Jin Huang — Curriculum Vitae

https://jn-huang.github.io | huangjin@umich.edu | +1 (734) 834-7399

RESEARCH INTEREST

Deep Learning for Graphs, Large Language Models (LLMs) for Graph Data, Interpretable Artificial Intelligence (XAI).

EDUCATION

University of Michigan, Ann Arbor   Ann Arbor, Michigan
Bachelor of Science in Computer Science   Aug 2022 - Jun 2024
o GPA: 3.93/4.0.

Shanghai Jiao Tong University   Shanghai
Bachelor of Science in Electronic and Computer Engineering (*Dual Degree Program*)   Sep 2020 - Jun 2024
o GPA: 3.78/4.0 (top 10%).

RESEARCH EXPERIENCE

Foreseer Research Group, School of Information, University of Michigan   June 2022 - Present
Research Assistant with Qiaozhu Mei and Jiaqi Ma   Ann Arbor
o Investigated whether LLMs benefit from incorporating structural data into prompts. Analyzed contributing factors, especially data leakage and local homophily. Collected a dataset based on arXiv database to estimate the influence of data leakage on current benchmark datasets [1].
o Built a user-friendly platform for graph learning, optimizing for easy dataset maintenance, dataset usability and better contributor attributions. Benchmarked 20+ datasets with 10+ models [3].

GEMS Lab, Electrical Engineering and Computer Science, University of Michigan   May 2023 - Present
Research Assistant with Danai Koutra   Ann Arbor
o Developed strategies for handling distribution shifts between training and testing data in graph network models for link prediction tasks. Implemented techniques such as augmenting links to improve model robustness in out-of-distribution settings.

John Hopcroft Center for Computer Science, Shanghai Jiao Tong University   Feb 2022 - Jan 2023
Research Assistant with Quanshi Zhang   Shanghai
o Developed game theory concepts like Shapley value and Harsanyi dividend in AI. Designed and implemented the Harsanyi networks, which enables the computation for exact Shapley value in one single forward inference [2].

PUBLICATIONS

1. **Huang, Jin**, Xingjian Zhang, Qiaozhu Mei, and Jiaqi Ma. "Can LLMs Effectively Leverage Graph Structural Information: When and Why," arXiv preprint arXiv:2309.16595, 2023. [pdf] (Submitted to ICLR 2024)

2. Chen, Lu, Siyu Lou, Keyan Zhang, **Jin Huang**, and Quanshi Zhang. "HarsanyiNet: Computing Accurate Shapley Values in a Single Forward Propagation," in *Proceedings of the 40th International Conference on Machine Learning*, 4804–4825. PMLR, 2023. [pdf]

3. Ma, Jiaqi, Xingjian Zhang, Hezheng Fan, **Jin Huang**, Tianyue Li, Ting Wei Li, Yiwen Tu, Chenshu Zhu, and Qiaozhu Mei. "Graph Learning Indexer: A Contributor-Friendly and Metadata-Rich Platform for Graph Learning Benchmarks," in *Proceedings of the First Learning on Graphs Conference*, 7:1–7:23. PMLR, 2022. (**Oral**) [pdf]

PRESENTATIONS

40th International Conference on Machine Learning   Jul 2023
Poster Presentation   Honolulu, Hawaii
o Presented a research poster for [2].

WORK EXPERIENCE

Intel Asia-Pacific Research & Development Ltd   Dec 2021 - Mar 2022
AI Software Platform Intern   Shanghai
o Participated in the development of BigDL, a large-scale AI application for distributed big data analytics, scaling from laptops to cloud infrastructures.
o Maintained an open-source time series analysis project with 4k+ GitHub stars and developed a GAN-based fraud detection algorithm for cash flow.

TEACHING EXPERIENCE

Shanghai Jiao Tong University   May 2022 - Aug 2022
Teaching Assistant for VG101: Introduction to Computers and Programming   Shanghai
o Hosted weekly lab sessions and office hours. Assisted in grading and designing exam problems.

SELECTED COURSES

o **Graduate Level:** Information Theory, Machine Learning, Continuous Optimization Methods, Network Theory.
o **Undergraduate Level:** Intro to Operating System, Intro to Autonomous Robotics, Foundations of Computer Science, Computer Vision, Data Structures and Algorithms, Intro to Computer Organization, Human-Centered Software Design, Linear Algebra, Probabilistic Methods in Engineering.

SKILLS & HONORS

Computer Languages: Python, C++, C, Matlab, Latex, HTML, Bash, Verilog, R, JavaScript.
Tools: Prompting Engineering, Git, Linux, PyTorch, TensorFlow, Scikit-Learn, Jupyter Notebook, Docker.
Honors: Tau Beta Pi, First Prize in China National Olympiad in Informatics in Provinces (NOIP 2018).