

Zhe Xu

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EDUCATION

University of Illinois Urbana-Champaign

Champaign, IL, USA

Ph.D. in Computer Science

Aug. 2021 – May. 2025 (expected)

University of Illinois Urbana-Champaign

Champaign, IL, USA

M.S. in Computer Science Thesis: Dense subgraph detection on multi-layered networks

Aug. 2019 – May. 2021

Fudan University

Shanghai, China

B.E. in Electronic Engineering

Sep. 2014 – Jun. 2018

PUBLICATION

Preprint Papers

- P1. **Zhe Xu**, Menghai Pan, Yuzhong Chen, Huiyuan Chen, Yuchen Yan, Mahashweta Das, Hanghang Tong. Invariant Graph Transformer. Under review.
- P2. Qinghai Zhou, Yuzhong Chen, **Zhe Xu**, Yuhang Wu, Menghai Pan, Mahashweta Das, Hao Yang, and Hanghang Tong. Graph Anomaly Detection with Adaptive Node Mixup. Under review.
- P3. Beidi Zhao, Boxin Du, **Zhe Xu**, Liangyue Li, and Hanghang Tong. Learning Optimal Propagation for Graph Neural Networks. Under review.

Accepted Conference Papers

- C1. **Zhe Xu**, Yuzhong Chen, Menghai Pan, Huiyuan Chen, Mahashweta Das, Hao Yang, Hanghang Tong. Kernel Ridge Regression-Based Graph Dataset Distillation. SIGKDD 2023.
- C2. **Zhe Xu**, Yuzhong Chen, Qinghai Zhou, Yuhang Wu, Menghai Pan, Hao Yang, Hanghang Tong. Node Classification Beyond Homophily: Towards a General Solution. SIGKDD 2023.
- C3. **Zhe Xu**, Kaize Ding, Yu-Xiong Wang, Huan Liu, and Hanghang Tong. Generalized Few-Shot Node Classification on Graphs. ICDM 2022. **(Best-Ranked Papers)**.
- C4. **Zhe Xu**, Boxin Du, and Hanghang Tong. Graph Sanitation with Application to Node Classification. TheWebConf 2022.
- C5. **Zhe Xu**, Si Zhang, Yinglong Xia, Liang Xiong, Jiejun Xu, and Hanghang Tong. DESTINE: Dense Subgraph Detection on Multi-Layered Networks. CIKM 2021.
- C6. **Zhe Xu**, Si Zhang, Yinglong Xia, Liang Xiong, and Hanghang Tong. Ranking on Network of Heterogeneous Information Networks. IEEE BigData 2020.
- C7. Dongqi Fu*, **Zhe Xu***, Bo Li, Hanghang Tong, and Jingrui He. A View-Adversarial Framework for Multi-View Network Embedding. CIKM 2020. (*equal contribution)
- C8. Haiyun Jiang, Li Cui, **Zhe Xu**, Deqing Yang, et al. Relation Extraction Using Supervision from Topic Knowledge of Relation Labels. IJCAI 2019.

Accepted Journal Papers

- J1. **Zhe Xu**, Kaize Ding, Yu-Xiong Wang, Huan Liu, and Hanghang Tong. Generalized Few-Shot Node Classification on Graphs: Toward an Uncertainty-Based Solution. KAIS 2023.
- J2. Qing Chen, Nan Chen, Guande Wu, Ziyang Liu, **Zhe Xu**, Hanghang Tong, and Nan Cao. Calliope-Net: Automatic Generation of Graph Data Facts via Annotated Node-link Diagrams. IEEE Transactions on Visualization and Computer Graphics 2023.
- J3. Kaize Ding, **Zhe Xu**, Hanghang Tong, and Huan Liu. Data Augmentation for Deep Graph Learning: A Survey. SIGKDD Explorations, 2022.

TALKS

T1. *Lecture-Style Tutorial: Natural and Artificial Dynamics in GNNs: A Tutorial.* WSDM 2023.

T2. *Invited Talk: Graph Data Distillation.* Visa Research. July 2023.

RESEARCH EXPERIENCE

Research Intern

Visa Research, Visa. Manager: Dr. Menghai Pan.

Palo Alto, CA, USA

May. 2023 – Aug. 2023

- Conducted research on graph data augmentation in the life cycle of graph machine learning.

Research Intern

Applied Machine Learning Team, Meta. Manager: Kelvin Niu.

New York City, NY, USA

May. 2022 – Aug. 2022

- Constructed a large-scale representation learning system on user-video interaction data via graph neural networks.

Algorithm Engineer Intern

Search Department, Alibaba Group. Manager: Dr. Muhua Zhu.

Hangzhou, Zhejiang, China

Jun. 2018 – Aug. 2018

- Constructed E-commerce knowledge graphs on specific shopping topics.

Graduate Research Assistant

University of Illinois at Urbana-Champaign. Advisor: Prof. Hanghang Tong.

Champaign, IL, USA

Aug. 2019 – Present

- Conducted research on augmenting graph data

Graduate Research Assistant

Arizona State University. Advisor: Prof. Hanghang Tong.

Tempe, AZ, USA

Aug. 2018 – Aug. 2019

- Conducted research on multi-layered networks.

Undergraduate Research Assistant

Fudan University. Advisor: Prof. Yanghua Xiao.

Shanghai, China

Sep. 2016 – Jun. 2018

- Constructed a financial product knowledge base and a financial product Q&A system (Chinese).

GRANT EXPERIENCE

- Helped a successful NSF proposal on ‘Collaborative Research: Towards a Theoretic Foundation for Optimal Deep Graph Learning’.

TEACHING EXPERIENCE

Teaching Assistant

CS 514 Advanced Topics in Network Science

Champaign, IL, USA

Fall 2023

Teaching Assistant

CS 512 Data Mining Principle

Champaign, IL, USA

Fall 2022, Spring 2021

Teaching Assistant

CS 412 Introduction to Data Mining.

Champaign, IL, USA

Fall 2021

SERVICE

Conference reviewer: SDM (2024), ICLR (2024), AAAI (2023-2024), NeurIPS (2023), KDD (2023), CIKM (2021-2023), TheWebConf (2023-2024).

Workshop reviewer: GLFrontiers (2024), TrustLOG (2022)

Conference subreviewer: ICDCS (2022), SIGIR (2021), CIKM (2019), ICDCS (2019).

Journal reviewer: TNNLS, TVCG.