

# Zhimeng JIANG

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## Research Interests and Highlights

- My research is in machine learning, with particular emphasis on Fairness AI, robustness, and graph neural networks. Recently, I am also interested in (large) language model alignment and efficient machine learning.
- I have published multiple papers in top-tier conferences, such as ICML, ICLR, WWW, IJCAI, and CIKM.
- My research has been recognized with [Outstanding paper award at ICML'22](#) and [Best Demo Paper Award at CIKM'22](#).

## Experience

09/2023–Now, TX	<b>Visa Research</b> <i>Staff Research Scientist.</i> ○ Develop cutting-edge technologies for fundamental research and Visa productions. The main focus includes large language models/generative models for tabular data generation and recommendation.
09/2019–12/2023, TX	<b>DATA Lab at TAMU University</b> <i>Graduate Research Assistant</i> , advised by Dr. Xia (Ben) Hu. ○ Conduct research on trustworthy machine learning, including algorithmic fairness over continuous sensitive attributes (ICLR'22), weakly-supervised learning under label noise (ICLR'22), fairness metric rethinking, and GNN with fair message passing.
10/2022–01/2023, CA	<b>Query Understanding team at Amazon Search</b> <i>Applied Scientist Intern</i> , mentored by Dr. Xianfeng Tang, Dr. Haoming Jiang and Mr. Jinfeng Yang. ○ Analyze the influence of the climate-friendly tag in query-based recommender system.
05/2022–08/2022, CA	<b>Artificial Intelligence team at Visa Research</b> <i>Research Intern</i> , mentored by Dr. Huiyuan Chen and Dr. Hao Yang. ○ Develop a new framework to understand node-level impact in Graph Neural Networks.
05/2020–08/2020, CA, Remote	<b>Advertisement AI team at Samsung Research America</b> <i>Research Intern</i> , mentored by Dr. Li Li and Dr. Rui Chen. ○ Improved the click-through-rate prediction of the production model performance via multi-task learning with multi-level user behavior data.

## Education

08/2019–12/2023	<b>Texas A&amp;M University (TAMU)</b> Ph.D student in Computer Science	Dept. of Computer Science & Engineering Advisor: Dr. Xia (Ben) Hu
09/2016–06/2019	<b>University of Science and Technology of China (USTC)</b> M.Eng. in Information and Communication Engineering	Dept. of Information Engineering Advisor: Prof. Chen Gong & Zhengyuan Xu
09/2012–06/2016	<b>Harbin Institute of Technology (HIT)</b> Bachelor of Science, Electronic Information Engineering	Dept. of Electrical Engineering GPA: 91.54/100 (top 2% out of 100)

## Selected Publications [[Google Scholar](#)]

\* indicates co-first author

1. [AAAI'24] **Z. Jiang**, X. Han, C. Fan, Z. Liu, N. Zou, A. Mostafavi, X. Hu, "Chasing Fairness in Graphs: A GNN Architecture Perspective", AAAI Association for the Advancement of Artificial Intelligence(AAAI), 2024.

2. [WSDM'24] H. Chen, V. Lai, H. Jin, **Z. Jiang**, M. Das, X. Hu, "Learning Alignment and Compactness in Collaborative Filtering", ACM International Conference Web Search and Data Mining, 2024.
3. [NeurIPS'23] **Z. Jiang**<sup>\*</sup>, X. Han<sup>\*</sup>, H. Jin, G. Wang, N. Zou, X. Hu, "Chasing Fairness under Distribution Shift: a Model Weight Perturbation Approach", Neural Information Processing Systems, 2023
4. [NeurIPS'23] Q. Feng, **Z. Jiang**, R. Li, Y. Wang, Z. Na, J. Bian, X. Xia, "Fair Graph Distillation", Neural Information Processing Systems, 2023
5. [NeurIPS'23] Z. Liu, G. Wang, S. Zhong, Z. Xu, D. Zha, R. Tang, **Z. Jiang**, K. Zhou, V. Chaudhary, S. Xu, X. Hu, "Winner-Take-All Column Row Sampling for Memory Efficient Adaptation of Language Model", Neural Information Processing Systems, 2023
6. [TMLR'23] Z. Liu, K. Zhou, **Z. Jiang**, L. Li, R. Chen, S. Choi, X. Hu, "RANG: Trading Randomness for Scalable and Efficient Graph Neural Networks Training", Transactions on Machine Learning Research (TMLR), 2023.
7. [TMLR'23] **Z. Jiang**<sup>\*</sup>, X. Han<sup>\*</sup>, H. Jin, Z. Liu, N. Zou, Q. Wang, X. Hu, "Retiring  $\Delta$ DP: New Distribution-Level Metrics for Demographic Parity", Transactions on Machine Learning Research (TMLR), 2023.
8. [ICML'23] G. Wang, Z. Liu, **Z. Jiang**, N. Liu, N. Zou, X. Hu, "DIVISION: Memory Efficient Training via Dual Activation Precision", International Conference on Machine Learning, 2023.
9. [ICML'23] H. Ling, **Z. Jiang**, M. Liu, S. Ji, N. Zou, "Graph Mixup with Soft Alignments", International Conference on Machine Learning, 2023.
10. [IJCAI'23] H. Chen, K. Zhou, **Z. Jiang**, X. Li, M. Pan, M. Yeh, Y. Zheng, X. Hu, H. Yang, "Probabilistic Masked Attention Networks for Next-item Recommendation", IJCAI, 2023.
11. [ICLR'23] H. Ling, **Z. Jiang**, Y. Luo, S. Ji, N. Zou, "Learning Fair Graph Representations via Automated Data Augmentations", International Conference on Learning Representations, 2023. [\[Spotlight\]](#)
12. [WWW'23] J. Dong, Q. Zhang, X. Huang, K. Duan, Q. Tan, **Z. Jiang**, "Hierarchy-Aware Multi-Hop Question Answering over Knowledge Graphs", The Web Conference, 2023
13. [ICML'22] X. Han, **Z. Jiang**, N. Liu, X. Hu, "G-Mixup: Graph Augmentation for Graph Classification", International Conference on Machine Learning, 2022. [\[Outstanding paper award\]](#).
14. [ICLR'22] **Z. Jiang**, K. Zhou, Z. Liu, L. Li, R. Chen, S. Choi, X. Hu, "An Information Fusion Approach to Learning with Instance-Dependent Label Noise", International Conference on Learning Representations, 2022.
15. [ICLR'22] **Z. Jiang**, X. Han, C. Fan, F. Yang, A. Mostafavi, X. Hu, "Generalized Demographic Parity for Group Fairness", International Conference on Learning Representations, 2022.
16. [WWW'22] X. Han, **Z. Jiang**, N. Liu, Q. Song, J. Li, X. Hu, "Geometric Graph Representation Learning via Maximizing Rate Reduction", The Web Conference, 2022.
17. [CIKM'22 demo] **Z. Jiang**<sup>\*</sup>, G. Wang<sup>\*</sup>, Z. Bhat<sup>\*</sup>, Y. Chen<sup>\*</sup>, D. Zha<sup>\*</sup>, A. Reyes<sup>\*</sup>, A. Niktash, G. Ulkar, E. Okman, X. Hu, "BED: A Real-Time Object Detection System for Edge Devices", CIKM 2022 (demo). [\[Best Demo Paper Award\]](#)
18. [KDDExp] **Z. Jiang**, K. Zhou, M. Zhang, R. Chen, X. Hu, S. Choi, "Risk-Aware Reinforcement Learning Based Bid Optimization", SIGKDD Explorations Newsletter, 2023. (Also presented in AAAI 2023 @ AI for Web Advertising Workshop.)

## Patents

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1. **Z. Jiang**, K. Zhou, M. Zhang, R. Chen, X. Hu, S. Choi, "System and methods for bid optimization in real-time bidding." U.S. Patent Application No. 17/676,687, 2023.
2. **Z. Jiang**, K. Zhou, Z. Liu, L. Li, R. Chen, S. Choi, X. Hu, "Machine learning with instance-dependent label noise." U.S. Patent Application No. 17/972,302, 2023.

## HONORS AND AWARDS

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**ICML'22 Outstanding Paper Award**  
**CIKM'22 Best Demo Paper Award**

*Jul. 2022*  
*Oct. 2022*

Student Travel Grant Award, Texas A&M University	<i>Jun. 2022</i>
Chinese Undergraduates Mathematics Competitions, 1st class (Rank: 6/60k+)	<i>Mar. 2015</i>
National Scholarship for Outstanding Graduate Student (top 3%)	<i>USTC, Oct. 2018</i>
National Scholarship for Outstanding Graduate Student (top 1%)	<i>HIT, Sep. 2015</i>
Outstanding Graduate Students Awards, USTC & Anhui Province	<i>Apr. 2019</i>
Outstanding Undergraduate Students Awards	<i>HIT, Jul. 2016</i>
China Aerospace Science and Technology Corporation Grants	<i>HIT, 2013, 2014, 2015</i>

## Academic Activities

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- Conference Reviewer: NeurIPS'22-23, ICML'22-23, ICLR'24, KDD'23, LOG'22-23, SDM'23, AAAI'23-24, IJCAI'23, WACV'23-24
- Journal Reviewer: Transactions on Knowledge and Data Engineering, ACM Transactions on Knowledge Discovery in Data (TKDD), ACM Transactions on Intelligent Systems and Technology, Neurocomputing, Data Mining and Knowledge Discovery, IEEE Transactions on Information Forensics and Security, Digital Signal Processing, IEEE Communications Letter, IEEE Wireless Communications Letter
- Student Volunteer: ICML'22, ICHI'23
- Invited talk: AI Time, Intern Seminar in Visa Research