

# Xuan Yang

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## EDUCATION

### Zhejiang University

Sep 2020 - Mar 2023

College of Computer Science and Technology Master student, Computer Science

Hangzhou, China

GPA: 3.98/4.00

### Zhejiang University

Sep 2016 - Jun 2020

College of Computer Science and Technology Bachelor of Engineering, Digital Media Technology

Hangzhou, China

GPA: 3.85/4.00 The last two years GPA: 3.98/4.00

## PUBLICATIONS

- **Xuan Yang**, Yang Yang, Jintao Su, Yifei Sun, Shen Fan, Zhongyao Wang, Jun Zhan, and Jingmin Chen. Who's Next: Rising Star Prediction via Diffusion of User Interest in Social Networks. In IEEE Transaction on Knowledge and Data Engineering, doi: 10.1109/TKDE.2022.3151835, 2022
- **Xuan Yang**, Yang Yang, Chenhao Tan, Yinghe Lin, Zhengzhe Fu, Fei Wu, Yueting Zhuang. Unfolding and Modeling the Recovery Process after COVID Lockdowns. Minor Revision.
- **Xuan Yang**, Quanjin Tao, Xiao Feng, Donghong Cai, Xiang Ren, and Yang Yang. Multimodal Learning with Graph Alignment on Social Media. Preprint.
- Taoran Fang, Zhiqing Xiao, Chunping Wang, Jiarong Xu, **Xuan Yang**, Yang Yang. DropMessage: Unifying Random Dropping for Graph Neural Networks. Distinguished paper, AAAI 2023.
- Jintao Su, Yang Yang, **Xuan Yang**, Yuxiao Dong and Chilie Tan. DeepGraphlet: Estimating Local Graphlet Frequencies with Graph Neural Networks. Under review.
- Teng Ke, Yang Yang, Shiliang Pu, **Xuan Yang**, Quanjin Tao, Yifei Sun, Weihao Jiang, Hui Wang and Yingye Yu. Detecting Telecommunication Frauds by Human-in-the-Loop Graph Neural Networks. Under review.

## RESEARCH EXPERIENCE

### Multimodal Learning with Graph Alignment on Social Media

Jun 2022 - Present

Institute for Artificial Intelligence, Zhejiang University

Hangzhou, China

- Incorporate social network with text and image data to enhance user representation learning and create the first large-scale multimodal social media dataset with graph information.
- Propose a multi-step graph alignment pretraining task for mutual information maximization and develop an efficient graph multimodal pretraining framework to fuse multiple modalities.

### Unfolding and Modeling the Economic Recovery after COVID Lockdowns

Jun 2021 - Feb 2022

Institute for Artificial Intelligence, Zhejiang University

Hangzhou, China

- Propose a novel computational method based on electricity data to understand how cities bounce back from lockdown, which is critical for promoting the global economy and preparing for future pandemics.
- Quantified and modeled economic recovery, chain effect between sectors and support policy effects.
- Conducted a case study on Hangzhou, China that discovered diverse recovery patterns and various policy effects.

### Estimating Graphlet Counts on Billion-scale Graphs

May 2021 - Dec 2021

Institute for Artificial Intelligence, Zhejiang University

Hangzhou, China

- Estimated the graphlet counting, whose time complexity is  $O(n^3)$ , with our designed DeepGraphlet with k-tuple features and multi-task.
- Achieved 60%+ improvement on the estimation accuracy on real graphs; 20x speedup on billion-scale graphs.

### Alleviate Recommendation System Disequilibrium

Jan 2021 - May 2021

Data and Technology Department, Alibaba

Hangzhou, China

- Alleviated the unfair recommendation problem in online marketing by proposing the rising star problem.
- Introduced social network data to support the rising star prediction. Designed a RiseNet with a novel GNN module to quantify the user interest in dynamic user sharing networks and a coupled mechanism to capture the interaction between the user graph data and item time-series data.
- Achieved 30%+ improvement in F1 score on the real-world Taocode.

## INTERNSHIP EXPERIENCE

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### Data and Technology Department, Alibaba Group

Oct 2020 - Dec 2021

Machine Learning Intern, Data Assets and Algorithm team

Hangzhou, China

- Analyzed the family recommendation on Taobao (the largest e-commerce platform in China) and designed a family marketing model for enhancing family goods recommendation.
- Built the billion-scale Taocode recommendation datasets and developed an algorithm to recommend items for "Xiaoheihe" and "Taojianghu" functions on Taobao APP, boosting CTR by 2.3% compared with the baseline production strategy.

### Center for Magnetic Nanotechnology, Stanford University

Jan 2019 - Mar 2019

Research Intern, Probing Protein-Protein Interactions with High-Throughput GMR Protein Arrays

Stanford, CA

- Helped collect the amount of seven viruses in serum of 300 patients through GMR biosensors.
- Used machine learning models to explore the relationship between the viruses and the liver cancer and discovered weak correlation between the viruses and the liver cancer.

### Biomedical Institute for Global Health Research and Technology at NUS

Jun 2018 - Aug 2018

Research Intern, the Taste Healthy project, Big Brain

Singapore

- Helped develop a mobile app for the Taste Healthy project.
- Developed a crawler to collect food pictures from the web and trained ResNet on the collected data for food identification.

## SELECTED ACTIVITIES

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### Internet Association of Zhejiang University

Oct 2020 - Present

- Mentored six junior students in machine learning interesting group to conduct related projects and study research topics

### The Volunteer Teaching at Aba Tibetan and Qiang Autonomous Prefecture

Aug 2018 - Sep 2018

- Taught the students at the Tibetan High School (math class) and Futian Hope Primary School (astronomy class).

### Zhejiang University Creative Media Student Association, President

Sep 2017 - Jun 2018

- Organized multimedia-related activities on campus (e.g., "Hugging Me" that helped eliminate prejudice among people).

## SELECTED HONORS

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Graduate of Triple A graduate, Zhejiang University

2021 - 2022

Tencent Technology Excellence Scholarship

2021 - 2022

First-class Academic Prize, Zhejiang University

2021 - 2022

Award of Honor for Graduate, Zhejiang University

2021 - 2022

## MISCELLANEOUS

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- **Skills:** Python; Pytorch; C++; 3D Modeling (Zbrush, Maya); VR programming (Unity; Unreal Engine)
- **Languages:** TOFEL 108
- **Hobbies:** Photography (PS/ PR); Piano; Painting; Hiking