# Yue Zhao

CONTACT INFORMATION	yzhao010@usc.edu  github.com/yzhao062  in linkedin.com/in/yzhao062  viterbi-web.usc.edu/~yzhao010/  USC Faculty Directory  Google Scholar	213-821-2369 CS Department, SAL 104 Los Angeles, CA United States, 90089 Department of Computer Science University of Southern California		
RESEARCH SUMMARY	My research focuses on building reliable, trustworthy, and efficient AI systems. These efforts span from theoretical foundations to practical tools and real-world impact.			
	1. Reliable AI Foundations: Detecting the Unexpected I develop core algorithms to identify anomalies, outliers, and out-of-distribution (OOD) instances, enhancing AI systems' resilience and trustworthiness under unfamiliar or rare scenarios.			
	<ul><li>□ Anomaly Detection</li><li>□ Outlier Mining</li></ul>	<ul><li>OOD Detection</li><li>Trustworthy AI</li></ul>		
	2. Graph Intelligence: Learning from Relational Structures Extending foundational detection methods, I build graph-based algorithms to model and analyze complex relationships, enabling discovery in domains such as finance, science, and online platforms.			
	<ul><li>□ Graph Learning</li><li>□ Graph Outlier Detection</li></ul>	<ul><li>□ Open-set Learning</li><li>□ Structured Data Mining</li></ul>		
	3. Foundation Models in Practice: From Insights to Societal Impact By combining robust modeling with the expressiveness of large language models (LLMs) and generative AI, I explore applications in scientific discovery, political forecasting, and computational social science-bridging AI with humanities and public policy.			
	<ul><li>□ Large Language Models (LLMs)</li><li>□ Generative AI</li><li>□ Political Forecasting</li></ul>	☐ AI for Science ☐ AI for Society		
	4. Scalable, Open, and Automated AI Systems To amplify the reach of these methods, I build scalable, reproducible, and open-source ML systems-such as PyOD (25M+ downloads). Collectively, my projects have earned over 20,000 GitHub stars, ranking among the top 800 worldwide.			
	□ Automated ML □ Open-source AI	<ul><li>ML Systems</li><li>Distributed Computing</li></ul>		
FULL-TIME PROFESSIONAL EXPERIENCE	University of Southern California  Thomas Lord Department of Computer Science  Assistant Professor (Tenure-Track)  • Foundations Of Robust Trustworthy Intelligent Science  • USC Machine Learning Center (MaSCle): Link	Aug. 2023 - Present ystems ( <b>FORTIS</b> ) Lab: Link		
	PwC Canada			
	Consulting & Deals Senior Consultant (Data Scientist) Consultant (Data Scientist)	Aug. 2017 - Jun. 2019 Feb. 2017 - Jul. 2017		
EDUCATION	Carnegie Mellon University Ph.D. in Information Systems and Management	Pittsburgh, PA Sep. 2019 - May. 2023		

- Affiliation: CMU automated learning systems group (Catalyst) and Data Analytics Techniques Algorithms (DATA) Lab
- Advisors and Mentors: CMU: Prof. Leman Akoglu, Prof. Zhihao Jia, and Prof. George Chen. I collaborate with Prof. Jure Leskovec at Stanford, and Prof. Philip S. Yu at UIC.

# University of Toronto

Toronto, ON Sep. 2015 - Dec. 2016

Master of Science in Computer Science

.

# University of Cincinnati

Cincinnati, OH

Bachelor of Science in Computer Engineering

Sep. 2010 - May. 2015

Minor: Computer Science and Mathematics

# Awards, Grants, and Funding

### As Principal Investigator (August 2023 onwards)

Capital One Research Awards	\$42,000	Oct. 2024
Amazon Research Awards	\$40,000+\$20,000	Aug. 2024
Best Paper Award @ KDD Resource-Efficient Learning Workshop	Recognition	Aug. 2024
NSF ATD	\$110,000	Aug. 2024
NSF POSE	\$395,000	Jun. 2024
Google Cloud Research Innovators	Recognition	Mar. 2024
AAAI New Faculty Highlights	Recognition	Feb. 2024

Note: Monetary values represent my portion of the funding. Total project budgets may be larger.

# Prior to Principal Investigator Role (Before August 2023)

Meta 2022 AI4AI Research Award (student co-PI)	Recognition	Oct. 2022
The Norton Labs Graduate Fellowship	Fellowship	Mar. 2022
CMU Presidential Fellowship	Fellowship	2019
Mitacs-Accelerate Research and Development Funding	Funding	2016-2017
University Global Award and Scholarship	Scholarship	2010 - 2015
Mantei/Mae Award & Scholar	Award	2012 - 2015
Engineer of the Month	Recognition	Jun. 2014

Note: Monetary values are omitted for awards and recognitions received prior to PI role.

# PUBLICATIONS G SCHOLAR RESEARCHG

#### Preprints & Under Submission

66. Haoyan Xu, Zhengtao Yao, Yushun Dong, Ziyi Wang, Ryan A. Rossi, Mengyuan Li, <u>Yue Zhao</u> Few-Shot Graph Out-of-Distribution Detection with LLMs

Under submission

arXiv preprint arXiv:2503.22097

65. Chengxuan Qian, Shuo Xing, Shawn Li, <u>Yue Zhao</u>, Zhengzhong Tu
DecAlign: Hierarchical Cross-Modal Alignment for Decoupled Multimodal Representation Learning
Under submission

arXiv preprint arXiv:2503.11892

64. Shawn Li, Jiashu Qu, Yuxiao Zhou, Yuehan Qin, Tiankai Yang, <u>Yue Zhao</u> Treble Counterfactual VLMs: A Causal Approach to Hallucination

Under submission

arXiv preprint arXiv:2503.06169

63. Shawn Li, Peilin Cai, Yuxiao Zhou, Zhiyu Ni, Renjie Liang, You Qin, Yi Nian, Zhengzhong Tu, Xiyang Hu, Yue Zhao

Secure On-Device Video OOD Detection Without Backpropagation

Under submission

arXiv preprint arXiv:2503.06166

62. Xiongxiao Xu, Haoran Wang, Yueqing Liang, Philip S. Yu, <u>Yue Zhao</u>, Kai Shu Can Multimodal LLMs Perform Time Series Anomaly Detection?

#### Under submission

### arXiv preprint arXiv:2502.17812

61. Kaixiang Zhao, Lincan Li, Kaize Ding, Neil Zhenqiang Gong, Yue Zhao, Yushun Dong A Survey of Model Extraction Attacks and Defenses in Distributed Computing Environments Under submission

#### arXiv preprint arXiv:2502.16065

60. Yue Huang, Chujie Gao, Siyuan Wu, Haoran Wang, Xiangqi Wang, Yujun Zhou, Yanbo Wang, Jiayi Ye, Jiawen Shi, Qihui Zhang, Yuan Li, Han Bao, Zhaoyi Liu, Tianrui Guan, Dongping Chen, Ruoxi Chen, other authors, Yue Zhao, other authors, Xiangliang Zhang

On the Trustworthiness of Generative Foundation Models: Guideline, Assessment, and Perspective

#### Under submission

#### arXiv preprint arXiv:2502.14296

https://trustgen.github.io/

59. Shixuan Li, Wei Yang, Peiyu Zhang, Xiongye Xiao, Defu Cao, Yuehan Qin, Xiaole Zhang, Yue Zhao, Paul Bogdan

ClimateLLM: Efficient Weather Forecasting via Frequency-Aware Large Language Models

Under submission

#### arXiv preprint arXiv:2502.11059

58. Yu Xia, Subhojyoti Mukherjee, Zhouhang Xie, Junda Wu, Xintong Li, Ryan Aponte, Hanjia Lyu, other authors, Yue Zhao, Nedim Lipka, Seunghyun Yoon, Ting-Hao Kenneth Huang, Zichao Wang, Puneet Mathur, Soumyabrata Pal, Koyel Mukherjee, Zhehao Zhang, Namyong Park, Thien Huu Nguyen, Jiebo Luo, Ryan A. Rossi, Julian McAuley.

From Selection to Generation: A Survey of LLM-based Active Learning.

Under submission

#### arXiv preprint arXiv:2502.11767

57. Tiankai Yang, Yi Nian, Shawn Li, Ruiyao Xu, Yuangang Li, Jiaqi Li, Xiyang Hu, Ryan Rossi, Kaize Ding, Xia Hu, Yue Zhao

AD-LLM: Benchmarking Large Language Models for Anomaly Detection

Under submission

### arXiv preprint arXiv:2412.11142

56. Lincan Li, Jiaqi Li, Catherine Chen<sup>†</sup>, Fred Gui<sup>†</sup>, other collaborators, Yue Zhao<sup>†</sup>, Yushun Dong<sup>†</sup> Political-LLM: Large Language Models in Political Science

Under submission

#### arXiv preprint arXiv:2412.06864

(†corresponding authors)

55. Yuangang Li, Jiaqi Li, Zhuo Xiao, Tiankai Yang, Yi Nian, Xiyang Hu, Yue Zhao NLP-ADBench: NLP Anomaly Detection Benchmark

Under submission

# arXiv preprint arXiv:2412.04784

54. Jiechao Gao, Yuangang Li, Yue Zhao, Brad Campbell

H-FedSN: Personalized Sparse Networks for Efficient and Accurate Hierarchical Federated Learning for IoT Applications

Under submission

# arXiv preprint arXiv:2412.06210

53. Junda Wu, Hanjia Lyu, Yu Xia, Zhehao Zhang, Joe Barrow, Ishita Kumar, Mehnoosh Mirtahebi, Hongjie Chen, Ryan A. Rossi, Franck Dernoncourt, Tong Yu, Ruiyi Zhang, Jiuxiang Gu, Nesreen K. Ahmed, Yu Wang, Xiang Chen, Hanieh Deilamsalehy, Namyong Park, Sungchul Kim, Huanrui Yang, Subrata Mitra, Zhengmian Hu, Nedim Lipka, Yue Zhao, Jiebo Luo, Julian McAuley

Personalized Multimodal Large Language Models: A Survey

Under submission

#### arXiv preprint arXiv:2412.02142

52. Zhendong Liu, Yi Nian, Henry Peng Zou, Li Li, Xiyang Hu, Yue Zhao COOD: Concept-based Zero-shot OOD Detection

Under submission

# arXiv preprint arXiv:2411.13578

51. Haoyan Xu, Kay Liu, Zhengtao Yao, Philip S. Yu, Kaize Ding, Yue Zhao LEGO-Learn: Label-Efficient Graph Open-Set Learning

# Under submission arXiv preprint arXiv:2410.16386

50. Han Bao, Yue Huang, Yanbo Wang, Jiayi Ye, Xiangqi Wang, Xiuying Chen, <u>Yue Zhao</u>, Tianyi Zhou, Mohamed Elhoseiny, Xiangliang Zhang

AutoBench-V: Can Large Vision-Language Models Benchmark Themselves?

Under submission

arXiv preprint arXiv:2410.21259

49. Zerui Xu, Fang Wu, Tianfan Fu, Yue Zhao

Retrieval-Reasoning Large Language Model-based Synthetic Clinical Trial Generation

Under submission

arXiv preprint arXiv:2410.12476

48. Mehrdad Kiamari, Mohammad Kiamari, Bhaskar Krishnamachari, Yue Zhao

GKAN: Graph Kolmogorov-Arnold Networks

Under submission

arXiv preprint arXiv:2406.06470

47. Minqi Jiang, Chaochuan Hou, Ao Zheng, Xiyang Hu, Songqiao Han, Hailiang Huang, Xiangnan He, Philip S. Yu, <u>Yue Zhao</u>

Weakly Supervised Anomaly Detection: A Survey

Under submission

arXiv preprint arXiv:2302.04549

#### Peer-reviewed Journal Papers

46. Hao Dong, Gaetan Frusque, <u>Yue Zhao</u>, Eleni Chatzi, Olga Fink NNG-Mix: Improving Semi-supervised Anomaly Detection with Pseudo-anomaly Generation IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2024

45. Ling Yang\*, Zhilong Zhang\*, Yang Song, Shenda Hong, Runsheng Xu, <u>Yue Zhao</u>, Wentao Zhang, Bin Cui, Ming-Hsuan Yang

Diffusion Models: A Comprehensive Survey of Methods and Applications *ACM Computing Surveys (CSUR)*, 2023

ACM Company Surveys (CSON), 20

(\*equal contribution)

44. Yue Zhao\*, Martin Q. Ma\*, Xiaorong Zhang, Leman Akoglu

The Need for Unsupervised Outlier Model Selection: A Review and Evaluation of Internal Evaluation Strategies

ACM SIGKDD Explorations Newsletter (SIGKDD Explor.), 2023 (\*equal contribution)

43. Kexin Huang\*, Tianfan Fu\*, Wenhao Gao\*, <u>Yue Zhao</u>, Yusuf Roohani, Jure Leskovec, Connor W. Coley, Cao Xiao, Jimeng Sun, Marinka Zitnik

Artificial Intelligence Foundation for Therapeutic Science

Nature Chemical Biology (NCHEMB), 2022

(\*equal contribution)

42. Yue Zhao\*, Zheng Li\*, Xiyang Hu, Nicola Botta, Cezar Ionescu, George H. Chen ECOD: Unsupervised Outlier Detection Using Empirical Cumulative Distribution Functions *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2022. (\*equal contribution)

41. Yue Zhao, Zain Nasrullah, Zheng Li

PyOD: A Python Toolbox for Scalable Outlier Detection Journal of Machine Learning Research (JMLR), 2019.

#### Conference & Workshop Papers

40. Shawn Li, Huixian Gong, Hao Dong, Tiankai Yang, Zhengzhong Tu, <u>Yue Zhao</u> DPU: Dynamic Prototype Updating for Multimodal Out-of-Distribution Detection Conference on Computer Vision and Pattern Recognition (CVPR), A Highlight, 2025

- 39. Hanhui Wang, Yihua Zhang, Ruizheng Bai, <u>Yue Zhao</u>, Sijia Liu, Zhengzhong Tu Edit Away and My Face Will Not Stay: Personal Biometric Defense against Malicious Generative Editing
  - Conference on Computer Vision and Pattern Recognition (CVPR), 2025
- 38. Yanbo Wang, Jiayi Ye, Siyuan Wu, Chujie Gao, Yue Huang, Xiuying Chen, <u>Yue Zhao</u>, Xiangliang Zhang TRUSTEVAL: A Dynamic Evaluation Toolkit on Trustworthiness of Generative Foundation Models Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL Demo Track), 2025.
- 36. Sihan Chen, Zhuangzhuang Qian, Wingchun Siu, Xingcan Hu, Jiaqi Li, Shawn Li, Yuehan Qin, Tiankai Yang, Zhuo Xiao, Wanghao Ye, Yichi Zhang, Yushun Dong, Yue Zhao PyOD 2: A Python Library for Outlier Detection with LLM-powered Model Selection International World Wide Web Conference (The Web Conference Demo Track), 2025
- 35. Sizhe Liu, Yizhou Lu, Siyu Chen, Xiyang Hu, Tianfan Fu, <u>Yue Zhao</u>
  DrugAgent: Automating AI-aided Drug Discovery Programming through LLM Multi-Agent Collaboration
  - AAAI Workshop on Foundation Models for Biological Discoveries (FMs4Bio), 2025.
- 34. Hao Dong, <u>Yue Zhao</u>, Eleni Chatzi, Olga Fink MultiOOD: Scaling Out-of-Distribution Detection for Multiple Modalities Advances in Neural Information Processing Systems (NeurIPS), ♀ Spotlight, 2024
- 33. Xueying Ding, <u>Yue Zhao</u>, Leman Akoglu
  Fast Unsupervised Deep Outlier Model Selection with Hypernetworks

  ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2024
- 32. Lichao Sun, Yue Huang, Haoran Wang, Siyuan Wu, Qihui Zhang, Chujie Gao, Yixin Huang, Wenhan Lyu, Yixuan Zhang, Xiner Li, Zhengliang Liu, Yixin Liu, Yijue Wang, Zhikun Zhang, 50+ collaborative authors, <u>Yue Zhao</u>
  - TrustLLM: Trustworthiness in Large Language Models International Conference on Machine Learning (ICML), 2024
- 31. Songtao Liu, Hanjun Dai, <u>Yue Zhao</u>, Peng Liu Preference Optimization for Molecule Synthesis with Conditional Residual Energy-based Models International Conference on Machine Learning (ICML), Oral, 2024
- Yue Zhao, Leman Akoglu
   Hyperparameter Optimization for Unsupervised Outlier Detection
   International Conference on Automated Machine Learning (AutoML), 2024
- 29. Yue Zhao
  Towards Reproducible, Automated, and Scalable Anomaly Detection
  AAAI Conference on Artificial Intelligence (AAAI), New Faculty Highlights, 2024
- 28. Minqi Jiang\*, Chaochuan Hou\*, Ao Zheng\*, Songqiao Han, Hailiang Huang<sup>†</sup>, Qingsong Wen, Xiyang Hu<sup>†</sup>, <u>Yue Zhao</u><sup>†</sup>
  ADGym: Design Choices for Deep Anomaly Detection.
  - Advances in Neural Information Processing Systems (NeurIPS), 2023 (†Corresponding author)
- 27. Jaemin Yoo, Yue Zhao, Lingxiao Zhao, Leman Akoglu DSV: An Alignment Validation Loss for Self-supervised Outlier Model Selection European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), 2023
- 26. Peng Xu, Lin Zhang, Xuanzhou Liu, Jiaqi Sun, <u>Yue Zhao</u>, Haiqin Yang, Bei Yu Do Not Train It: A Linear Neural Architecture Search of Graph Neural Networks *International Conference on Machine Learning (ICML)*, 2023
- 25. <u>Yue Zhao</u>, Guoqing Zheng, Subhabrata Mukherjee, Robert McCann, Ahmed Awadallah ADMoE: Anomaly Detection with Mixture-of-Experts from Noisy Labels *Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2023

- Yue Zhao, George H. Chen, Zhihao Jia
   TOD: GPU-accelerated Outlier Detection via Tensor Operations

   International Conference on Very Large Data Bases (VLDB), 2023
- 23. Songqiao Han\*, Xiyang Hu\*, Hailiang Huang\*, Minqi Jiang\*, <u>Yue Zhao\*</u>
  ADBench: Anomaly Detection Benchmark

  Advances in Neural Information Processing Systems (NeurIPS), 2022

  (\*equal contribution & the corresponding author)
- 22. Yue Zhao\*, Kay Liu\*, Yingtong Dou\*, et al. Benchmarking Node Outlier Detection on Graphs Advances in Neural Information Processing Systems (NeurIPS), 2022 (\*equal contribution)
- Yue Zhao, Xiaorong Zhang, Leman Akoglu ELECT: Toward Unsupervised Outlier Model Selection IEEE International Conference on Data Mining (ICDM), 2022.
- Zhiming Xu, Xiao Huang, <u>Yue Zhao</u>, Yushun Dong, Jundong Li Contrastive Attributed Network Anomaly Detection with Data Augmentation Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2022.
- Yue Zhao, Ryan A. Rossi, Leman Akoglu
   Automatic Unsupervised Outlier Model Selection
   Advances in Neural Information Processing Systems (NeurIPS), 2021.
- Kwei-Herng Lai, Daochen Zha, Junjie Xu, <u>Yue Zhao</u>, Guanchu Wang, Xia Hu Revisiting Time Series Outlier Detection: Definitions and Benchmarks *Advances in Neural Information Processing Systems (NeurIPS)*, 2021
- 17. Kexin Huang\*, Tianfan Fu\*, Wenhao Gao\*, <u>Yue Zhao</u>, Yusuf Roohani, Jure Leskovec, Connor W. Coley, Cao Xiao, Jimeng Sun, Marinka Zitnik

  Therapeutics Data Commons: Machine Learning Datasets and Tasks for Drug Discovery and Develop-
  - Advances in Neural Information Processing Systems (NeurIPS), 2021 (\*equal contribution)
- 16. Yue Zhao\*, Xiyang Hu\*, Cheng Cheng, Cong Wang, Changlin Wan, Wen Wang, Jianing Yang, Haoping Bai, Zheng Li, Cao Xiao, Yunlong Wang, Zhi Qiao, Jimeng Sun, Leman Akoglu SUOD: Accelerating Large-scale Unsupervised Heterogeneous Outlier Detection Conference on Machine and Learning Systems (MLSys), 2021. (\*equal contribution)
- 15. Kwei-Herng Lai\*, Daochen Zha\*, Guanchu Wang, Junjie Xu, Yue Zhao, Devesh Kumar, Yile Chen, Purav Zumkhawaka, Minyang Wan, Diego Martinez and Xia Ben Hu TODS: An Automated Time Series Outlier Detection System (Demo paper) Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI), 2021. (\*equal contribution)
- 14. Meng-Chieh Lee, <u>Yue Zhao</u>, Aluna Wang, Pierre Jinghong Liang, Leman Akoglu, Vincent S. Tseng, Christos Faloutsos

AutoAudit: Mining Accounting and Time-Evolving Graphs IEEE International Conference on Big Data (Big Data), 2020

- 13. Changlin Wan, Dongya Jia, <u>Yue Zhao</u>, Wennan Chang, Sha Cao, Xiao Wang, and Chi Zhang A Data Denoising Approach to Optimize Functional Clustering of Single Cell RNA-sequencing Data *IEEE International Conference on Bioinformatics and Biomedicine* (*BIBM*), 2020
- Yue Zhao, Xueying Ding, Jianing Yang, Haoping Bai.
   SUOD: Toward Scalable Unsupervised Outlier Detection
   Workshops at the Thirty-Fourth AAAI Conference on Artificial Intelligence, 2020.
   Extended version published in MLSys 2021.
- Zheng Li, <u>Yue Zhao</u>, Nicola Botta, Cezar Ionescu, Xiyang Hu COPOD: Copula-Based Outlier Detection IEEE International Conference on Data Mining (ICDM), 2020.
- Zheng Li, <u>Yue Zhao</u>, Jialin Fu SYNC: A Copula based Framework for Generating Synthetic Data from Aggregated Sources IEEE International Conference on Data Mining Workshops (ICDMW), 2020.

ment

- 9. Yiqun Mei, Yue Zhao, Wei Liang DSR: An Accurate Single Image Super Resolution Approach for Various Degradations IEEE International Conference on Multimedia and Expo (ICME), 2020, London, UK.
- 8. Yue Zhao, Xuejian Wang\*, Cheng Cheng\*, Xueying Ding\* Combining Machine Learning Models and Scores using combo Library (Demo paper) Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI), 2020. (\*equal contribution)
- 7. Colin Wan, Zheng Li, Alicia Guo, Yue Zhao SynC: A Unified Framework for Generating Synthetic Population with Gaussian Copula Workshops at the Thirty-Fourth AAAI Conference on Artificial Intelligence, 2020. Extended version published in ICDMW 2020.
- 6. Zain Nasrullah, Yue Zhao Music Artist Classification with Convolutional Recurrent Neural Networks IEEE International Joint Conference on Neural Networks (IJCNN), 2019, Hungary.
- 5. Yue Zhao, Zain Nasrullah, Maciej K. Hryniewicki, Zheng Li LSCP: Locally Selective Combination in Parallel Outlier Ensembles SIAM International Conference on Data Mining (SDM), 2019, Calgary, Canada.
- 4. Yue Zhao, Maciej K. Hryniewicki DCSO: Dynamic Combination of Detector Scores for Outlier Ensembles ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD Workshop on Outlier Detection De-constructed), 2018, London, UK. Extended version published in SDM 2019, renamed to LSCP.
- 3. Yue Zhao, Maciej K. Hryniewicki XGBOD: Improving Supervised Outlier Detection with Unsupervised Representation Learning IEEE International Joint Conference on Neural Networks (IJCNN), 2018, Rio, Brazil.
- 2. Yue Zhao, Maciej K. Hryniewicki, Francesca Cheng, Boyang Fu, Xiaoyu Zhu Employee Turnover Prediction with Machine Learning: A Reliable Approach Intelligent System Conference (Intellisys), 2018, London, UK.
- 1. Yue Zhao\*, Zhongtian Qiu\*, Yiqing Yang\*, Weiwei Li\*, Mingming Fan An Empirical Study of Touch-based Authentication Methods on Smartwatches ACM International Symposium on Wearable Computers (ISWC), 2017, Maui, USA. (\*equal contribution)

#### Internship NortonLifeLock Research Group EXPERIENCE

Machine Learning Research Intern

2022

Microsoft Research

Machine Learning Research Intern

2022

Stanford University, Computer Science Department

Visiting Student Researcher (Prof. Jure Leskovec)

2021

IQVIA, Analytics Center of Excellence

Machine Learning Research Intern

2020

Siemens PLM Software USA

Software Engineer (Intern & Contract)

Mar. 2012 - Dec. 2014

Teaching EXPERIENCE University of Southern California

Instructor

Los Angeles, CA Spring 2025

CSCI 566 Deep Learning and Its Applications

Instructor

Spring 2024

CSCI 566 Deep Learning and Its Applications

Carnegie Mellon University Teaching Assistant

Pittsburgh, PA Fall 2022

Managing Digital Business (Prof. David Riel)

**Teaching Assistant & co-Instructor** (lectures on AutoML and MLSys)

Intro to Artificial Intelligence (Prof. David Steier)

Spring 2022 – Fall 2020

Teaching Assistant

Spring 2022

Digital Transformation (Prof. David Riel)

Teaching Assistant (helping on course topics)

Fall 2021

University of Toronto

Teaching Assistant & Lab Session Instructor

Statistics for IT Managers (Prof. Daniel Nagin)

Embedded Systems (Prof. Philip Anderson)

Toronto, ON Fall 2015

University of Cincinnati

Teaching Assistant & Lab Session Instructor

Cincinnati, OH Fall 2014

Intro to Programming (Prof. George Purdy)

#### Ph.D. Students

- Haoyan Xu (USC, ECE Ph.D., 2024 Spring-), co-advised by Mengyuan Li
- Yuehan Qin (USC, CS Ph.D., 2024 Fall-)
- Tiankai Yang (USC, CS Ph.D., 2024 Fall-)
- Li Li (USC, CS Ph.D., 2024 Fall-)

# QUALIFICATION & THESIS COMMITTEE

- Maria Despoina Siampou (USC, CS Ph.D.)
- Alex Bisberg (USC, CS Ph.D.)
- Gengyu Rao (USC, CS Ph.D.)
- Mehrdad Kiamari (USC, ECE Ph.D.)
- Haonan Wang (USC, ECE Ph.D.)
- Yuan Meng (USC, ECE Ph.D.)
- Hassan Hamad (USC, ECE Ph.D.)
- Yizhou Zhang (USC, CS Ph.D.)
- Haoming Li (USC, CS Ph.D.)
- Arash Hajisafi (USC, CS Ph.D.)
- $\bullet\,$  Yi Chien Lin (USC, ECE Ph.D.)
- Yuke Zhang (USC, ECE Ph.D.)

# SERVICES

# Conference Organizing Committee

• Workflow Co-Chair for KDD 2023

# **External Reviewer for Funding Proposals**

• Dutch Research Council (NWO)

#### **Journal Editor**

- Associate Editor, ACM Transactions on AI for Science (TAIS), 2025–present
- Associate Editor, IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2024—present
- Action Editor, Journal of Data-centric Machine Learning Research (DMLR), 2024-present

# Program Committee (PC) or Area Chair (AC) for Conferences and Workshops

• ICLR 2025 (AC)

- AAAI 2025 (Senior PC)
- ICML 2024, 2025 (AC)
- AISTATS 2024, 2025 (AC)
- MLSys 2024
- KDD 2020, 2021, 2022, 2023
- IJCAI 2022, 2023
- NeurIPS 2021, 2022, 2023
- AAAI 2021, 2022, 2023
- AAAI Demonstrations 2021, 2022
- MICCAI 2020, 2021, 2022
- ICDM 2020
- KDD Workshop on Outlier Detection and Description (ODD), 2021
- KDD Workshop on Anomaly and Novelty Detection (ANDEA), 2021, 2022
- IJCAI Workshop on Artificial Intelligence for Anomalies and Novelties (AI4AN), 2020, 2021
- INFORMS Workshop on Data Science 2021

#### Journal Reviewer

- Journal of Machine Learning Research (JMLR)
- PNAS Nexus
- Machine Learning
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Internet of Things Journal (IoT-J)
- IEEE Intelligent Systems
- IEEE Journal on Selected Areas in Communications (J-SAC)
- Data Mining and Knowledge Discovery (DMAI)
- ACM Transactions on Management Information Systems (TMIS)
- Knowledge and Information Systems (KAIS)
- INFORMS Journal on Computing (IJOC)
- Big Data
- Artificial Intelligence Review (AIRE)
- Neurocomputing
- IEEE Transactions on Systems, Man, and Cybernetics: Systems
- IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)
- IEEE Network Magazine
- IEEE Computational Intelligence Magazine (CIM)
- BioData Mining
- European Journal of Management and Business Economics (EJMBE)
- The Journal of Open Source Software (JOSS)

TALKS AND LECTURES	NUS Tea Talk SFU@NeurIPS'24	Towards Robust Al: Advances in Outlier and OOD Detection Towards Robust Al: Advances in Outlier and OOD Detection	Jan. 2025 Dec. 2024
	KAIST	Unsupervised Model Selection: Automation with Meta-learning and LLMs	Nov. 2024
	Kennesaw State University	Unsupervised Model Selection: Automation with Meta-learning and LLMs	Oct. 2024
	LinkedIn Anti-Abuse AI	Outlier Detection: Automation, Systems, and GenAI	Aug. 2024
	Amazon Security AI	Outlier Detection: Automation, Systems, and GenAI	Aug. 2024
	New York University	Outlier Detection: Automation, Systems, and GenAI	Aug. 2024
	University of Washington	Outlier Detection: Automation, Systems, and GenAI	Jun. 2024
	Microsoft	Outlier Detection: Automation, Systems, and GenAI	Jun. 2024
	USC Retreat on AI and Engineering Safety	Safety Measures for LLMs	Apr. 2024
	Visa Research	Towards Reproducible, Automated, and Scalable AD	Apr. 2024
	USC Symposium on Fron-	Generative AI for Anomaly Detection	Mar. 2024
	tiers of Generative AI		
	AAAI New Faculty High-	Towards Reproducible, Automated, and Scalable AD	Feb. 2024
	lights (invited)		
	U of Nevada, Las Vegas	Automated and Scalable ML Algorithms and Systems	Oct. 2023
	Samsung Seminar	Automated and Scalable Anomaly Detection Systems	Aug. 2023
	KDD SoCal Day	Enable Applications by ML with Noisy Inputs	Aug. 2023
	CMU Catalyst	How (Not) to Fail Your Academic Job Search	May. 2023
	KAUST	Automated and Scalable ML Algorithms and Systems	Apr. 2023
	Emory University USC	Automated and Scalable ML Algorithms and Systems	Apr. 2023
	UC Davis	Automated and Scalable ML Algorithms and Systems	Mar. 2023
		Automated and Scalable ML Algorithms and Systems	Mar. 2023 Feb. 2023
	Stony Brook University	Automated and Scalable ML Algorithms and Systems	
	University of Chicago UC Merced	Automated and Scalable ML Algorithms and Systems	Feb. 2023 Feb. 2023
	CMU PDL Meeting	Automated and Scalable ML Algorithms and Systems Automated and Scalable ML Algorithms and Systems	Jan. 2023
	CMU Data Science Seminar	Guest Lecture Automated Anomaly Detection	Nov. 2022
	LoG Seminar	Large-scale Graph Anomaly Detection	Oct. 2022
	Intuit	Anomaly Detection for Financial Risk Modeling	Aug. 2022
	Rice University	Large-scale Anomaly Detection with Automation	Sep. 2022
	Microsoft Research	Weakly-supervised Anomaly Detection	Sep. 2022
	Wells Fargo	Anomaly Detection for Financial Risk Modeling	Aug. 2022
	Columbia University	Guest Lecture Anomaly Detection	Jul. 2022
	Morgan Stanley	Automated Outlier Detection	Jun. 2022
	Microsoft Research	Automated Outlier Detection	Jun. 2022
	Morgan Stanley	Large-scale Anomaly Detection Systems	Mar. 2022
	Rutgers Business School	Outlier Model Selection	Mar. 2022
	Tesla	Large-scale Anomaly Detection Systems	Feb. 2022
	Catalyst, CMU	Systems for Data Mining Algorithms	Dec. 2021
	E&Y Canada	ML applications in Data Analytics	Oct. 2021
	University of Nottingham	General Machine Learning Applications	Jan. 2021