



Yilong Zang

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EDUCATION

- **Bachelor of Science in Electronic and information engineering** Sep.2015 - Jul.2019
School of Information Science and Engineering, Wuhan University of Science and Technology Wuhan, China
 - Bachelor's thesis: Super-resolution Reconstruction of Images based on Convolutional Neural Networks (translated).
 - Excellent graduation thesis award.
- **Master of Science in Communication and Information System** Sep.2020 - Jul.2023
School of Computer Science, Wuhan University Wuhan, China
 - Rank 1st in the graduate entrance examination.
 - Researched at National Engineering Research Center For Multimedia Software.
 - Advisor: [Ruimin Hu](#), Co-advisor: [Zheng Wang](#).
 - Research directions: fraud detection, graph data mining, graph neural network, social network.
 - Master's thesis: Telecom Fraud Detection based on User Social Interaction Analysis (translated).

EMPLOYMENT

- **Research Assistant (remote)** Oct.2023 - now
German Research Center for Artificial Intelligence (DFKI) Wuhan, China
 - Advisor: [Prof. Sebastian Vollmer](#)
 - Research group: Data Science and its Applications (DSA).
 - Research directions: **Biomedical/Geographic graph data mining.**

TEACHING AND REVIEWING

- **Undergraduate course: Advanced Language Programming** Feb.2021 - Jun.2021
Teaching Assistant Wuhan, China
 - Graded undergraduate programming assignments.
 - Assisted students to team up to complete the term project (mainly C++).
- **Undergraduate thesis guidance** Dec.2020 - May.2021
Mentor Wuhan, China
 - Guided 2 undergraduate students on literature research, programming, and thesis writing. The research direction is about social network.
 - 1 of them got a grade of A+ (nearly 15%).
- **Journal of Neural Computing & Applications** Oct.2023 - Dec.2023
Reviewer Online

PROJECTS

- **National Key R&D Program of China** Sep.2020 - Dec.2022
Student Participant Wuhan, China
 - **Programming.** Designed a personalized influence metric for user role information based on the Pagerank model, implemented by JAVA; **Visualization.** Designed the visualization system implemented by Vue(Javascript) + Django(Python); **Writting.** Complete report writing.
- **Joint project of National Natural Science Foundation of China** Sep.2020 - Mar.2022
Student Participant Wuhan, China
 - **Title.** Three-dimensional Spatial Identity Computing Theory and User Portrait and Location Technology (translated); **Research Task.** Researched on how to find high-influential users in complex social networks. **Outputs.** One conference paper[2]
- **Joint project of National Natural Science Foundation of China** Feb.2022 - June.2023
Student Participant Wuhan, China
 - **Title.** Key Technology Research on Natural Social Security Behavior Understanding and Intelligent Early Warning(translated). **Research Proposal Writing:** Researched literature, proposed research content, and discussed the feasibility. Finally, we successfully applied for the grant. **Outputs.** One conference paper[1]

PUBLICATIONS

- [1] **Y. Zang**, R. Hu, Z. Wang, D. Xu, J. Wu, D. Li, J. Wu, L. Ren. Don't Ignore Alienation and Marginalization: Correlating Fraud Detection. In IJCAI 2023. (acceptance rate 15%)
- [2] **Y. Zang**, R. Hu, X. Li, Z. Wang, D. Li. User and Interaction both Matter: Social Relationship Mining via Interaction Graph Propagating. In 2023-IEEE International Conference on Communications (ICC), 2023, accepted.
- [3] X. Gao, T. Chen, **Y. Zang**, W. Zhang, Q. V. H. Nguyen, K. Zheng, H. Ying. Graph Condensation for Inductive Node Representation Learning. IEEE International Conference on Data Engineering (ICDE).
- [4] J. Hu, R. Hu, Z. Wang, D. Li, J. Wu, L. Ren, **Y. Zang**, et al. Collaborative Fraud Detection: How Collaboration Impacts Fraud Detection. ACM International Conference on Multimedia (ACM MM), 2023.
- [5] L. Ren, R. Hu, D. Li, Y. Liu, J. Wu, **Y. Zang**, et al. Dynamic graph neural network-based fraud detectors against collaborative fraudsters. Knowledge-Based Systems (KBS), 2023.
- [6] J. Wu, R. Hu, D. Li, L. Ren, W. Hu, **Y. Zang**. IDGL: An Imbalanced Disassortative Graph Learning Framework for Fraud Detection. Service-Oriented Computing: 20th International Conference (ICSOC), 2022: 616-631.
- [7] J. Wu, R. Hu, D. Li, L. Ren, W. Hu, **Y. Zang**. A Bi-directional Category-Aware Multi-task Learning Framework for Missing Check-in POI Identification. Service-Oriented Computing: 20th International Conference (ICSOC), 2022: 584-599.
- [8] L. Ren, R. Hu, D. Li, Y. Liu, J. Wu, **Y. Zang**, et al. Improving Fraud Detection via Imbalanced Graph Structure Learning. Machine Learning.
- [9] L. Ren, R. Hu, D. Li, J. Wu, **Y. Zang**, et al. Cross-Regional Friendship Inference via Category-Aware Multi-Bipartite Graph Embedding. 2022 IEEE 47th Conference on Local Computer Networks (LCN). 2022: 73-80.
- [10] D. Li, L. Zeng, R. Hu, J. Huang, X. Liang, **Y. Zang**. Dynamic Behavior Pattern: Mining the Fraudsters in Telecom Network. 2022 IEEE 23rd Int Conf on High Performance Computing & Communications (HPCC). 2022.
- [11] D. Li, L. Zeng, R. Hu, X. Liang, **Y. Zang**. ITC: Influential-Truss Community Search. 2022 International Joint Conference on Neural Networks (IJCNN). 2022: 01-08.

Papers under review

- 1) **Y. Zang**, R. Hu, X. Li, Z. Wang, D. Li, J. Wu, L. Ren. Power on Graph: Mining Power Relationships via User Interaction Correlation. IEEE Transaction on Computational Social Systems.

Patents

- 1) A social relationship mining method based on interaction graph propagation (first student inventor). China Patent. CN202210422953.1. 2022 Acceptance
- 2) Fraud detection method and device based on correlation fraud awareness (first student inventor). China Patent. CN202310244679.8. 2023 Acceptance.
- 3) A method and system for location place prediction for missing POI (co-inventor). China Patent. CN202211033841.3. 2022 Acceptance.
- 4) Missing POI identification method (co-inventor). China Patent. CN202210601769.3. 2022 Acceptance.

TECHNICAL SKILLS AND INTERESTS

Languages: IELTS Overall 6.5, Writing 7, Reading 7, Listening 6, Speaking 6.

Programming language: Python (master), L^AT_EX(master), Javascript, C++.

Frameworks: Pytorch, Pytorch geometric, DGL, Networkx, Sklearn, Matplotlib.

Soft kits: Jupyter notebook, Pycharm, Overleaf, Powerpoint.

Cloud/Databases: Github, OneDrive, Google Drive&Colab.

Amateur interest: Swimming, Fitness, Skiing (beginner).

POSITIONS OF RESPONSIBILITY

- Student member.** IEEE. Feb.2023 - Feb.2024
- Student member.** IEEE Communications Society. Feb.2023 - Feb.2024

ACHIEVEMENTS

- Competition.** Wuhan University 8th "Internet+" Innovation and Entrepreneurship Competition. 2022
 - 3rd prize.
 - **Title:** Anti-telecom Fraud Big Data Platform Based on Edge-Cloud Collaboration. (translated)
- Scholarship.** Wuhan University Graduate Student Academic Innovation Award. 2023
 - **2nd prize** (15 in School of CS).
- Competition.** China Mobiles Wutong Cup Big Data Innovation Competition . 2023
 - 2nd prize/place (Data Application Track). (**China Daily Newspaper**, **Sina News**)
 - Presenter