




Yue Zhao

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	 github.com/yzhao062	CS Department, SAL 104
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	 viterbi-web.usc.edu/~yzhao010/	United States, 90089
	 USC Faculty Directory	Department of Computer Science
	 Google Scholar	University of Southern California

RESEARCH SUMMARY I develop *robust*, *efficient*, and *automated* **machine learning (ML)** and **data mining (DM)** algorithms, systems, and applications. My key areas of focus include:

1. **Robust and Trustworthy AI:** Enhancing AI systems with capabilities in out-of-distribution (OOD) detection, outlier detection (OD), and anomaly detection to improve reliability and trust.
2. **Efficient and Automated AI:** Developing ML systems that operate with minimal human supervision, optimizing for performance and automation.
3. **AI Applications and Science:** Applying AI technologies to solve complex problems in fields such as security, finance, healthcare, and political science.
4. **Foundation Models and Generative AI for OD/OOD:** Investigating the interplay between OD/OOD and advanced models like large language models (LLMs), enhancing both fields.

(1) Robust and Trustworthy AI

- | | |
|--|--|
| <input type="checkbox"/> Out-of-distribution (OOD) Detection | <input type="checkbox"/> Anomaly Detection |
| <input type="checkbox"/> Outlier Detection | <input type="checkbox"/> Trustworthy AI |

(2) Efficient and Automated AI



- | | |
|---|---|
| <input type="checkbox"/> Machine Learning Systems | <input type="checkbox"/> Automated Machine Learning |
| <input type="checkbox"/> Decentralized Learning | <input type="checkbox"/> Meta-Learning |

(3) AI Applications

- | | |
|---|---|
| <input type="checkbox"/> AI in Healthcare | <input type="checkbox"/> AI in Finance |
| <input type="checkbox"/> AI for Security | <input type="checkbox"/> AI for Science |

(4) Foundation Models and Generative AI for OD/OOD

- | | |
|---|--|
| <input type="checkbox"/> Large Language Models (LLMs) | <input type="checkbox"/> LLMs for Anomaly/OOD Detection |
| <input type="checkbox"/> Trustworthy LLMs | <input type="checkbox"/> Anomaly/OOD Detection with LLMs |


OPEN-SOURCE HIGHLIGHTS **Open-source Contribution:** I have led or contributed as a core developer to more than 10 ML open-source initiatives. Popular ones include PyOD (A Python Toolbox for Scalable Outlier Detection), ADBench (Anomaly Detection Benchmark), and TDC (An ML Data Hub for Drug Discovery). My works receive   **20,000 GitHub Stars** and 22,000,000 downloads as of September 28, 2024.

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
	<i>Ph.D. in Information Systems and Management</i>	Sep. 2019 - May. 2023
	<ul style="list-style-type: none"> • 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
	<i>Master of Science in Computer Science</i>	Sep. 2015 - Dec. 2016
	University of Cincinnati	Cincinnati, OH
	<i>Bachelor of Science in Computer Engineering</i>	Sep. 2010 - May. 2015
	Minor: <i>Computer Science and Mathematics</i>	

 AWARDS, GRANTS, AND FUNDING	As Principal Investigator (August 2023 onwards)		
	Amazon Research Awards	\$60,000	Aug. 2024
	Best Paper Award @ KDD Resource-Efficient Learning Workshop	<i>Recognition</i>	Aug. 2024
	NSF ATD	\$110,000	Aug. 2024
	NSF POSE	\$395,000	Jun. 2024
	Google Cloud Research Innovators	<i>Recognition</i>	Mar. 2024
	AAAI New Faculty Highlights	<i>Recognition</i>	Feb. 2024
	<i>Note: Monetary values represent my portion of the funding. Total project budgets may be larger.</i>		
	Prior to Principal Investigator Role (Before August 2023)		
	Meta 2022 AI4AI Research Award (student co-PI)	<i>Recognition</i>	Oct. 2022

The Norton Labs Graduate Fellowship	<i>Fellowship</i>	Mar. 2022
CMU Presidential Fellowship	<i>Fellowship</i>	2019
Mitacs-Accelerate Research and Development Funding	<i>Funding</i>	2016-2017
University Global Award and Scholarship	<i>Scholarship</i>	2010-2015
Mantei/Mae Award & Scholar	<i>Award</i>	2012-2015
Engineer of the Month	<i>Recognition</i>	Jun. 2014
<i>Note: Monetary values are omitted for awards and recognitions received prior to PI role.</i>		

PUBLICATIONS  SCHOLAR  RESEARCH	Preprints & Under Submission		
	44. Nan Hao, Yuangang Li, Kecheng Liu, Songtao Liu, Yingzhou Lu, Bohao Xu, Chenhao Li, Jintai Chen, Ling Yue, Tianfan Fu, Xiyang Hu, Xiao Wang, <u>Yue Zhao</u> Artificial Intelligence-Aided Digital Twin Design: A Systematic Review Under submission https://www.preprints.org/manuscript/202408.2063		
	43. Mehrdad Kiamari, Mohammad Kiamari, Bhaskar Krishnamachari, <u>Yue Zhao</u> GKAN: Graph Kolmogorov-Arnold Networks Under submission arXiv preprint arXiv:2406.06470		
	42. 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

39. 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)

38. 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)
37. 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)
36. 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)
35. Yue Zhao, Zain Nasrullah, Zheng Li
 PyOD: A Python Toolbox for Scalable Outlier Detection
Journal of Machine Learning Research (JMLR), 2019.

Peer-reviewed Conference & Workshop Papers (with proceedings)

35. 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
34. 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
33. 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
32. 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
31. Yue Zhao, Leman Akoglu
 Hyperparameter Optimization for Unsupervised Outlier Detection
International Conference on Automated Machine Learning (AutoML), 2024
30. Yue Zhao
 Towards Reproducible, Automated, and Scalable Anomaly Detection
AAAI Conference on Artificial Intelligence (AAAI), *New Faculty Highlights*, 2024
29. 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)
28. 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
27. 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

26. [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
25. [Yue Zhao](#), George H. Chen, Zhihao Jia
TOD: GPU-accelerated Outlier Detection via Tensor Operations
International Conference on Very Large Data Bases (VLDB), 2023
24. 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)
23. [Yue Zhao*](#), Kay Liu*, Yingdong Dou*, et al.
Benchmarking Node Outlier Detection on Graphs
Advances in Neural Information Processing Systems (NeurIPS), 2022
(*equal contribution)
22. [Yue Zhao](#), Xiaorong Zhang, Leman Akoglu
ELECT: Toward Unsupervised Outlier Model Selection
IEEE International Conference on Data Mining (ICDM), 2022.
Regular paper. Acceptance rate 9.77% (85/870); overall acceptance 20% (174/870).
21. 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
Acceptance rate 19%.
20. [Yue Zhao](#), Ryan A. Rossi, Leman Akoglu
Automatic Unsupervised Outlier Model Selection
Advances in Neural Information Processing Systems (NeurIPS), 2021
Acceptance rate 26%.
19. 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
18. 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)
17. [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.
Acceptance rate 23.5% (52/221). (*equal contribution)
16. 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)
15. 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
14. 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
13. Zheng Li, [Yue Zhao](#), Nicola Botta, Cezar Ionescu, Xiyang Hu
COPOD: Copula-Based Outlier Detection
IEEE International Conference on Data Mining (ICDM), 2020.

12. 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.
11. 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.
10. 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)
9. Zain Nasrullah, Yue Zhao
Music Artist Classification with Convolutional Recurrent Neural Networks
IEEE International Joint Conference on Neural Networks (IJCNN), 2019, Hungary.
8. 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.
Acceptance rate 22.7% (90/397).
7. 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.
6. 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.
Acceptance rate 34% (194/568).
5. 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.
Acceptance rate 25.6% (23/90). (*equal contribution)

Peer-reviewed Workshop Papers (without proceedings)

4. Yuehan Qin, Yichi Zhang, Yue Zhao
MetaOOD: Meta-learning for Automatic Out-of-Distribution Detection Model Selection
ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD Workshop on Resource-Efficient Learning for Knowledge Discovery), 2024. Best Paper Award 🏆 Best Paper Award.
3. 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*.
2. 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*.
1. 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.

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 Instructor <i>CSCI 566 Deep Learning and Its Applications</i> Instructor <i>CSCI 566 Deep Learning and Its Applications</i> Carnegie Mellon University Teaching Assistant <i>Managing Digital Business</i> (Prof. David Riel) Teaching Assistant & co-Instructor (lectures on AutoML and MLSys) <i>Intro to Artificial Intelligence</i> (Prof. David Steier) Teaching Assistant <i>Digital Transformation</i> (Prof. David Riel) Teaching Assistant (helping on course topics) <i>Statistics for IT Managers</i> (Prof. Daniel Nagin) University of Toronto Teaching Assistant & Lab Session Instructor <i>Embedded Systems</i> (Prof. Philip Anderson) University of Cincinnati Teaching Assistant & Lab Session Instructor <i>Intro to Programming</i> (Prof. George Purdy)	Los Angeles, CA Spring 2025 (scheduled) Spring 2024 Pittsburgh, PA Fall 2022 Spring 2022 – Fall 2020 Spring 2022 Fall 2021 Toronto, ON Fall 2015 Cincinnati, OH Fall 2014
PH.D. STUDENTS	<ul style="list-style-type: none"> • Haoyan Xu (USC, ECE Ph.D., 2024 Spring-) • 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	<ul style="list-style-type: none"> • 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.) 	

Conference Organizing Committee

- Workflow Co-Chair for KDD 2023

External Reviewer for Funding Proposals

- Dutch Research Council (NWO)

Journal Editor

- Associate Editor, IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- Action Editor, Journal of Data-centric Machine Learning Research (DMLR)

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

- ICLR 2025 (AC)
- AAAI 2025 (Senior PC)
- ICML 2024 (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 Novelty (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	LinkedIn Anti-Abuse AI	<i>Outlier Detection: Automation, Systems, and GenAI</i>	Aug. 2024
	Amazon Security AI	<i>Outlier Detection: Automation, Systems, and GenAI</i>	Aug. 2024
	New York University	<i>Outlier Detection: Automation, Systems, and GenAI</i>	Aug. 2024
	University of Washington	<i>Outlier Detection: Automation, Systems, and GenAI</i>	Jun. 2024
	Microsoft	<i>Outlier Detection: Automation, Systems, and GenAI</i>	Jun. 2024
	USC Retreat on AI and Engineering Safety	<i>Safety Measures for LLMs</i>	Apr. 2024
	Visa Research	<i>Towards Reproducible, Automated, and Scalable AD</i>	Apr. 2024
	USC Symposium on Frontiers of Generative AI	<i>Generative AI for Anomaly Detection</i>	Mar. 2024
	AAAI New Faculty Highlights (invited)	<i>Towards Reproducible, Automated, and Scalable AD</i>	Feb. 2024
	U of Nevada, Las Vegas	<i>Automated and Scalable ML Algorithms and Systems</i>	Oct. 2023
	Samsung Seminar	<i>Automated and Scalable Anomaly Detection Systems</i>	Aug. 2023
	KDD SoCal Day	<i>Enable Applications by ML with Noisy Inputs</i>	Aug. 2023
	CMU Catalyst	<i>How (Not) to Fail Your Academic Job Search</i>	May. 2023
	KAUST	<i>Automated and Scalable ML Algorithms and Systems</i>	Apr. 2023
	Emory University	<i>Automated and Scalable ML Algorithms and Systems</i>	Apr. 2023
	USC	<i>Automated and Scalable ML Algorithms and Systems</i>	Mar. 2023
	UC Davis	<i>Automated and Scalable ML Algorithms and Systems</i>	Mar. 2023
	Stony Brook University	<i>Automated and Scalable ML Algorithms and Systems</i>	Feb. 2023
	University of Chicago	<i>Automated and Scalable ML Algorithms and Systems</i>	Feb. 2023
	UC Merced	<i>Automated and Scalable ML Algorithms and Systems</i>	Feb. 2023
	CMU PDL Meeting	<i>Automated and Scalable ML Algorithms and Systems</i>	Jan. 2023
	CMU Data Science Seminar	Guest Lecture <i>Automated Anomaly Detection</i>	Nov. 2022
	LoG Seminar	<i>Large-scale Graph Anomaly Detection</i>	Oct. 2022
	Intuit	<i>Anomaly Detection for Financial Risk Modeling</i>	Aug. 2022
	Rice University	<i>Large-scale Anomaly Detection with Automation</i>	Sep. 2022
	Microsoft Research	<i>Weakly-supervised Anomaly Detection</i>	Sep. 2022
	Wells Fargo	<i>Anomaly Detection for Financial Risk Modeling</i>	Aug. 2022
	Columbia University	Guest Lecture <i>Anomaly Detection</i>	Jul. 2022
	Morgan Stanley	<i>Automated Outlier Detection</i>	Jun. 2022
	Microsoft Research	<i>Automated Outlier Detection</i>	Jun. 2022
	Morgan Stanley	<i>Large-scale Anomaly Detection Systems</i>	Mar. 2022
	Rutgers Business School	<i>Outlier Model Selection</i>	Mar. 2022
	Tesla	<i>Large-scale Anomaly Detection Systems</i>	Feb. 2022
	Catalyst, CMU	<i>Systems for Data Mining Algorithms</i>	Dec. 2021
	E&Y Canada	<i>ML applications in Data Analytics</i>	Oct. 2021
	University of Nottingham	<i>General Machine Learning Applications</i>	Jan. 2021