Zhe Xu

Research Scientist @ Meta

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Key Expertise

LLM for RecSys; Generative Modeling; Graph Machine Learning.

Education

2021–2025   **Ph.D. in Computer Science**, *University of Illinois Urbana-Champaign*, Champaign, IL
Thesis: *Optimal Graph Learning*.

2019–2021   **M.S. in Computer Science**, *University of Illinois Urbana-Champaign*, Champaign, IL
Thesis: *Dense Subgraph Detection on Multi-layered Networks*.

2014–2018   **B.E. in Electronic Engineering**, *Fudan University*, Shanghai, China

Publications

Conference Papers

C1   **Zhe Xu**, Kaveh Hassani, Si Zhang, Hanqing Zeng, Michihiro Yasunaga, Limei Wang, Dongqi Fu, Ning Yao, Bo Long, Hanghang Tong. *Language Models are Graph Learners*. Findings of EACL 2026.

C2   **Zhe Xu**, Menghai Pan, Yuzhong Chen, Huiyuan Chen, Yuchen Yan, Mahashweta Das, Hanghang Tong. *Fine-grained Graph Rationalization*. CIKM 2025.

C3   **Zhe Xu**, Ruizhong Qiu, Yuzhong Chen, Huiyuan Chen, Xiran Fan, Menghai Pan, Zhichen Zeng, Mahashweta Das, Hanghang Tong. *Discrete-state Continuous-time Diffusion for Graph Generation*. NeurIPS 2024.

C4   **Zhe Xu**, Yuzhong Chen, Menghai Pan, Huiyuan Chen, Mahashweta Das, Hao Yang, Hanghang Tong. *Kernel Ridge Regression-Based Graph Dataset Distillation*. SIGKDD 2023.

C5   **Zhe Xu**, Yuzhong Chen, Qinghai Zhou, Yuhang Wu, Menghai Pan, Hao Yang, Hanghang Tong. *Node Classification Beyond Homophily: Towards a General Solution*. SIGKDD 2023.

C6   **Zhe Xu**, Kaize Ding, Yu-Xiong Wang, Huan Liu, Hanghang Tong. *Generalized Few-Shot Node Classification on Graphs*. ICDM 2022 (**Best-Ranked Papers**).

C7   **Zhe Xu**, Boxin Du, Hanghang Tong. *Graph Sanitation with Application to Node Classification*. TheWebConf 2022.

C8   **Zhe Xu**, Si Zhang, Yinglong Xia, Liang Xiong, Jiejun Xu, Hanghang Tong. *DESTINE: Dense Subgraph Detection on Multi-Layered Networks*. CIKM 2021.

C9   **Zhe Xu**, Si Zhang, Yinglong Xia, Liang Xiong, Hanghang Tong. *Ranking on Network of Heterogeneous Information Networks*. IEEE BigData 2020.

C10   Dongqi Fu*, **Zhe Xu***, Bo Li, Hanghang Tong, Jingrui He. *A View-Adversarial Framework for Multi-View Network Embedding*. CIKM 2020. (*equal contribution)

C11 Dongqi Fu*, Liri Fang*, Zihao Li*, **Zhe Xu***, Hanghang Tong, Vetle I Torvik, Jingrui He. *Bring Complex Geometric Information to LLMs: A Positional Survey of Graph Parametric Representation*. LOG 2025. (*equal contribution)

C12 Ruizhong Qiu, **Zhe Xu**, Wenxuan Bao, Hanghang Tong. *Turing Completeness of Prompting*. ICLR 2025.

C13 Huiyuan Chen, **Zhe Xu**, Chin-Chia Michael Yeh, Vivian Lai, Yan Zheng, Minghua Xu, Hanghang Tong. *Masked Graph Transformer for Large-Scale Recommendation*. SIGIR 2024.

C14 Qinghai Zhou, Yuzhong Chen, **Zhe Xu**, Yuhang Wu, Menghai Pan, Mahashweta Das, Hao Yang, Hanghang Tong. *Graph Anomaly Detection with Adaptive Node Mixup*. CIKM 2024.

C15 Zhichen Zeng, Ruizhong Qiu, **Zhe Xu**, Zhining Liu, Yuchen Yan, Tianxin Wei, Lei Ying, Jingrui He, Hanghang Tong. *Graph Mixup on Approximate Gromov–Wasserstein Geodesics*. ICML 2024.

C16 Haiyun Jiang, Li Cui, **Zhe Xu**, Deqing Yang, et al. *Relation Extraction Using Supervision from Topic Knowledge of Relation Labels*. IJCAI 2019.

C17 Haobo Xu, Yuchen Yan, Dingsu Wang, **Zhe Xu**, Zhichen Zeng, Tarek F. Abdelzaher, Jiawei Han, Hanghang Tong. *SLOG: An Inductive Spectral Graph Neural Network Beyond Polynomial Filter*. ICML 2024.

C18 Xinyu He, Chenhan Xiao, Haoran Li, Ruizhong Qiu, **Zhe Xu**, Yang Weng, Jingrui He, Hanghang Tong. *PowerGrow: Feasible Co-Growth of Structures and Dynamics for Power Grid Synthesis*. SIGKDD 2026.

C19 Zhining Liu, Ruizhong Qiu, Zhichen Zeng, Hyunsik Yoo, David Zhou, **Zhe Xu**, Yada Zhu, Kommy Weldemariam, Jingrui He, Hanghang Tong. *Class-Imbalanced Graph Learning without Class Rebalancing*. ICML 2024.

Journal Papers

J1 **Zhe Xu**, Kaize Ding, Yu-Xiong Wang, Huan Liu, Hanghang Tong. *Generalized Few-Shot Node Classification on Graphs: Toward an Uncertainty-Based Solution*. KAIS 2023.

J2 Kaize Ding, **Zhe Xu**, Hanghang Tong, Huan Liu. *Data Augmentation for Deep Graph Learning: A Survey*. SIGKDD Explorations 2022.

J3 Qing Chen, Nan Chen, Guande Wu, Ziyan Liu, **Zhe Xu**, Hanghang Tong, Nan Cao. *Calliope-Net: Automatic Generation of Graph Data Facts via Annotated Node-link Diagrams*. IEEE Transactions on Visualization and Computer Graphics 2023.

J4 Zihao Li, Zhichen Zeng, Xiao Lin, Feihao Fang, Yanru Qu, **Zhe Xu**, Zhining Liu, Xuying Ning, Tianxin Wei, Ge Liu, Hanghang Tong, Jingrui He. *Flow Matching Meets Biology and Life Science: A Survey*. npj Artificial Intelligence 2025.

Preprints

P1 Beidi Zhao, Boxin Du, **Zhe Xu**, Liangyue Li, Hanghang Tong. *Learning Optimal Propagation for Graph Neural Networks*. Under review.

P2 Yuchen Yan, Yuzhong Chen, Huiyuan Chen, Xiaoting Li, **Zhe Xu**, Mahashweta Das, Hanghang Tong. *THiGCN: Temporal Heterophilic Graph Convolutional Network for Event-based Continuous Graphs*. Under review.

Work Experience

2025–Present **Research Scientist**, *Meta, Monetization*, Sunnyvale, CA
Contributing to large-scale ads recommender systems.

2024	**Research Intern**, *Meta, Monetization*, Sunnyvale, CA
	Research on interactions between LLMs and graph machine learning.
2023	**Ph.D. Intern**, *Visa Research*, Palo Alto, CA
	Graph data augmentation across the graph ML lifecycle.
2022	**Research Intern**, *Meta, Applied Machine Learning*, New York, NY
	Large-scale GNN systems on user–video interaction graphs.
2019–2025	**Graduate Research Assistant**, *UIUC*, Urbana, IL
	Graph learning, augmentation, distillation, and rationalization.
2018–2019	**Graduate Research Assistant**, *Arizona State University*, Tempe, AZ
	Multi-layered network modeling.
2016–2018	**Undergraduate Research Assistant**, *Fudan University*, Shanghai, China
	Financial knowledge graph and QA systems.

Talks

| 2023 | *Natural and Artificial Dynamics in GNNs*. Tutorial, WSDM. |
| 2023 | *Graph Data Distillation*. Invited Talk, Visa Research. |

Grant Experience

NSF SLES: NetSafe — Safe Graph Neural Networks.
NSF Collaborative Research — Optimal Deep Graph Learning.

Teaching Experience

2023	**Teaching Assistant**, *CS 514 Advanced Topics in Network Science*, UIUC
2021–2022	**Teaching Assistant**, *CS 512 Data Mining Principles*, UIUC
2021	**Teaching Assistant**, *CS 412 Introduction to Data Mining*, UIUC

Service

Conference Reviewer	AISTATS, ICML, SDM, ICLR, AAAI, NeurIPS, KDD, CIKM, WWW.
Journal Reviewer	TNNLS, TVCG, TKDD.
Workshop Reviewer	GLFrontiers, TrustLOG.