Yinhan He

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Education Experiences

University of Virginia (UVa) Charlottesville, USA

Ph.D. student in Electrical and Computer Engineering; *Jan. 2023 – Dec. 2027*

- **Advisor:** Prof. Jundong Li
- **Research Interests:** Large Language Models, Agentic AI, Interpretable / Explainable AI, Graph Machine Learning, Spectral Graph Theory.

University of Chinese Academy of Sciences (UCAS) Beijing, China

B.S. in Mathematics and Applied Mathematics; ***GPA: 3.84/4.0*** *Sep 2018 – Jun 2022*

- **College Entrance Examination**: **Top 0.01%** in Shaanxi Province, China.
- Graduated with **Excellent Bachelor Thesis Award**.

Projects and Publications

PUBLICATIONS

[1] Yaochen Zhu, Harald Steck, Dawen Liang, **Yinhan He**, Vito Claudio Ostuni, Jundong Li, Nathan Kallus *ConvRec-R1: Training LLM-based Conversational Recommender Systems with Reinforcement Learning,* ICLR 2026

[2] Zhenyu Lei, Qiong Wu, JIANXIONG DONG, **Yinhan He**, Emily Dodwell, Yushun Dong, Jundong Li *Reforming the Mechanism: Editing Reasoning Patterns in LLMs with Circuit Reshaping,* ICLR 2026

[3] Song Wang, Yushun Dong, Binchi Zhang, Zihan Chen, Xingbo Fu, **Yinhan He**, Cong Shen, Chuxu Zhang, Nitesh V. Chawla, Jundong Li *Safety in Graph Machine Learning: Threats and Safeguards,* TKDE 2026

[4] Zhenyu Lei, Patrick Soga, Yaochen Zhu, Yinhan He, Yushun Dong and Jundong Li *MolEdit: Knowledge Editing for Multimodal Molecule Language Models,* WSDM 2026

[5] **Yinhan He**, Wendy Zheng, Song Wang, Zaiyi Zheng, Yushun Dong, Yaochen Zhu, Jundong Li *Hierarchical Demonstration Order Optimization for Many-shot In-Context Learning,* NeurIPS 2025

[6] **Yinhan He**, Wendy Zheng, Yaochen Zhu, Zaiyi Zheng, Lin Su, Sriram Vasudevan, Qi Guo, Liangjie Hong, Jundong Li *SemCoT: Accelerating Chain-of-Thought Reasoning through Semantically-Aligned Implicit Tokens,* NeurIPS 2025

[7] Guanghui Min, **Yinhan He**, Chen Chen *Scaling Epidemic Inference on Contact Networks: Theory and Algorithms,* NeurIPS 2025

[8] Yaochen Zhu, Harald Steck, Dawen Liang, **Yinhan He**, Nathan Kallus, Jundong Li *LM-based Conversational Recommendation Agents with Collaborative Verbalized Experience*, EMNLP 2025

[9] Zaiyi Zheng, Song Wang, Zihan Chen, Yaochen Zhu, **Yinhan He**, Liangjie Hong, Qi Guo, Jundong Li *CoRAG: Enhancing Hybrid Retrieval-Augmented Generation through a Cooperative Retriever Architecture*, EMNLP 2025

[10] Yaochen Zhu, Harald Steck, Dawen Liang, **Yinhan He**, Nathan Kallus, Jundong Li *LLM-based Conver--sational Recommendation Agents with Collaborative Verbalized Experience*, GenAIRecP 2025

[11] Patrick Soga, Zhenyu Lei, Yinhan He, Camille L. Bilodeau, Jundong Li *Energy-Based Models for Predicting Mutational Effects on Proteins*, SIGKDD 2025

[12] **Yinhan He**, Wendy Zheng, Yushun Dong, Yaochen Zhu, Chen Chen, Jundong Li, *Towards Global-level Mechanistic Interpretability: A Perspective of Modular Circuits of Large Language Models*, ICML 2025

[13] **Yinhan He**, Wendy Zheng, Yaochen Zhu, Jing Ma, Saumitra Mishra, Natraj Raman, Ninghao Liu, Jundong Li, *Global Graph Counterfactual Explanation: A Subgraph Mapping Approach.*, TMLR 2025

[14] Yushun Dong, Patrick Soga, **Yinhan He**, Song Wang, Jundong Li *Graph Neural Networks Are More Than Filters: Revisiting and Benchmarking from A Spectral Perspective.*, ICLR 2025

[15] Xingbo Fu, **Yinhan He**, Jundong Li *Edge Prompt Tuning for Graph Neural Networks.* ICLR 2025.

[16] **Yinhan He**, Chen Chen, Song Wang and Jundong Li, *Demystify Epidemic Containment in Directed Networks: Theory and Algorithms*, WSDM 2025 (acceptance rate 17.9%)

[17] Xingbo Fu, Zihan Chen, **Yinhan He**, Song Wang, Binchi Zhang, Chen Chen, Jundong Li, *Virtual Nodes Can Help: Tackling Distribution Shifts in Federated Graph Learning*, AAAI 2025

[18] **Yinhan He**, Zaiyi Zheng, Patrick Soga, Yaochen Zhu, Yushun Dong, Jundong Li *Explaining Graph Neural Networks with Large Language Models: A Counterfactual Perspective on Molecule Graphs*, EMNLP 2024.

[19] Yaochen Zhu, **Yinhan He**, Jing Ma, Mengxuan Hu, Sheng Li, Jundong Li *Causal Inference with Latent Variables: Recent Advances and Future Prospectives.* SIGKDD 2024 (Survey track).

PREPRINTS

[1] Yaochen Zhu, Harald Steck, Dawen Liang, **Yinhan He**, Jundong Li, Nathan Kallus *Rank-GRPO: Training LLM-based Conversational Recommender Systems with Reinforcement Learning.*

[2] Song Wang, Yushun Dong, Binchi Zhang, Zihan Chen, Xingbo Fu, **Yinhan He**, Cong Shen, Chuxu Zhang, Nitesh V Chawla, Jundong Li *Safety in Graph Machine Learning: Threats and Safeguards.* Arxiv.

[3] Mucong Ding, **Yinhan He**, Jundong Li, Furong Huang *Spectral Greedy Coresets for Graph Neural Networks.* Arxiv.

*Note: All preprints are also submissions under review but not listed below.

SUBMISSIONS UNDER REVIEW

[1] **Yinhan He**, Wendy Zheng, Yunfan Wang, Guanghui Min, Patrick Soga, Yushun Dong *Towards Mechanistic Interpretability for Graph Foundation Models.*

[2] Zhen Tan, Song Wang, Shyam Marjit, Zihan Chen, **Yinhan He**, Xinyu Zhao, Pingzhi Li, Jundong Li, huan liu, Tianlong Chen *Understanding Prejudice and Fidelity of Diverge-to-Converge Multi-Agent Systems.*

[3] Yaochen Zhu, **Yinhan He**, Xingbo Fu, Liang Wu, Qi Guo, Liangjie Hong, Jundong Li *Bounding Spill-over Effect under Structural Uncertainty.*

[4] Wendy Zheng, **Yinhan He**, Jundong Li *GCSGNN: Towards Global Self-Explainable Graph Neural Networks.*

Industry Experience

LinkedIn, PhD AI/ML Engineering Intern (May 2025-August 2025): Explored next-generation LLM-powered recommender system.

Snap Inc., Research Intern (Feb 2025-May 2025): Ongoing internship, specific topics TBD.

Teaching Experiences

Teaching Assistant (2024 Fall, Graduate): ECE 6501 & CS 6501 Convex Optimization, University of Virginia

Awards and Honors

NeurIPS Scholar Award (Oct. 2025)

Light Graduate Fellowship of the University of Virginia (Sept 2025)

NSF Student Travel Award for WSDM 2025 (March 2025)

SIAM SDM Student Travel Award (Apr 2023): Awarded to senior doctoral students with more concrete ideas for their dissertation, as well as junior doctoral students who may not have a full plan for their dissertation yet but have a promising direction.

Excellent Bachelor Thesis of UCAS (June 2022): Awarded to graduating students who achieve excellence in their Bachelor Thesis.

Professional Services

Invited Reviewer & External Reviewer: SIGKDD, ICML, SDM, ICLR, NeurIPS, IJCAI, etc.
Held **Graph Theory and Graph Machine Learning Seminar** in UCAS.

Skills

Programming: C, Python, R, MATLAB

Libraries: OpenAI (OpenAI API), Transformers (Huggingface API), PyTorch, PyG, Networkx