Zhimeng Jiang

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Professional Summary

- With 1+ year of industrial experience and 5+ years in AI research, I am an experienced machine learning researcher with a strong background in industrial applications of AI, specializing in recommendation systems, fraud detection, graph neural networks, trustworthy AI, and large language models.
- Proven track record in developing innovative solutions that drive business impact and enhance user experiences. I have published 20+ top-tier papers, such as NeurIPS, ICML, ICLR, WWW, IJCAI, AAAI etc.
- My research has been recognized with Outstanding paper award at ICML'22, Best Demo Paper Award at CIKM'22, and INFORMS ICQSR'24 best paper competition award.

Industrial Experience

09/2023–Now, CA

Visa Research

Staff Research Scientist.

○ Developed an LLM-powered framework to generate semantic features for personalized travel recommendations, improving relevance and user satisfaction by 1.0%+.

○ Led the design and deployment of an in-house TransactionGPT and TransactionGPT+ (powered by LLM with semantic embedding) model, optimizing recommendation accuracy and enhancing fraud detection mechanisms;

10/2022–01/2023, CA

Query Understanding team at Amazon Search

Applied Scientist Intern, mentored by Dr. Xianfeng Tang, Dr. Haoming Jiang and Mr. Jinfeng Yang.

○ Analyze the influence of the climate-friendly tag in a query-based recommender system.

05/2022–08/2022, CA

Artificial Intelligence team at Visa Research

Research Intern, 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

Advertisement AI team at Samsung Research America

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

Selected Publications [Google Scholar]

* indicates co-first author

1. [NeurIPS'24] **Z., Jiang**, Z. Liu, X. Han, Q. Feng, H. Jin, Q. Tan, K. Zhou., N. Zou, X. Hu, "Gradient Rewiring for Editable Graph Neural Network Training." Conference on Neural Information Processing Systems (NeurIPS), 2024.

2. [ICML'24] S. Zhong, D. Le, Z. Liu, **Z., Jiang**, A. Ye, J. Zhang, ... X. Hu, "GNNs Also Deserve Editing, and They Need It More Than Once." International Conference on Machine Learning, 2024.
3. [ICML'24] H. Jin, X. Han, J. Yang, **Z. Jiang**, Z. Liu, C.Y. Chang, H. Chen, and X. Hu, "LLM Maybe LongLM: SelfExtend LLM Context Window Without Tuning." International Conference on Machine Learning, 2024. [Spotlight] [Highlight in Google I/O session]
4. [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.
5. [WSDM'24] H. Chen, V. Lai, H. Jin, **Z. Jiang**, M. Das, X. Hu, "Towards mitigating dimensional collapse of representations in collaborative filtering", ACM International Conference Web Search and Data Mining, 2024.
6. [NeurIPS'23] **Z. Jiang***, X. Han*, H. Jin, G. Wang, N. Zou, X. Hu, "Chasing Fairness under Distribution Shift: a Model Weight Perturbation Approach", Neural Information Processing Systems, 2023
7. [NeurIPS'23] Q. Feng, **Z. Jiang**, R. Li, Y. Wang, Z. Na, J. Bian, X. Xia, "Fair Graph Distillation", Neural Information Processing Systems, 2023
8. [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
9. [TMLR'23] Z. Liu, K. Zhou, **Z. Jiang**, L. Li, R. Chen, S. Choi, X. Hu, "DSpar: An embarrassingly simple strategy for efficient GNN training and inference via degree-based sparsification", Transactions on Machine Learning Research (TMLR), 2023.
10. [TMLR'23] **Z. Jiang***, X. Han*, H. Jin, Z. Liu, N. Zou, Q. Wang, X. Hu, "Retiring ΔDP: New Distribution-Level Metrics for Demographic Parity", Transactions on Machine Learning Research (TMLR), 2023.
11. [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.
12. [ICML'23] H. Ling, **Z. Jiang**, M. Liu, S. Ji, N. Zou, "Graph Mixup with Soft Alignments", International Conference on Machine Learning, 2023.
13. [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.
14. [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]
15. [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
16. [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].
17. [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.
18. [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.
19. [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.
20. [CIKM'22 demo] **Z. Jiang***, G. Wang*, Z. Bhat*, Y. Chen*, D. Zha*, A. Reyes*, 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]
21. [KDDExpo] **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

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

ICML'22 Outstanding Paper Award	*Jul. 2022*
CIKM'22 Best Demo Paper Award	*Oct. 2022*
INFORMS ICQSR'24 best paper competition award	*Jul. 2024*
NeurIPS Scholar Award	*2023*
Student Travel Grant Award, Texas A&M University	*2022, 2023, 2024*
Chinese Undergraduates Mathematics Competitions, 1st class (Rank: 6/60k+)	*Mar. 2015*
National Scholarship for Outstanding Graduate Student (top 3%)	*USTC, Oct. 2018*
National Scholarship for Outstanding Graduate Student (top 1%)	*HIT, Sep. 2015*
Outstanding Graduate Students Awards, USTC & Anhui Province	*Apr. 2019*
Outstanding Undergraduate Students Awards	*HIT, Jul. 2016*
China Aerospace Science and Technology Corporation Grants	*HIT, 2013,2014, 2015*

Academic Activities

- Conference Reviewer: NeurIPS'22-24, ICML'22-23, ICLR'24, KDD'23, LOG'22-23, SDM'23, AAAI'23-24, IJCAI'23, WACV'23-24, CIKM' 23-24
- Journal Reviewer: IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), Transactions on Knowledge and Data Engineering (TKDE), ACM Transactions on Knowledge Discovery in Data (TKDD), ACM Transactions on Intelligent Systems and Technology (TIST), Neurocomputing, Data Mining and Knowledge Discovery, IEEE Transactions on Information Forensics and Security, Digital Signal Processing, IEEE Communications Letter, IEEE Wireless Communications Letter
- NeurIPS 2023 New In ML workshop organizer
- Student Volunteer: ICML'22, ICHI'23
- Invited talk: AI Time, Intern Seminar in Visa Research