Yinan Huang

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Education

Georgia Institute of Technology, USA, Ph.D. in Machine Learning — Sept 2023 – 2027 (Expected)
- Advisor: Pan Li

Duke University, USA, M.S. in Electrical and Computer Engineering — Sept 2020 - May 2023
- GPA: 4.0/4.0

Sun Yat-sen University, China, B.S. in Physics — Sept 2016 - May 2020
- GPA: 4.3/5.0, Rank: 1/83

Research Interests

Generative models: diffusion model/flow matching

Trustworthy AI: differential privacy

Geometric Deep Learning: graph neural networks, equivariant neural networks

Professional Experience

- **Research Intern**, Beijing Institute for General Artificial Intelligence — Sept 2021 – Feb 2022
- **Research Intern**, Peking University — Feb 2022 – Sept 2022
- **Research Assistant**, Georgia Institute of Technology — Sept 2023 –

Publications

- Differentially Private Relational Learning with Entity-level Privacy Guarantees
  Yinan Huang*, Haoteng Yin*, Eli Chien, Rongzhe Wei, Pan Li
  Advances in Neural Information Processing Systems (NeurIPS), 2025.
- GenAI Copyright Evidence with Operational Meaning
  Eli Chien, Amit Saha, ***Yinan Huang***, Pan Li
  ICML Workshop on Reliable and Responsible Foundation Models, 2025
- What Are Good Positional Encodings for Directed Graphs?
  Yinan Huang, Haoyu Wang, Pan Li
  International Conference on Learning Representations (ICLR), 2025.
- On the Stability of Expressive Positional Encodings for Graphs
  Yinan Huang*, William Lu*, Joshua Robinson, Yu Yang, Muhan Zhang, Stefanie Jegelka, Pan Li
  International Conference on Learning Representations (ICLR), 2024.
- Is Distance Matrix Enough for Geometric Deep Learning?
  Zian Li, Xiyuan Wang, ***Yinan Huang***, Muhan Zhang
  Advances in Neural Information Processing Systems (NeurIPS), 2023.
- Boosting the Cycle Counting Power of Graph Neural Networks with I^2-GNNs
  Yinan Huang, Xingang Peng, Jianzhu Ma, Muhan Zhang
  International Conference on Learning Representations (ICLR), 2023.
- 3DLinker: An E(3) Equivariant Variational Autoencoder for Molecular Linker Design
  Yinan Huang, Xingang Peng, Jianzhu Ma, Muhan Zhang
  *International Conference on Machine Learning (ICML), 2022 (**Oral**).*

Preprints

- Powers of Magnetic Graph Matrix: Fourier Spectrum, Walk Compression, and Applications
  Yinan Huang, David F Gleich, Pan Li
  https://arxiv.org/abs/2506.07343
- What Can We Learn from State Space Models for Machine Learning on Graphs?
  Yinan Huang*, Siqi Miao*, Pan Li
  https://arxiv.org/abs/2406.05815
- A Benchmark on Directed Graph Representation Learning in Hardware Designs
  Haoyu Wang, ***Yinan Huang***, Nan Wu, Pan Li
  https://arxiv.org/abs/2410.06460

Honors and Awards

Travel Award for ICLR 2025, Georgia Tech ECE Fellowship 2023, China National Scholarship 2017.

Professional Service

- Reviewer for ICML'23-25, ICLR'24-25, NeurIPS'23-26, AAAI'26, KDD'26
- Teaching Assistant: ECE 3077 Introduction to Probability and Statistics, ECE 6250 Advanced Digital Signal Processing

Skills

- Programming languges: Python, Matlab, C