

ZHINING LIU

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EDUCATION

- **University of Illinois at Urbana-Champaign** Urbana, IL
Ph.D. in Computer Science Aug. 2022 - Present
Advisor: Prof. [Hanghang Tong](#)
- **Jilin University** Changchun, China
M.Eng. in Computer Science Aug. 2019 - July 2022
Advisor: Prof. [Yi Chang](#)
- **Jilin University** Changchun, China
B.Sc. in Computer Science Aug. 2015 - July 2019
Tang Ao-Qing Honor Program

EXPERIENCE

- **University of Illinois at Urbana-Champaign** Urbana, IL
Research Assistant Aug. 2022 - Present
 - Conducted research on graph data mining and fair machine learning.
 - Advisor: Prof. [Hanghang Tong](#)
- **Amazon.com, Inc.** Seattle, WA
Applied Scientist Intern May 2023 - Aug. 2023
 - Conducted research on multi-task learning for partial ordered entity ranking in shopping funnel.
 - Mentors: Dr. [Minmin Shen](#), Dr. [Changhe Yuan](#)
- **Microsoft Research Asia** Beijing, China
Research Intern Aug. 2018 - June 2019
 - Conducted research on large-scale highly-imbalanced classification in intelligent logistics.
 - Mentors: Dr. [Wei Cao](#), Dr. [Jiang Bian](#)

PUBLICATIONS

Conference Paper

- **Zhining Liu***, Hangting Ye*, Wei Cao, Amir Mohammad Amiri, Jiang Bian, Yi Chang, Jon D. Lurie, Jim Weinstein, Tie-Yan Liu. *Web-based Long-term Spine Treatment Outcome Forecasting*. In 29th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2023.
- **Zhining Liu***, Hangting Ye*, Xinyi Shen, Wei Cao, Shun Zheng, Xiaofan Gui, Huishuai Zhang, Yi Chang, Jiang Bian. *UADB: Unsupervised Anomaly Detection Booster*. In IEEE 39th International Conference on Data Engineering (ICDE), 2023. [\[Paper\]](#) [\[Code\]](#)
- Warmley, Dana, Alex Waagen, Jiejun Xu, **Zhining Liu**, and Hanghang Tong. *A Survey of Explainable Graph Neural Networks for Cyber Malware Analysis*. In Proceedings of the 2022 IEEE International Conference on Big Data (Big Data), pp. 2932-2939. IEEE, 2022. [\[Paper\]](#)
- **Zhining Liu**, Pengfei Wei, Jing Jiang, Wei Cao, Jiang Bian, and Yi Chang. *MESA: boost ensemble imbalanced learning with meta-sampler*. In Proceedings of the 33rd Advances in Neural Information Processing Systems (NeurIPS), 2020. [\[Paper\]](#) [\[Code\]](#)

- **Zhining Liu**, Wei Cao, Zhifeng Gao, Jiang Bian, Hechang Chen, Yi Chang, and Tie-Yan Liu. *Self-paced ensemble for highly imbalanced massive data classification*. In Proceedings of the IEEE 36th International Conference on Data Engineering (ICDE), pp. 841-852. IEEE, 2020. [[Paper](#)] [[Code](#)]

Journal Paper

- Guo, Kai, Xiaofeng Cao, **Zhining Liu**, and Yi Chang. *Taming Over-Smoothing Representation on Heterophilic Graphs*. Information Sciences (2023): 119463.

Preprint

- **Liu, Zhining**, Zhichen Zeng, Ruizhong Qiu, Hyunsik Yoo, David Zhou, Zhe Xu, Yada Zhu, Kommy Weldemariam, Jingrui He, and Hanghang Tong. *Topological Augmentation for Class-Imbalanced Node Classification*. arXiv:2308.14181.
- **Zhining Liu**, Jian Kang, Hanghang Tong, and Yi Chang. *IMBENS: ensemble class-imbalanced learning in python*. arXiv:2111.12776. [[Paper](#)] [[Code](#)]
- **Zhining Liu**, Pengfei Wei, Zhepei Wei, Boyang Yu, Yuan Tian, Jing Jiang, Wei Cao, Jiang Bian, Yi Chang. *Handling Inter-class and Intra-class Imbalance in Class-imbalanced Learning*. arXiv:2111.12791.

(*indicates equal contribution)

OPEN-SOURCE PROJECTS

- **IMBENS: class-imbalanced ensemble learning in Python** (1k+ downloads/m) 2022
 - Python package for class-imbalanced /long-tailed ensemble learning.
 - Links: [[Github](#)] [[Documentation](#)] [[Gallery](#)] [[PyPI](#)]
- **Awesome Imbalanced Learning** (1k+ stars) 2022
 - Curated list of imbalanced learning papers, codes, and libraries.
 - Links: [[English](#)] [[Chinese](#)]
- **Awesome Machine Learning Resources** (400+ stars) 2020
 - Curated list of awesome resources across various machine learning topics.
 - Links: [[English](#)] [[Chinese](#)]

(2,000+ stars in total on Github by September 2023)

AWARDS AND HONORS

- **Top 10 Honorary Graduates (Highest Honor)**, Jilin University 2022
- **National Scholarship (Top 0.2%)**, Ministry of Education of China 2019,2020
- Academic Performance Scholarship, Jilin University 2019,2020,2021
- Undergraduate Research Scholarship, Jilin University 2018
- National Endeavor Scholarship, Ministry of Education of China 2017
- Student Service Award, Jilin University 2016,2017,2018,2019

PROFESSIONAL SERVICES

- **Journal Reviewer**
 - IEEE Transactions on Knowledge and Data Engineering (TKDE) 2023
 - IEEE Transactions on Knowledge and Data Engineering (TKDE) 2022
 - IEEE Transactions on Knowledge and Data Engineering (TKDE) 2021
 - IEEE Transactions on Knowledge and Data Engineering (TKDE) 2020
 - IEEE Transactions on Cybernetics 2020
 - Elsevier Neurocomputing (Neurocomputing) 2020
 - IEEE Transactions on Knowledge and Data Engineering (TKDE) 2019

- Elsevier Neurocomputing (Neurocomputing) 2019
- **Program Committee/Reviewer**
 - IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022
 - The 1st Workshop on Trustworthy Learning on Graphs (TrustLOG) 2022
- **External Reviewer**
 - ACM International Conference on Information and Knowledge Management (CIKM) 2022
 - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD) 2020
 - IEEE International Conference on Data Mining (ICDM) 2019
- **Conference Volunteer**
 - ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR) 2020

MENTORING EXPERIENCE

- Mr. Hangting Ye (was B.Sc. & Ph.D. student at Jilin University, China) 2021 - 2022
 - Research on Intelligent Healthcare and Anomaly Detection.
 - Led to publications in IEEE ICDE 2023 and ACM SIGKDD 2023.

MISCELLANEOUS

- I blog on [ZhiHu](#) (a Chinese platform like Quora) and have 3k+ followers and 1m+ reads.

[CV compiled on Thursday 14th September, 2023]