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, 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**, Nathan Kallus, Jundong Li *LM-based Conversational Recommendation Agents with Collaborative Verbalized Experience*, EMNLP 2025

[2] 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

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

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

[5] **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

[6] **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

[7] 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

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

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

[10] 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

[11] **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.

[12] 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] 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.

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

[2] **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* under review of NeurIPS 2025.

[3] **Yinhan He**, Wendy Zheng, Song Wang, Zaiyi Zheng, Yushun Dong, Yaochen Zhu, Jundong Li *Hierachical Demonstration Order Optimization Order Optimization For Many-Shot In-context Learning.* under review of NeurIPS 2025.

[4] **Yinhan He**, Wendy Zheng, Yunfan Wang, Guanghui Min, Patrick Soga, Yushun Dong *Towards Mechanistic Interpretability for Graph Foundation Models.* under review of SIGKDD 2025.

[5] 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.* under review of ICLR 2025.

[6] Yaochen Zhu, **Yinhan He**, Xingbo Fu, Liang Wu, Qi Guo, Liangjie Hong, Jundong Li *Bounding Spillover Effect under Structural Uncertainty.* under review of NeurIPS 2025.

[7] Wendy Zheng, **Yinhan He**, Jundong Li *GCSGNN: Towards Global Self-Explainable Graph Neural Networks.* under review of NeurIPS 2025.

TEACHING EXPERIENCES

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

AWARDS AND HONORS

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