Xiaotian Han

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Research Interests

I am a 4th-year Ph.D. student in the Department of Computer Science and Engineering at Texas A&M University. I am working at the DATA Lab under the supervision of Prof. Xia (Ben) Hu. My research focuses on graph learning, fairness in machine learning, and automated machine learning. Specifically, my research lies in the following topics:

- **Graph Learning**: large-scale graph neural networks, graph augmentation
- **Fairness**: egocentric fairness and structure fairness in graph neural network
- **AutoML**: automated recommendation, automated information extraction

Education

Texas A&M University, College Station, TX, USA   Sep 2019 – Dec 2023 (Expected)
Ph.D. students, Department of Computer Science & Engineering
Advisor: Prof. Xia (Ben) Hu

Beijing University of Posts and Telecommunications, Beijing, CHINA   Sep 2016 – June 2019
M.S. in Computer Science
Advisor: Prof. Chuan Shi

Shandong University, Jinan, Shandong, CHINA   Sep 2011 – June 2015
B.S. in Information and Communication Engineering

Professional Experiences

Meta, Menlo Park, CA   Sept 2022 – present
Research Intern
Understanding graph neural networks
Mentor: Qifan Wang

Snap Research, Seattle, WA   May 2022 – Aug 2022
Research Intern
Efficient large-scale graph neural networks
Mentor: Neil Shah

Microsoft Research Asian (MSRA), Beijing, China   March 2019 - Jun 2019
Research Intern
Hyperparameter search with Bayesian optimization

Alibaba Group, Hangzhou, China   June 2018 - Sep 2018
Research Intern, Search Business Department
Query recommendation

Publications [Google Scholar]

* indicates equal contribution.

[ICLR 2023]	**MLPInit: Embarrassingly Simple GNN Training Acceleration with MLP Initialization** **Xiaotian Han**, Tong Zhao, Yozen Liu, Xia Hu, Neil Shah *International Conference on Learning Representations (**ICLR**), 2023*
[ICML 2022]	**$\mathcal{G}$-Mixup: Graph Augmentation for Graph Classification** **Xiaotian Han**, Zhimeng Jiang, Ninghao Liu, Xia Hu *International Conference on Machine Learning (**ICML**), 2022* Outstanding Paper Award

[ICLR 2022]	**Generalized Demographic Parity for Group Fairness** Zhimeng Jiang, **Xiaotian Han**, Chao Fan, Fan Yang, Xia Hu, *International Conference on Learning Representations (**ICLR**), 2022*
[WWW 2022]	**Graph Representation Learning via Unsupervised Rate Reduction Maximization** **Xiaotian Han**, Zhimeng Jiang, Ninghao Liu, Xia Hu *The Web Conference (**WWW**), 2022*
[Recsys 2020]	**AutoRec: An Automated Recommender System** Ting-Hsiang Wang, Qingquan Song, **Xiaotian Han**, Zirui Liu, Jin Haifeng, Xia Hu *ACM Conference on Recommender Systems (**Recsys**), 2020*
[AAAI 2020]	**FlowScope: Spotting Money Laundering Based on Graphs,** Xiangfeng Li, Shenghua Liu, Zifeng Li, **Xiaotian Han**, Chuan Shi, Bryan Hooi, He Huang, Xueqi Cheng *AAAI Conference on Artificial Intelligence (**AAAI**), 2020*
[WWWJ 2020]	**Embedding Geographic Information for Anomalous Trajectory Detection** Ding Xiao, Li Song, Ruijia Wang, **Xiaotian Han**, Yanan Cai, Chuan Shi *World Wide Web, 2020*
[KDD 2020]	**Metapath-guided Heterogeneous Graph Neural Network for Intent Recommendation** Shaohua Fan, Junxiong Zhu, **Xiaotian Han**, Chuan Shi, Linmei Hu, Biyu Ma, Yongliang Li *SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2019*
[TKDE 2019]	**Deep Collaborative Filtering with Multi-aspect Information in Heterogeneous Networks** Chuan Shi, **Xiaotian Han**, Li Song, Xiao Wang, Senzhang Wang, Junping Du, Philip, S Yu *IEEE Transactions on Knowledge and Data Engineering (**TKDE**), 2019*
[APWeb 2018]	**Representation Learning with Depth and Breadth for Recommendation using Multi-view Data** **Xiaotian Han**, Chuan Shi, Lei Zheng, Philip, S Yu, Jianxin Li, Yuanfu Lu *APWeb-WAIM International Joint Conference on Web and Big Data (**APWeb-WAIM**), 2018*
[IJCAI 2018]	**Aspect-Level Deep Collaborative Filtering via Heterogeneous Information Networks** **Xiaotian Han**, Chuan Shi, Senzhang Wang, Philip, S Yu, Li Song *International Joint Conference on Artificial Intelligence (**IJCAI**), 2018*
[ADMA 2018]	**Anomalous Trajectory Detection Using Recurrent Neural Network** Li Song, Ruijia Wang, Ding Xiao, **Xiaotian Han**, Yanan Cai, Chuan Shi *International Conference on Advanced Data Mining and Applications (**ADMA**), 2018* Best Paper Awards
[Under review]	**Do We Really Achieve Fairness with Explicit Sensitive Attributes?** **Xiaotian Han**, Zhimeng Jiang, Ninghao Liu, Na Zou, Qifan Wang, Xia Hu *2022*
[Under review]	**Marginal Nodes Matter: Towards Structure Fairness in Graphs** **Xiaotian Han**, Kaixiong Zhou, Ting-Hsiang Wang, Jundong Li, Fei Wang, Na Zou *2022*
[Under review]	**Retiring ΔDP: New Distribution-Level Metrics for Demographic Parity** **Xiaotian Han***, Zhimeng Jiang*, Hongye Jin, Zirui Liu, Na Zou, Qifan Wang, Xia Hu *2022*
[Under review]	**Fair Graph Message Passing with Transparency** Zhimeng Jiang, **Xiaotian Han**, Chao Fan, Zirui Liu, Na Zou, Ali Mostafavi, Xia Hu *2022*
[Under review]	**Topology Matters in Fair Graph Learning: a Theoretical Pilot Study** Zhimeng Jiang, **Xiaotian Han**, Chao Fan, Zirui Liu, Xiao Huang, Na Zou, Ali Mostafavi, Xia Hu *2022*

Professional Services

Program Committee Member/Reviewer

International Conference on Machine Learning (**ICML**)	2022,2023
Annual Conference on Neural Information Processing Systems (**NeurIPS**)	2022
AAAI Conference on Artificial Intelligence (**AAAI**)	2021,2022,2023
International Joint Conference on Artificial Intelligence(**IJCAI**)	2021,2023
The ACM Web Conference (**WWW**)	2023

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**)	2023
International Conference on Data Mining (**ICDM**)	2022

Volunteer

International Conference on Machine Learning (**ICML**)	2022
Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**)	2022

Session Chair

International Conference on Machine Learning (**ICML**)	2022

Scholarships, Awards, & Honors

Outstanding Paper Award, ICML2022	2022
Travel Grant, Department of CSE, Texas A&M University,	2022
Travel Award, ICML2022	2022
Outstanding Reviewer Award, ICML2022	2022
Best Reviewer Award, CCF Transactions on Pervasive Computing and Interaction	2019
National Graduate Scholarship, Beijing University of Posts and Telecommunications	2018
Best Paper Awards,International Conference on Advanced Data Mining and Applications	2018

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