

# Zhe Xu

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## EDUCATION

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### University of Illinois Urbana-Champaign

*Ph.D. in Computer Science*

Champaign, IL, USA

*Aug. 2021 – May. 2025 (expected)*

### University of Illinois Urbana-Champaign

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

Champaign, IL, USA

*Aug. 2019 – May. 2021*

### Fudan University

*B.E. in Electronic Engineering*

Shanghai, China

*Sep. 2014 – Jun. 2018*

## PUBLICATION

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### Preprint Papers

- **Zhe Xu**, Menghai Pan, Yuzhong Chen, Huiyuan Chen, Yuchen Yan, Mahashweta Das, Hanghang Tong. Invariant Graph Transformer. Under review.
- 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.
- Beidi Zhao, Boxin Du, **Zhe Xu**, Liangyue Li, and Hanghang Tong. Learning Optimal Propagation for Graph Neural Networks. Under review.

### Accepted Conference Papers

- **Zhe Xu**, Yuzhong Chen, Menghai Pan, Huiyuan Chen, Mahashweta Das, Hao Yang, Hanghang Tong. Kernel Ridge Regression-Based Graph Dataset Distillation. SIGKDD 2023.
- **Zhe Xu**, Yuzhong Chen, Qinghai Zhou, Yuhang Wu, Menghai Pan, Hao Yang, Hanghang Tong. Node Classification Beyond Homophily: Towards a General Solution. SIGKDD 2023.
- **Zhe Xu**, Kaize Ding, Yu-Xiong Wang, Huan Liu, and Hanghang Tong. Generalized Few-Shot Node Classification on Graphs. ICDM 2022.
- **Zhe Xu**, Boxin Du, and Hanghang Tong. Graph Sanitation with Application to Node Classification. TheWebConf 2022.
- **Zhe Xu**, Si Zhang, Yinglong Xia, Liang Xiong, Jiejun Xu, and Hanghang Tong. DESTINE: Dense Subgraph Detection on Multi-Layered Networks. CIKM 2021.
- **Zhe Xu**, Si Zhang, Yinglong Xia, Liang Xiong, and Hanghang Tong. Ranking on Network of Heterogeneous Information Networks. IEEE BigData 2020.
- Dongqi Fu\*, **Zhe Xu**\*, Bo Li, Hanghang Tong, and Jingrui He. A View-Adversarial Framework for Multi-View Network Embedding. CIKM 2020. (\*equal contribution)
- 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

- **Zhe Xu**, Kaize Ding, Yu-Xiong Wang, Huan Liu, and Hanghang Tong. Generalized Few-Shot Node Classification on Graphs: Towards an Uncertainty-Based Solution. KAIS 2023.
- 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.
- Kaize Ding, **Zhe Xu**, Hanghang Tong, and Huan Liu. Data Augmentation for Deep Graph Learning: A Survey. SIGKDD explorations, 2022.

### Tutorial

- Dongqi Fu, **Zhe Xu**, Hanghang Tong, and Jingrui He. Natural and Artificial Dynamics in GNNs: A Tutorial. WSDM 2023.

## RESEARCH EXPERIENCE

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### 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

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

## TEACHING EXPERIENCE

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### 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

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**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.