Yue Zhao

CONTACT INFORMATION

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github.com/yzhao062
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 aims to build **trustworthy, robust, and scalable AI** that advances science and benefits society. I focus on *rigorous algorithmic foundations, open-source system development,* and *high-impact applications* across human-centric and scientific domains.

1. Robust & Trustworthy AI: Detecting the Unexpected

I design core algorithms to detect anomalies, out-of-distribution (OOD) data, and outliers across diverse modalities (including graph-structured data). These methods fortify AI systems against rare or unseen scenarios, enhancing reliability, security, and interpretability.

- ❑ Anomaly Detection
- ❑ OOD Detection
- ❑ Trustworthy AI
- ❑ Graph Anomaly Detection
- ❑ Robust AI
- ❑ Graph OOD Detection

2. AI for Science & Society: Foundation Models in Action

By pairing robust detection with large language models (LLMs) and generative AI, I tackle interdisciplinary challenges: from scientific discovery to political forecasting and computational social science. This approach bridges algorithmic research with real-world decision-making and public policy.

- ❑ AI for Science
- ❑ Generative AI
- ❑ LLMs
- ❑ Political Forecasting
- ❑ Computational Social Science
- ❑ Scientific Discovery

3. Scalable, Automated & Open-source ML Systems

To ensure broad adoption, I build reproducible and efficient tools—most notably **PyOD** (**27M+** downloads) for anomaly detection, along with PyGOD, ADBench, and other libraries with **20K+ GitHub stars** (top 800 worldwide). My work emphasizes automated model selection, distributed inference, and user-friendly design, democratizing advanced ML for both academia and industry.

- ❑ ML Systems
- ❑ Automated ML
- ❑ Open-source AI
- ❑ Distributed Computing
- ❑ Reproducible & Efficient Tools
- ❑ Democratizing ML

FULL-TIME PROFESSIONAL EXPERIENCE

University of Southern California
Thomas Lord Department of Computer Science
Assistant Professor (Tenure-Track) — Aug. 2023 - Present

- Foundations Of Robust Trustworthy Intelligent Systems (**FORTIS**) Lab: Link
- USC Machine Learning Center (MaSCle): Link

PwC Canada
Consulting & Deals
Senior Consultant (Data Scientist) — Aug. 2017 - Jun. 2019
Consultant (Data Scientist) — Feb. 2017 - Jul. 2017

EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Ph.D. in Information Systems and Management — 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
Master of Science in Computer Science — Sep. 2015 - Dec. 2016

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

Scholar
ResearchG

Preprints & Under Submission

Note: *first authors and †corresponding authors if more than one.

69. Yuehan Qin, Shawn Li, Yi Nian, Xinyan Velocity Yu, Yue Zhao†, Xuezhe Ma†
Don't Let It Hallucinate: Premise Verification via Retrieval-Augmented Logical Reasoning
Under submission
arXiv preprint arXiv:2504.06438

68. Yiming Tang, Yi Fan, Chenxiao Yu, Tiankai Yang, Yue Zhao, Xiang Hu
StealthRank: LLM Ranking Manipulation via Stealthy Prompt Optimization
Under submission
arXiv preprint arXiv:2504.05804

67. Yi Nian*, Shenzhe Zhu*, Yuehan Qin, Shawn Li, Ziyi Wang, Chaowei Xiao, Yue Zhao
JailDAM: Jailbreak Detection with Adaptive Memory for Vision-Language Model
Under submission
arXiv preprint arXiv:2504.03770

66. Haoyan Xu, Zhengtao Yao, Yushun Dong, Ziyi Wang, Ryan A. Rossi, Mengyuan Li, Yue Zhao
Few-Shot Graph Out-of-Distribution Detection with LLMs
Under submission
arXiv preprint arXiv:2503.22097

65. Chengxuan Qian, Shuo Xing, Shawn Li, Yue Zhao, 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, Yue Zhao
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, Yue Zhao, 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†, Fred Gui†, other collaborators, Yue Zhao†, Yushun Dong†
Political-LLM: Large Language Models in Political Science
Under submission
arXiv preprint arXiv:2412.06864

55. Chenxiao Yu, Jinyi Ye, Yuangang Li, Zhaotian Weng, Zheng Li, Emilio Ferrara, Xiyang Hu†, Yue Zhao†
A Large-Scale Simulation on Large Language Models for Decision-Making in Political Science
Under submission
arXiv preprint arXiv:2412.15291

54. 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

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, Shawn 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, Yue Zhao, 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, Yue Zhao
Weakly Supervised Anomaly Detection: A Survey
Under submission
arXiv preprint arXiv:2302.04549

Peer-reviewed Journal Papers

46. Hao Dong, Gaetan Frusque, Yue Zhao, 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, Yue Zhao, Wentao Zhang, Bin Cui, Ming-Hsuan Yang
Diffusion Models: A Comprehensive Survey of Methods and Applications
*ACM Computing Surveys (**CSUR**)*, 2023
(*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*, Yue Zhao, 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, Yue Zhao
DPU: Dynamic Prototype Updating for Multimodal Out-of-Distribution Detection
*Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 🎗 **Highlight**, 2025

39. Hanhui Wang, Yihua Zhang, Ruizheng Bai, Yue Zhao, 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, Yue Zhao, 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.

37. Yuehan Qin*, Yichi Zhang*, Yi Nian*, Xueying Ding, Yue Zhao
MetaOOD: Meta-learning for Automatic Out-of-Distribution Detection Model Selection
*International Conference on Learning Representations (**ICLR**)*, 2025
ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (***KDD Workshop** on Resource-Efficient Learning for Knowledge Discovery*), 2024. 🎗 Best Paper Award.

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, Yue Zhao
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, Yue Zhao, 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, Yue Zhao, 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, Yue Zhao
TrustLLM: Trustworthiness in Large Language Models
*International Conference on Machine Learning (**ICML**)*, 2024

31. Songtao Liu, Hanjun Dai, Yue Zhao, Peng Liu
Preference Optimization for Molecule Synthesis with Conditional Residual Energy-based Models
*International Conference on Machine Learning (**ICML**)*, **Oral**, 2024

30. 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†, Qingsong Wen, Xiyang Hu†, Yue Zhao†
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, Yue Zhao, 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. Yue Zhao, 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

24. 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*, Yue Zhao*
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)

21. Yue Zhao, Xiaorong Zhang, Leman Akoglu
ELECT: Toward Unsupervised Outlier Model Selection
*IEEE International Conference on Data Mining (**ICDM**)*, 2022.

20. Zhiming Xu, Xiao Huang, Yue Zhao, Yushun Dong, Jundong Li
Contrastive Attributed Network Anomaly Detection with Data Augmentation
*Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**)*, 2022.

19. Yue Zhao, Ryan A. Rossi, Leman Akoglu
Automatic Unsupervised Outlier Model Selection
*Advances in Neural Information Processing Systems (**NeurIPS**)*, 2021.

18. Kwei-Herng Lai, Daochen Zha, Junjie Xu, Yue Zhao, 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*, Yue Zhao, 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 Development
*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, Yue Zhao, 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, Yue Zhao, 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

12. 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*.

11. Zheng Li, Yue Zhao, Nicola Botta, Cezar Ionescu, Xiyang Hu
COPOD: Copula-Based Outlier Detection
*IEEE International Conference on Data Mining (**ICDM**)*, 2020.

10. Zheng Li, Yue Zhao, Jialin Fu
SYNC: A Copula based Framework for Generating Synthetic Data from Aggregated Sources
*IEEE International Conference on Data Mining Workshops (**ICDMW**)*, 2020.

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 Experience

NortonLifeLock Research Group
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 Los Angeles, CA

Instructor Spring 2025
CSCI 566 Deep Learning and Its Applications

Instructor Spring 2024
CSCI 566 Deep Learning and Its Applications

Carnegie Mellon University Pittsburgh, PA

Teaching Assistant Fall 2022
Managing Digital Business (Prof. David Riel)

Teaching Assistant & co-Instructor (lectures on AutoML and MLSys) Spring 2022 – Fall 2020
Intro to Artificial Intelligence (Prof. David Steier)

Teaching Assistant Spring 2022
Digital Transformation (Prof. David Riel)

Teaching Assistant (helping on course topics) Fall 2021
Statistics for IT Managers (Prof. Daniel Nagin)

University of Toronto Toronto, ON

Teaching Assistant & Lab Session Instructor Fall 2015
Embedded Systems (Prof. Philip Anderson)

University of Cincinnati Cincinnati, OH

Teaching Assistant & Lab Session Instructor 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-)
- Shawn 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.)
- 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 2021, 2022, 2023, 2025 (Senior PC)
- ICML 2024, 2025 (AC)
- NeurIPS 2021, 2022, 2023, 2025 (AC)
- AISTATS 2024, 2025 (AC)
- MLSys 2024
- KDD 2020, 2021, 2022, 2023
- IJCAI 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	*Towards Robust AI: Advances in Outlier and OOD Detection*	Jan. 2025
SFU@NeurIPS'24	*Towards Robust AI: Advances in Outlier and OOD Detection*	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 Frontiers of Generative AI	*Generative AI for Anomaly Detection*	Mar. 2024
AAAI New Faculty Highlights (invited)	*Towards Reproducible, Automated, and Scalable AD*	Feb. 2024
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	*Automated and Scalable ML Algorithms and Systems*	Apr. 2023
USC	*Automated and Scalable ML Algorithms and Systems*	Mar. 2023
UC Davis	*Automated and Scalable ML Algorithms and Systems*	Mar. 2023
Stony Brook University	*Automated and Scalable ML Algorithms and Systems*	Feb. 2023
University of Chicago	*Automated and Scalable ML Algorithms and Systems*	Feb. 2023
UC Merced	*Automated and Scalable ML Algorithms and Systems*	Feb. 2023
CMU PDL Meeting	*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