

# HAOYU HAN

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## PERSONAL INFORMATION

Third-year Ph.D. student in Computer Science and Engineering, Michigan State University.  
Research interests include Graph Neural Networks and Deep Learning on Graphs.

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## EDUCATION

Doctor of Philosophy in Computer Science, MSU *2021-*  
Advisor: Prof. Jiliang Tang

Master of Science in Computer Science, USTC, China *2018–2021*  
Advisor: Prof. Enhong Chen

Bachelor in Computer Science, USTC, China *2014–2018*  
Talented Program

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## PUBLICATIONS

[\* indicates equal contribution]

1. Wei Jin, Haitao Mao, Zheng Li, Haoming Jiang, Chen Luo, Hongzhi Wen, **Haoyu Han**, Hanqing Lu, Zhengyang Wang, Ruirui Li, Zhen Li, Monica Xiao Cheng, Rahul Goutam, Haiyang Zhang, Karthik Subbian, Suhang Wang, Yizhou Sun, Jiliang Tang, Bing Yin, Xianfeng Tang, “**Amazon-M2: A Multilingual Multi-locale Shopping Session Dataset for Recommendation and Text Generation**”. NeurIPS 2023
2. Haitao Mao, Zhikai Chen, Wei Jin, **Haoyu Han**, Yao Ma, Tong Zhao, Neil Shah, Jiliang Tang, “**Demystifying Structural Disparity in Graph Neural Networks: Can One Size Fit All?**”. NeurIPS 2023
3. **Haoyu Han**, Xiaorui Liu, Feng Shi, MohamadAli Torkamani, Charu C. Aggarwal, Jiliang Tang “**Towards Label Position Bias in Graph Neural Networks**”. NeurIPS 2023
4. Hua Liu\*, **Haoyu Han**\*, Wei Jin, Xiaorui Liu, Hui Liu, “**Enhancing Graph Representations Learning with Decorrelated Propagation**”. KDD 2023
5. Rui Xue, **Haoyu Han**, MohamadAli Torkamani, Jian Pei, Xiaorui Liu, “**LazyGNN: Large-Scale Graph Neural Networks via Lazy Propagation**”, ICML 2023
6. **Haoyu Han**, Xiaorui Liu, Haitao Mao, MohamadAli Torkamani, Feng Shi, Victor Lee, Jiliang Tang, “**Alternately Optimized Graph Neural Networks**”, ICML 2023
7. Hang Li\*, **Haoyu Han**\*, Hongzhi Wen\*, Wei Jin, Feng Shi, Victor Lee, and Jiliang Tang, “**Inverse APPNP: Solution for OGB-LSC 2022 MAG240M**”. NeurIPS 2022 Competition Track
8. **Haoyu Han**, Mengdi Zhang, Min Hou, Fuzheng Zhang, Zhongyuan Wang, Hongwei Wang, Enhong Chen, Jianhui Ma, and Qi Liu, “**STGCN: A Spatial-Temporal Aware Graph Learning Method for POI Recommendation**”. ICDM 2020
9. Xiaoqing Huang, Qi Liu, Chao Wang, **Haoyu Han**, Jianhui Ma, Enhong Chen, Yu Su, and Shijin Wang, “**Constructing Educational Concept Maps with Multiple Relationships from Multi-source Data**”. ICDM 2019

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## PREPRINTS

**Haoyu Han**, Xiaorui Liu, Li Ma, MohamadAli Torkamani, Hui Liu, Jiliang Tang, Makoto Yamada, “**Structural Fairness-aware Active Learning for Graph Neural Networks**”

## TUTORIALS

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Rui Xue, **Haoyu Han**, Tong Zhao, Neil Shah, Jiliang Tang, Xiaorui Liu “**Large-Scale Graph Neural Networks: The Past and New Frontiers**”. KDD 2023

## INTERNSHIP

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**Machine Learning Unit** Okinawa Institute of Science and Technology, Japan  
*Research intern, Advisor: Dr. Makoto Yamada* 2023.05–2023.07

- Active learning for Graph Neural Networks.

**Machine Learning Group** TigerGraph, US  
*Research intern, Advisor: Dr. Bill Shi* 2022.05–2022.08

- Implement link prediction and recommendation for TigerGraph.
- Designed an efficient Graph Neural Network for large-scale graphs.

**Knowledge Graph Group** Meituan-Dianping, China  
*Research intern, Advisor: Dr. Fuzheng Zhang and Mengdi Zhang* 2019.09–2021.03

- Construct a basic algorithm library of Graph Embedding methods which support large-scale graph training and testing on business data.
- Designed a novel graph-based framework STGCN for spatially-aware and temporally-dependent POI recommendation.

**NLP Group** ByteDance, China  
*Research intern, Advisor: Dr. Tengfei Bao* 2017.09–2018.07

- Optimize LDA algorithm to product more precise topic for recommender system.
- Designed and implemented a chinese word segmentation algorithm to speed up word segmentation in business. And these algorithms have been directly used in the pipeline of ByteDance.

## TEACHING EXPERIENCE

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**CSE 881: Data Mining** 2023.01–2023.05  
*Teaching assistant, Michigan State University*

**Analog and Digital Circuits** 2016.09–2017.02  
*Teaching assistant, University of Science and Technology of China*

## SERVICES

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PC member: WSDM(2023, 2024), AAAI(2023, 2024), NeurIPS(2023), ICML(2023), ICLR(2024), WWW(2024)

## COMPETITIONS

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**2nd place of OGB-LSC competition, node-level track @ NeurIPS 22** 2022

**1st place of Multimodal Single-Cell Data Integration competition @ NeurIPS 21** 2021

## SELECTED HONORS AND AWARDS

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<b>NeurIPS 2023 Scholar Award</b>	2023
<b>Yang Yuanqing Scholarship</b> (Top Research Scholarship for Master students)	2018
<b>Excellent young volunteers of USTC</b>	2017
<b>Gold Award of iGEM</b> (International Genetically Engineered Machine, as <b>Team Leader</b> )	2016
<b>Gold Award of iGEM</b>	2016
<b>Excellent Student Scholarship Silver Award</b> (top 10% students in USTC)	2015

## SKILLS

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<b>High-level Languages</b>	C, C++, Python, Verilog
<b>Frameworks</b>	Pytorch, Tensorflow, Pytorch-Geometric, DGL
<b>OS</b>	GNU/Linux, Windows
<b>Tools</b>	Git, Vim, Spark, Hadoop