Xiaotian Han

Assistant Professor
Case Western Reserve University
10900 Euclid Ave., Cleveland, OH

xhan@case.edu
https://ahxt.github.io

Appointment

Assistant Professor — Aug 2024 – present
Case Western Reserve University, Cleveland, OH, USA

Education

Texas A&M University, College Station, TX, USA — Sep 2019 – Aug 2024
Ph.D. in Computer Science

Beijing University of Posts and Telecommunications, Beijing, CHINA — Sep 2016 – June 2019
M.S. in Computer Science

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

Awards & Honors

Jane Street Graduate Research Fellowship Award Honorable Mention 2024
Excellent Ph.D. Student Award (One Per Year), Department of CSE, Texas A&M University 2023
NeurIPS 2023 Scholar Award 2023
Grad School Research and Presentation Travel Award, Texas A&M University 2023
ICML2022 Outstanding Paper Award 2022
Best Paper Awards, ADMA2018 2018
Travel Grant, Department of CSE, Texas A&M University 2022,2023
Travel Award, ICML2022 2022
Outstanding Reviewer Award, ICML2022 2022
Best Reviewer Award, CCF Transactions on Pervasive Computing and Interaction 2019

Publications

* indicates equal contribution

[1] **TMLR2024**. "On the Equivalence of Graph Convolution and Mixup". Xiaotian Han, Hanqing Zeng, Yu Chen, Shaoliang Nie, Jingzhou Liu, Kanika Narang, Zahra Shakeri, Karthik Abinav Sankararaman, Song Jiang, Madian Khabsa, et al. *Transactions on Machine Learning Research*. 2024.

[2] **ACL2024**. "PokeMQA: Programmable knowledge editing for Multi-hop Question Answering". Hengrui Gu, Kaixiong Zhou, Xiaotian Han, Ninghao Liu, Ruobing Wang, and Xin Wang. *Annual Meeting of the Association for Computational Linguistics*. 2024.

[3] **ICML2024**. "Llm maybe longlm: Self-extend llm context window without tuning". Hongye Jin*, Xiaotian Han*, Jingfeng Yang, Zhimeng Jiang, Zirui Liu, Chia-Yuan Chang, Huiyuan Chen, and Xia Hu. *International Conference on Machine Learning*. 2024.

[4] **ICLR2024**. "FFB: A Fair Fairness Benchmark for In-Processing Group Fairness Methods". Xiaotian Han, Jianfeng Chi, Yu Chen, Qifan Wang, Han Zhao, Na Zou, and Xia Hu. *International Conference on Learning Representations*. 2024.

[5] **TKDD2024**. "Harnessing the power of llms in practice: A survey on chatgpt and beyond". Jingfeng Yang*, Hongye Jin*, Ruixiang Tang*, Xiaotian Han*, Qizhang Feng*, Haoming Jiang, Shaochen Zhong, Bing Yin, and Xia Hu. *ACM Transactions on Knowledge Discovery from Data*. 2024.

[6] **NeurIPS2024**. "Chasing Fairness Under Distribution Shift: A Model Weight Perturbation Approach". Zhimeng Stephen Jiang, Xiaotian Han, Hongye Jin, Guanchu Wang, Rui Chen, Na Zou, and Xia Hu. *Advances in Neural Information Processing Systems*. 2024.

[7] **KDDExp2024**. "Marginal Nodes Matter: Towards Structure Fairness in Graphs". Xiaotian Han, Kaixiong Zhou, Ting-Hsiang Wang, Jundong Li, Fei Wang, and Na Zou. *ACM SIGKDD Explorations Newsletter*. 2024.

[8] **AMIA2023**. "Does synthetic data generation of llms help clinical text mining?" Ruixiang Tang, Xiaotian Han, Xiaoqian Jiang, and Xia Hu. *AMIA 2024 Annual Symposium*. 2023.

[9] **ICLR2023**. "MLPInit: Embarrassingly Simple GNN Training Acceleration with MLP Initialization". Xiaotian Han, Tong Zhao, Yozen Liu, Xia Hu, and Neil Shah. *International Conference on Learning Representations*. 2023.

[10] **TMLR2023**. "Retiring Δ DP: New Distribution-Level Metrics for Demographic Parity". Xiaotian Han, Zhimeng Jiang, Hongye Jin, Zirui Liu, Na Zou, Qifan Wang, and Xia Hu. *Transactions on Machine Learning Research*. 2023.

[11] **ICML2022**. "G-Mixup: Graph Data Augmentation for Graph Classification". Xiaotian Han, Zhimeng Jiang, Ninghao Liu, and Xia Hu. *International Conference on Machine Learning*. 2022. ICML2022 Outstanding Paper Award.

[12] **WWW2022**. "Geometric graph representation learning via maximizing rate reduction". Xiaotian Han, Zhimeng Jiang, Ninghao Liu, Qingquan Song, Jundong Li, and Xia Hu. *ACM Web Conference*. 2022.

[13] **KDD2019**. "Metapath-guided Heterogeneous Graph Neural Network for Intent Recommendation". Shaohua Fan, Junxiong Zhu, Xiaotian Han, Chuan Shi, Linmei Hu, Biyu Ma, and Yongliang Li. *ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*. 2019.

[14] **ICLR2022**. "Generalized demographic parity for group fairness". Zhimeng Jiang, Xiaotian Han, Chao Fan, Fan Yang, Ali Mostafavi, and Xia Hu. *International Conference on Learning Representations*. 2022.

[15] **RecSys2020**. "Autorec: An automated recommender system". Ting-Hsiang Wang, Xia Hu, Haifeng Jin, Qingquan Song, Xiaotian Han, and Zirui Liu. *ACM Conference on Recommender Systems*. 2020.

[16] **WWWJ2020**. "Embedding geographic information for anomalous trajectory detection". Ding Xiao, Li Song, Ruijia Wang, Xiaotian Han, Yanan Cai, and Chuan Shi. *World Wide Web*. 2020.

[17] **AAAI2020**. "Flowscope: Spotting money laundering based on graphs". Xiangfeng Li, Shenghua Liu, Zifeng Li, Xiaotian Han, Chuan Shi, Bryan Hooi, He Huang, and Xueqi Cheng. *AAAI conference on artificial intelligence*. 2020.

[18] **TKDE2019**. "Deep collaborative filtering with multi-aspect information in heterogeneous networks". Chuan Shi, Xiaotian Han, Li Song, Xiao Wang, Senzhang Wang, Junping Du, and S Yu Philip. *IEEE transactions on knowledge and data engineering*. 2019.

[19] **IJCAI2018**. "Aspect-level deep collaborative filtering via heterogeneous information networks". Xiaotian Han, Chuan Shi, Senzhang Wang, Philip S Yu, and Li Song. *International Joint Conference on Artificial Intelligence*. 2018.

[20] **APWeb2018**. "Representation learning with depth and breadth for recommendation using multi-view data". Xiaotian Han, Chuan Shi, Lei Zheng, Philip S Yu, Jianxin Li, and Yuanfu Lu. *APWeb-WAIM*. 2018.

[21] **ADMA2018**. "Anomalous trajectory detection using recurrent neural network". Li Song, Ruijia Wang, Ding Xiao, Xiaotian Han, Yanan Cai, and Chuan Shi. *Advanced Data Mining and Applications*. 2018.

Teaching

Instructor, Case Western Reserve University — Aug 2024 – Dec 2024
CSDS600: Large Language Models

Teaching Assistant, Texas A&M University — Jan 2024 – May 2024
CSCE629: Analysis of Algorithms, Instructor: Andreas Klappenecker

Teaching Assistant and Lecturer, Texas A&M University — Aug 2023 – Dec 2023
CSCE636: Deep Learning, Instructor: Anxiao Jiang

Online Course Creator and Mentor — Sept 2021 - Nov 2021
Online Course: Image Classification with AutoKeras, Manning Publications Co.

Guest lecturer, Rice University — Fall 2023
COMP 640: Graduate Research Seminar in Machine Learning, Instructor: Xia Hu

Professional Experiences

Amazon, Palo Alto, CA — May 2023 – Aug 2023
Applied Scientist Intern, Large Language Model Alignment

Meta, Menlo Park, CA — Sept 2022 – April 2023
Research Intern, Understanding graph neural networks

Snap Research, Seattle, WA — May 2022 – Aug 2022
Research Intern, Efficient large-scale graph neural networks

Microsoft Research Asia, Beijing, China — March 2019 - Jun 2019
Research Intern
Hyperparameter search with Bayesian optimization

Open-Source Contributions

Lite LLaMa: Reduced-Scale, Experimental Versions of LLaMa 2, Sole Contributor, 10000+ downloads 2023
an open-source reproduction of Meta AI's LLaMA and LLaMa 2 with significantly reduced model sizes
https://huggingface.co/ahxt/llama2

FFB: Fair Fairness Benchmark, Sole Contributor 2023
A PyTorch-based framework for evaluating the fairness of machine learning models.
https://github.com/ahxt/fair_fairness_benchmark

LLMs Servery Repo, Main Contributor, 7100+ stars 2023
A curated list of practical guide resources of LLMs.
https://github.com/Mooler0410/LLMsPracticalGuide

AutoRec: An Automated Recommender System, Main Contributor 2020
A Keras-based implementation of automated recommendation algorithms for both rating prediction and Click Through Rate task.
https://github.com/datamllab/AutoRec

AutoKeras: An AutoML System Based on Keras, Contributor, 9000+ stars 2020
An AutoML system based on Keras with the goal to make machine learning accessible to everyone.
https://autokeras.com/

Talks & Presentations

Invited Talks

Graph Learning with Low Resources, VISA Research 2023
Algorithmic Fairness in Finance: Problems, Methods and Benchmarks, MLF@KDD2023 2023
Graph Neural Network Training Acceleration, LOGS 2023
Graph Neural Network Training Acceleration, AI-TIME 2023
Graph Augmentation for Graph Classification, Meta AI 2022
Graph Augmentation for Graph Classification, Wormpex AI Research 2022
Graph Augmentation for Graph Classification, Central South University 2022

Conference Presentations

$\mathcal{G}$-Mixup: Graph Augmentation for Graph Classification, ICML, Baltimore, MD 2022
Graph Representation Learning via Unsupervised Rate Reduction Maximization, TheWebConf, Online 2022
Aspect-Level Deep Collaborative Filtering via HIN, IJCAI, Stockholm, Sweden 2018

Professional Services

Reviewer ICLR2023,2024; ICML2022,2023,2024; NeurIPS2022,2023,2024; AAAI2021,2022,2023,2024; WWW2023; WSDM2024; CIKM2023; IJCAI2021,2023; EMNLP2023; ICDM2022;

Session Chair WWW2023, ICML2022

Last updated on December 8, 2024