtao Luo (Carnegie Mellon University)*; Chang Xu (Microsoft); Yang Liu (Microsoft); Weiqing Liu (Microsoft Research); Shun Zheng (Microsoft Research); Jiang Bian (Microsoft Research)

Non-stationary Time-aware Kernelized Attention for Temporal Event Prediction

Yu Ma (AntGroup)*; Zhining Liu (Ant Group); Chenyi Zhuang (Ant Financial); Yize Tan (Ant Financial Services Group); Yi Dong (Ant Financial Services Group); WENLIANG

ZHONG (Ant Group); Jinjie Gu (Ant Group)

RL2: A Call for Simultaneous Representation Learning and Rule Learning for Graph Streams

Qu Liu (University of Massachusetts, Lowell); Tingjian Ge (University of Massachusetts, Lowell)*

Streaming Hierarchical Clustering based on Point-set Kernel

Xin Han (University of Macau); Ye Zhu (Deakin University)*; Kai Ming Ting (Nanjing University); De-Chuan Zhan (Nanjing University); Gang Li (Deakin Univeristy, Australia)

All Other Papers Accepted in Research Track

Sufficient Vision Transformer

Zhi Cheng (The University of Sydney)*; Xiu Su (University of Sydney); XUEYU WANG (The University of Sydney); Shan You (SenseTime); Chang Xu (University of Sydney)

Estimating Individualized Causal Effect with Confounded Instruments

Haotian Wang (National University of Defense Technology)*; Wenjing Yang (National University of Defense Technology); Longqi Yang (National University of Defense Technology); Anpeng Wu (Zhejiang University); liyang xu (National University of Defense Technology); Jing Ren (NUDT); Fei Wu (Zhejiang University, China); Kun Kuang (Zhejiang University)

MDP2 Forest: A Constrained Continuous Multi-dimensional Policy Optimization Approach for Short-video Recommendation

Sizhe Yu (Shanghai University of Finance and Economics)*; Ziyi Liu (School of Statistics, Renmin University of China); Shixiang Wan (Tencent); zero Jay (Tencent);

Zang Li (DiDi AI Labs, Didi Chuxing); Fan Zhou (Shanghai University of Finance and Economics

FLDetector: Detecting Malicious Clients in Federated Learning via Checking Model-Updates Consistency

ZAIXI ZHANG (University of Science and Technology of China)*; Xiaoyu Cao (Duke University); Jinyuan Jia (Duke University); Neil Zhenqiang Gong (Duke University)

Adaptive Learning for Weakly Labeled Streams

Zhen-Yu Zhang (Nanjing University)*; Yu-Yang Qian (Nanjing University); Yu-Jie Zhang (Nanjing University); Yuan Jiang (Nanjing University); Zhi-Hua Zhou (Nanjing University)

MetaPTP: An Adaptive Meta-optimized Model for Personalized Spatial Trajectory Prediction

Yuan Xu (Soochow University)*; Jiajie Xu (Soochow University); Jing ZHAO (HKUST); Kai Zheng (University of Electronic Science and Technology of China); An Liu (Soochow University); Lei Zhao (Soochow University); Xiaofang Zhou (The Hong Kong University of Science and Technology)

Partial Label Learning with Discrimination Augmentation

Wei Wang (Southeast University); Min-Ling Zhang (Southeast University)*

UD-GNN: Uncertainty-aware Debiased Training on Semi-Homophilous Graphs

Yang Liu (Institute of Computing Technology_Chinese Academy of Sciences)*; Xiang Ao (Institute of Computing Technology, CAS); Fuli Feng (University of Science and Technology of China); Qing He (Institute of Computing Technology, Chinese Academy of Sciences)

Unified 2D and 3D Pre-Training of Molecular Representations

Jinhua Zhu (University of Science and Technology of China); Yingce Xia (Microsoft Research Asia)*; Lijun Wu (Microsoft Research); Shufang Xie (Microsoft Research Asia); Tao Qin (Microsoft Research Asia); Wengang Zhou (University of Science and Technology); Houqiang Li (University of Science and Technology of China); Tie-Yan Liu (Microsoft Research)

On Aligning Tuples for Regression

Chenguang Fang (Tsinghua University); Shaoxu Song (Tsinghua University)*; Yinan Mei (Tsinghua University); Ye Yuan (Beijing Institute of Technology); Jianmin Wang ("Tsinghua University, China")

Toward Real-life Dialogue State Tracking Involving Negative Feedback Utterances

Puhai Yang (Beijing Institute of Technology)*; Heyan Huang (Beijing Institute of Technology); Wei Wei (Huazhong University of Science and Technology); Xian-Ling Mao (Beijing Institute of Technology)

M3Care: Learning with Missing Modalities in Multimodal Healthcare Data

Chaohe Zhang (Peking University)*; Xu Chu (Peking University); Liantao Ma (Peking University); Yinghao Zhu (Beihang University); Yasha Wang (Peking University); Jiangtao Wang (Coventry University); Junfeng Zhao (peking university)

Counteracting User Attention Bias in Music Streaming Recommendation via Reward Modification

Xiao Zhang (Renmin University of China); Sunhao Dai (Renmin University of China); Jun Xu (Renmin University of China)*; Zhenhua Dong (Huawei Noah's Ark Lab); Quanyu Dai (Huawei Noah's Ark Lab); Ji-Rong Wen (Renmin University of China)

Pre-training Enhanced Spatial-temporal Graph Neural Network for Multivariate Time Series Forecasting

Zezhi Shao (Institute of Computing Technology, Chinese Academy of Sciences)*; Zhao Zhang (Institute of Computing Technology, Chinese Academy of Sciences); Fei Wang (Institute of Computing Technology, Chinese Academy of Sciences); yongjun xu (Institute of Computing Technology, Chinese Academy of Sciences)

Practical Lossless Federated Singular Vector Decomposition Over Billion-Scale Data

Di Chai (HKUST)*; Leye Wang (Peking University, China); Junxue Zhang (HKUST); Liu Yang (HKUST); Shuowei Cai (HKUST); Kai Chen (HKUST); Qiang Yang (Hong Kong UST)

HierCDF: A Bayesian Network-based Hierarchical Cognitive Diagnosis Framework

Jiatong Li (University of Science and Technology of China)*; Fei Wang (University of Science and Technology of China); Qi Liu (University of Science and Technology of China); Mengxiao Zhu (University of Science and Technology of China); Wei Huang (University of Science and Technology of China); Zhenya Huang (University of Science and Technology of China); Enhong Chen (University of Science and Technology of China); Yu Su (Hefei Normal University); Shijin Wang (iFLYTEK AI Research (Central China))

Multi-View Clustering for Open Knowledge Base Canonicalization

Wei Shen (Nankai University)*; Yang Yang (Nankai university); Yinan Liu (Nankai University)

OODGAT: Learning on Graphs with Out-of-distribution Nodes

Yu Song (Westlake University)*; Donglin Wang (Westlake University)

Adversarial Gradient Driven Exploration for Deep Click-Through Rate Prediction

Kailun Wu (Alibaba Group)*; Weijie Bian (Alibaba Group); Zhangming Chan (Alibaba Group); Lejian Ren (Alibaba Group); SHIMING XIANG (Chinese Academy of Sciences, China); Shu-Guang Han (Alibaba Group); Hongbo Deng (Alibaba Group); Bo Zheng (Alibaba Group)

Multi-modal Siamese Network for Entity Alignment

Liyi Chen (University of Science and Technology of China)*; Zhi Li (University of Science and Technology of China); Tong Xu (University of Science and Technology of China); Han Wu (University of Science and Technology of China); Zhefeng Wang (Huawei Cloud); Nicholas Jing Yuan (Huawei Cloud); Enhong Chen (University of Science and Technology of China)

Stabilizing Voltage in Power Distribution Networks via Multi-Agent Reinforcement Learning with Transformer

Minrui Wang (University of Science and Technology of China)*; Mingxiao Feng (University of Science and Technology of China); Wengang Zhou (University of Science and Technology of China); Houqiang Li (University of Science and Technology of China)

m-mix: Generating Hard Negatives via Multi-sample Mixing for Contrastive Learning

Shaofeng Zhang (Shanghai Jiao Tong University); Meng Liu (Shanghai Jiao Tong University); Junchi Yan (Shanghai Jiao Tong University)*; Hengrui Zhang (University of Illinois at Chicago); Lingxiao Huang (Huawei TCS Lab); Pinyan Lu (Shanghai University of Finance and Economics); Xiaokang Yang (Shanghai Jiao Tong University of China)

On-Device Learning for Model Personalization with Large-Scale Cloud-Coordinated Domain Adaption

Yikai Yan (Shanghai Jiao Tong University); Chaoyue Niu (Shanghai Jiao Tong

University); Renjie Gu (Shanghai Jiao Tong University); Fan Wu (Shanghai Jiao Tong University)*; Shaojie Tang (University of Texas at Dallas); Lifeng Hua (Alibaba Group); Chengfei Lyu (Alibaba Group); Guihai Chen (Shanghai Jiao Tong University)

Noisy Interactive Graph Search

Qianhao Cong (National University of Singapore); Jing Tang (The Hong Kong University of Science and Technology)*; Kai Han (Soochow University); Yuming Huang (National University of Singapore); Lei Chen (Hong Kong University of Science and Technology); Yeow Meng Chee (National University of Singapore)

Continuous-Time and Multi-Level Graph Representation Learning for Origin-Destination Demand Prediction

Liangzhe Han (Beihang University)*; Xiaojian Ma (Beihang University); Leilei Sun (Beihang Univerisity); Bowen Du (Beihang Univeristy); Yanjie Fu (University of Central Florida); Weifeng Lv (Beihang University); Hui Xiong (Hong Kong University of Science and Tech)

Efficient Orthogonal Multi-view Subspace Clustering

Man-Sheng Chen (Sun Yat-sen University); Chang-Dong Wang (Sun Yat-sen University)*; Dong Huang (South China Agricultural University); Jian-Huang Lai (Sun Yat-sen University); Philip S Yu (UNIVERSITY OF ILLINOIS AT CHICAGO)

Submodular Feature Selection for Partial Label Learning

Wei-Xuan Bao (Southeast University); Jun-Yi Hang (Southeast University); Min-Ling Zhang (Southeast University)*

FedWalk: Communication Efficient Federated Unsupervised Node Embedding with Differential Privacy

Qiying Pan (Shanghai Jiao Tong University); Yifei Zhu (Shanghai Jiao Tong University)*

Compressing Deep Graph Neural Networks via Adversarial Knowledge Distillation

Huarui He (University of Science and Technology of China)*; Jie Wang (University of Science and Technology of China); Zhanqiu Zhang (University of Science and Technology of China); Feng Wu (University of Science and Technology of China)

Free-direction Knowledge Distillation via Reinforcement Learning for Graph Neural Networks

Kaituo Feng (Beijing Institute of Technology)*; Changsheng Li (Beijing Institute of Technology); Ye Yuan (Beijing Institute of Technology); Guoren Wang (Beijing Institute of Technology)

GraphMAE: Self-Supervised Masked Graph Autoencoders

Zhenyu Hou (Tsinghua University)*; Xiao Liu (Tsinghua University); Yukuo Cen (Tsinghua University); Yuxiao Dong (Tsinghua University); Hongxia Yang (Alibaba Group); chunjie wang (BirenTech Research); Jie Tang (Tsinghua University)

RGVisNet: A Hybrid Retrieval-Generation Neural Framework Towards Automatic Data Visualization Generation

Yuanfeng Song (The Hong Kong University of Science and Technology)*; Xuefang Zhao (WeBank Co., Ltd); Raymond Chi-Wing Wong (Hong Kong University of Science and Technology); Di Jiang (WeBank)

Partial-Quasi-Newton Methods: Efficient Algorithms for Minimax Optimization Problems with Unbalanced Dimensionality

Chengchang Liu (The Chinese University of Hong Kong)*; Shuxian Bi (University of Science and Technology of China); Luo Luo (Fudan University); John C. S. Lui (The Chinese University of Hong Kong)

Instant Graph Neural Networks for Dynamic Graphs

Yanping Zheng (Renmin University of China); Hanzhi Wang (Renmin University of China); Zhewei Wei (Renmin University of China)*; Jiajun Liu (CSIRO); Sibo Wang (The Chinese University of Hong Kong)

An Empirical Study of Deep Graph Neural Networks

Wentao Zhang (Peking University)*; Zeang Sheng (Peking University); Ziqi Yin (BeiJing Institute of Technology); Yuezihan Jiang (Peking University); Yikuan Xia (Peking University); Jun Gao (Peking University); Zhi Yang (Peking University); Bin Cui (Peking University)

Releasing Private Data for Numerical Queries

Yuan Qiu (Hong Kong Univ. of Science and Technology)*; Wei DONG (Hong Kong University of Science and Technology, Hong Kong); Ke Yi (Hong Kong Univ. of Science and Technology); Bin Wu (Alibaba); Feifei Li (Alibaba Group)

Multi-Behavior Hypergraph-Enhanced Transformer for Next-Item Recommendation

Yuhao Yang (Wuhan University); Chao Huang (University of Hong Kong)*; Lianghao Xia (South China University of Technology); Yuxuan Liang (National University of Singapore); Yanwei Yu (Ocean University of China); Chenliang Li (Wuhan University)

End-to-End Semi-Supervised Ordinal Regression AUC Maximization with Convolutional Kernel Networks

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Sampling-based estimation of the number of distinct values in distributed environment

Jiajun Li (Renmin University of China)*; Zhewei Wei (Renmin University of China); Bolin Ding ("Data Analytics and Intelligence Lab, Alibaba Group"); Xiening Dai

(Alibaba Group); Lu Lu (Alibaba Group); Jingren Zhou (Alibaba Group)

Self-Augmented Hypergraph Transformer for Recommender Systems

Lianghao Xia (South China University of Technology); Chao Huang (University of Hong Kong)*; Chuxu Zhang (Brandeis University)

GPPT: Graph Pre-training and Prompt Tuning to Generalize Graph Neural Networks

Ming-chen Sun (JiLin University)*; Kaixiong Zhou (Rice University); Xin He (Jilin university); Ying Wang (Jilin University); Xin Wang (Jilin University)

TransBO: Hyperparameter Optimization via Two-Phase Transfer Learning

Yang Li (Peking University)*; Yu Shen (Peking University); Huaijun Jiang (Peking University); Wentao Zhang (Peking University); Zhi Yang (Peking University); Ce Zhang (ETH); Bin Cui (Peking University)

Transfer Learning based Search Space Design for Hyperparameter Tuning

Yang Li (Peking University)*; Yu Shen (Peking University); Huaijun Jiang (Peking University); Tianyi Bai (Beijing Institute of Technology); Wentao Zhang (Peking University); Ce Zhang (ETH); Bin Cui (Peking University)

Semantic Enhanced Text-to-SQL Parsing via Iteratively Learning Schema Linking Graph

Aiwei Liu (Tsinghua University)*; Xuming Hu (Tsinghua University); Li Lin (Tsinghua University); Lijie Wen (Tsinghua University)

Reliable Representations Make A Stonger

Defender:Unsupervised Structure Refinement for Robust GNN

Kuan Li (Institute of Computing Technology, Chinese Academy of Science)*; Yang Liu (Institute of Computing Technology_Chinese Academy of Sciences); Xiang Ao (Institute of Computing Technology, CAS); Jianfeng Chi (Alibaba Group); Jinghua Feng (Ailbaba Group); Hao Yang (Alibaba Group); Qing He (Institute of Computing Technology, Chinese Academy of Sciences)

Preserving Privacy and Robustness through the Lens of Causality

Qibing Ren (Shanghai Jiao Tong University)*; Yiting Chen (Shanghai Jiao Tong University); Yichuan Mo (Shanghai Jiao Tong University); Qitian Wu (Shanghai Jiao Tong University); Junchi Yan (Shanghai Jiao Tong University)

Numerical Tuple Extraction from Tables with Pre-training

Qingping Yang (Chinese Academy of Sciences (CAS), Institute of Computing Technology)*; Yixuan Cao (Institute of Computing Technology, CAS); Yingming Hu (Huatai Securities); Jianfeng Li (Huatai Securities); Nanbo Peng (Huatai Securities); Ping Luo (Chinese Academy of Sciences)

ClusterEA: Scalable Entity Alignment with Stochastic Training and Normalized Mini-batch Similarities

Yunjun Gao (Zhejiang University)*; Xiaoze Liu (Zhejiang University); Junyang Wu (Zhejiang University); Tianyi Li (Aalborg Univeristy); Pengfei Wang (Zhejiang University); Lu Chen (Zhejiang University)

Reinforcement Subgraph Reasoning for Fake News Detection

Ruichao Yang (Hong Kong Baptist University)*; Xiting Wang (Microsoft Research Asia); Yiqiao Jin (University of California, Los Angeles); Chaozhuo Li (Microsoft Research Asia); Jianxun Lian (MSRA); Xing Xie (Microsoft Research Asia)

MT-FlowFormer: A Semi-Supervised Flow Transformer for Encrypted Traffic Classification

Encrypted Traffic Classification

Ruijie Zhao (Shanghai Jiao Tong University)*; Xianwen Deng (Shanghai Jiao Tong University); Zhicong Yan (Shanghai JiaoTong University); Jun Ma (Shanghai Jiao Tong University); Zhi Xue (Shanghai Jiao Tong University); Yijun Wang (Shanghai Jiao Tong University)

Motif Prediction with Graph Neural Networks

Maciej Besta (ETH Zurich)*; Raphael Grob (ETH Zurich); Cesare Miglioli (University of Geneva); Nicola Bernold (ETH Zürich); Grzegorz Kwasniewski (ETH Zurich); Gabriel Gjini (ETH Zurich); Raghavendra Kanakagiri (University of Illinois at Urbana-Champaign); Saleh Ashkboos (ETH Zurich); Lukas Gianinazzi (ETH Zurich); Nikoli Dryden (ETH Zurich); Torsten Hoefler (ETH Zurich)

Synthesising Audio Adversarial Examples for Automatic Speech Recognition

Xinghua Qu (Bytedance AI Lab)*; Pengfei Wei (National University of Singapore); Mingyong Gao (USTC); Zhu Sun (Macquarie University); Yew Soon Ong (Nanyang Technological University, Nanyang View, Singapore); Zejun Ma (Bytedance)

Importance Prioritized Policy Distillation

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Knowledge-Guided Pre-training of Graph Transformer for Molecular Property Prediction

Han Li (Tsinghua University); Dan Zhao (Tsinghua University); Jianyang Zeng (Tsinghua)*

Compute Like Humans: Interpretable Step-by-step Symbolic Computation with Deep Neural Network

Shuai Peng (Peking University)*; Di Fu (Bytedance); Yong CAO (Bytedance Inc.); Yijun Liang (ByteDance); Gu Xu (Bytedance Inc.); Liangcai Gao (Peking University); Zhi Tang (Peking University)

A Generalized Doubly Robust Learning Framework for Debiasing Post-Click Conversion Rate Prediction

Quanyu Dai (Huawei Noah's Ark Lab)*; Peng Wu (Peking University); Haoxuan Li (Peking University); Zhenhua Dong (Huawei Noah's Ark Lab); Xiao-Hua Zhou (Peking University); Rui Zhang (ruizhang.info); Rui zhang (Huawei Technologies Co., Ltd.); Jie Sun (Theory Lab, Huawei Hong Kong Research Center)

CLARE: A Semi-supervised Community Detection Algorithm

Xixi Wu (Fudan University)*; Yao Zhang (Fudan Univeristy); Yun Xiong (Fudan University); Yizhu Jiao (Fudan University); Caihua Shan (microsoft); Yangyong Zhu (Fudan University); Philip S Yu (UIC)

Human mobility prediction with causal and spatial-constrained multi-task network

Zongyuan Huang (Shanghai Jiao Tong University); Shengyuan Xu (Shanghai Jiao Tong University); Menghan Wang (ebay); Hansi Wu (eBay Inc.); Yaohui Jin (Shanghai Jiao Tong University); Yanyan Xu (Shanghai Jiao Tong Unniversity)*