

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

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- 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**, Siqu 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