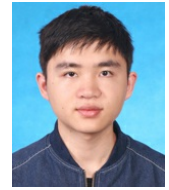


# Sheng Xiang

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## SUMMARY

I am a Ph.D. candidate at the Australia Artificial Intelligence Institute, University of Technology Sydney. I am currently working on learning-based graph simulation for data management ([VLDBJ'21](#), [ICDE'22](#)), spatio-temporal and uncertain data mining ([AAAI'20](#), [TKDE'21](#), [CIKM'22](#)), and multimodal graph generation and beyond ([PR'22](#), [AAAI'23](#), [TKDE'23](#)).

## EDUCATION

<b>University of Technology Sydney</b> Computer Science Doctor	Aug 2021 - Jun 2025 Sydney
<b>Shanghai Jiao Tong University</b> Bioinformatics Bachelor	Sep 2016 - Jul 2020 Shanghai

## PUBLICATIONS (\* indicates corresponding author)

- [1] Dawei Cheng, Yujia Ye, **Sheng Xiang\***, Zhenwei Ma, Ying Zhang, Changjun Jiang (2023). **Anti-Money Laundering by Group-Aware Deep Graph Learning**. IEEE Transactions on Knowledge and Data Engineering (**TKDE, ERA A**). [\[DOI\]](#)
- [2] **Sheng Xiang**, Mingzhi Zhu, Dawei Cheng, Enxia Li, Ruihui Zhao, Yi Ouyang, Ling Chen, Yefeng Zheng (2023). **Semi-supervised Credit Card Fraud Detection via Attribute-driven Graph Representation**. AAAI 37th Conference on Artificial Intelligence (**AAAI, CORE A\***). [\[DOI\]](#)
- [3] **Sheng Xiang**, Dawei Cheng, Chencheng Shang, Ying Zhang, Yuqi Liang (2022). **Temporal and Heterogeneous Graph Neural Network for Financial Time Series Prediction**. 31st ACM International Conference on Information and Knowledge Management (**CIKM, CORE A**). [\[DOI\]](#)
- [4] **Sheng Xiang**, Dawei Cheng, Jianfu Zhang, Zhenwei Ma, Xiaoyang Wang, Ying Zhang (2022). **Efficient Learning-based Community-Preserving Graph Generation**. 38th IEEE International Conference on Data Engineering (**ICDE, CORE A\***). [\[DOI\]](#)
- [5] **Sheng Xiang**, Dong Wen, Dawei Cheng, Ying Zhang, Lu Qin, Zhengping Qian, Xuemin Lin (2021). **General graph generators: experiments, analyses, and improvements**. the VLDB Journal (**VLDBJ, ERA A\***). [\[DOI\]](#)
- [6] Dawei Cheng, **Sheng Xiang**, Chencheng Shang, Yiyi Zhang, Fangzhou Yang, Liqing Zhang (2020). **Spatio-Temporal Attention-Based Neural Network for Credit Card Fraud Detection**. AAAI 34th Conference on Artificial Intelligence (**AAAI, CORE A\***). [\[DOI\]](#)
- [7] Dawei Cheng, Fangzhou Yang, **Sheng Xiang**, Jin Liu (2022). **Financial time series forecasting with multi-modality graph neural network**. Pattern Recognition (**PR, ERA A\***). [\[DOI\]](#)
- [8] Dawei Cheng, Chen Chen, Xiaoyang Wang, **Sheng Xiang** (2021). **Efficient top-k vulnerable nodes detection in uncertain graphs**. IEEE Transactions on Knowledge and Data Engineering (**TKDE, ERA A**). [\[DOI\]](#)

## EXPERIENCE

**UTS Large-Scale Network Analytics Lab** Jul 2020 - Apr 2023  
Ph.D. student, Advisor: Prof. Ying Zhang and A/Prof. Lu Qin  
Sydney

### Efficient Learning-based Large-scale Network Generation

- Utilize the hardware-friendly algorithm and Cuda engine to accelerate graph simulation with learning-based generative models.
- Implement a learning-based generative algorithm to preserve community structure in large-scale networks.

Accepted by **ICDE 2022** and **VLDBJ 2021**.

**China Unionpay Risk-Management Department** Sep 2021 - Sep 2022  
Research Intern, Advisor: A/Prof. Dawei Cheng and Prof. Ying Zhang  
Shanghai

### Financial Fraud Detection Using Synthetic Graph Data

- Utilize advanced graph generation techniques to generate and analyze financial behaviors between cardholders.
- Develop graph database algorithms to promote money laundering detection and credit card fraud detection.

Accepted by **AAAI 2023** and **TKDE 2023**

**Kandian Private Equity Fund Management Department** Jul 2020 - Aug 2021  
Research Intern, Advisor: A/Prof. Dawei Cheng  
Shanghai

### Financial Time Series Prediction Using Synthetic Graph Data

- Analyze and model relation data among listed companies, and synthesize rational graph data to help build a knowledge graph.
- Develop deep graph learning algorithms to help financial time series prediction and test investment portfolio performance.

Accepted by **Pattern Recognition 2021** and **CIKM 2022**.

**SJTU Brain-like Computing and Machine Intelligence Lab** Jan 2019 - Apr 2020  
Research Assistant, Advisor: Prof. Liqing Zhang and A/Prof. Dawei Cheng  
Shanghai

### Financial Fraud Detection and Networked-Loan Risk Management

- Visualize the features from financial data, find fraud patterns from a temporal and spatial perspective.
- Visualize the networked behavior from loan network data, find risk nodes from an uncertain graph perspective.

Accepted by **AAAI 2020** and **TKDE 2021**

## HONORS & AWARDS

WORLD ARTIFICIAL INTELLIGENCE CONFERENCE (WAIC) YOUTH OUTSTANDING PAPER

2022

AWARD

## SKILLS & OTHERS

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- **Skills:** Python, Cuda/C++/C
- **Awards:** 2022 World Artificial Intelligence Conference Youth Outstanding Paper Award
- **Languages:** English - Proficient, Mandarin - Native speaker
- **Interests:** Swimming, Tennis.