

Zhaoxuan Tan

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Research Interests

My primary research interests lie at the intersection of natural language processing and graph mining (especially knowledge graphs and social networks), with a particular focus on language model+graph and computation for social good.

Education

University of Notre Dame, Notre Dame, IN 46556, United States 2023.08 - present

Ph.D. in Computer Science and Engineering

Advisor: Prof. Meng Jiang

Xi'an Jiaotong University, Xi'an, Shaanxi, China 2019.08 - 2023.07

B.E. in Computer Science and Technology

Advisor: Prof. Minnan Luo

Publications (* indicates equal contribution)

[14] **LMBot: Distilling Graph Knowledge into Language Model for Graph-less Deployment in Twitter Bot Detection**

Zijian Cai, [Zhaoxuan Tan](#), Zhenyu Lei, Zifeng Zhu, Hongrui Wang, Qinghua Zheng, Minnan Luo.

In *Proceedings of WSDM 2024*.

[13] **KGQUIZ: Evaluating the Generalization of Encoded Knowledge in Large Language Models.**

Yuyang Bai*, Shangbin Feng*, Vidhisha Balachandran, [Zhaoxuan Tan](#), Shiqi Lou, Tianxing He, Yulia

Tsvetkov. *arXiv preprint 2023*.

[12] **Knowledge Crosswords: Geometric Reasoning over Structured Knowledge with Large Language Models.**

Wenxuan Ding*, Shangbin Feng*, Yuhan Liu, [Zhaoxuan Tan](#), Vidhisha Balachandran, Tianxing He, Yulia

Tsvetkov. *arXiv preprint 2023*.

[11] **BotPercent: Estimating Twitter Bot Populations from Groups to Crowds.**

[Zhaoxuan Tan](#)*, Shangbin Feng*, Melanie Sclar, Herun Wan, Minnan Luo, Yejin Choi, Yulia Tsvetkov

In *Proceedings of EMNLP-Findings 2023*.

[10] **Detecting Spoilers in Movie Reviews with External Movie Knowledge and User Networks.**

Heng Wang, Wenqian Zhang, Yuyang Bai, [Zhaoxuan Tan](#), Shangbin Feng, Qinghua Zheng, Minnan Luo.

In *Proceedings of EMNLP 2023*.

[9] **Can Language Models Solve Graph Problems in Natural Language?**

Heng Wang, Shangbin Feng, Tianxing He, [Zhaoxuan Tan](#), Xiaochuang Han, Yulia Tsvetkov.

In *Proceedings of NeurIPS 2023 (spotlight)*.

[8] **HOFA: Twitter Bot Detection with Homophily-Oriented Augmentation and Frequency Adaptive Attention**

Sen Ye, [Zhaoxuan Tan](#), Zhenyu Lei, Ruijie He, Hongrui Wang, Qinghua Zheng, Minnan Luo.

arXiv preprint 2023.

[7] **KALM: Knowledge-Aware Integration of Local, Document, and Global Contexts for Long Document Understanding.**

Shangbin Feng, Zhaoxuan Tan, Wenqian Zhang, Zhenyu Lei, Yulia Tsvetkov.

In *Proceedings of ACL 2023*.

[6] **BotMoE: Twitter Bot Detection with Community-Aware Mixtures of Modal-Specific Experts.**

Yuhan Liu, Zhaoxuan Tan, Heng Wang, Shangbin Feng, Qinghua Zheng, Minnan Luo.

In *Proceedings of SIGIR 2023*.

[5] **KRACL: Contrastive Learning with Graph Context Modeling for Sparse Knowledge Graph Completion.**

Zhaoxuan Tan, Zilong Chen, Shangbin Feng, Qingyue Zhang, Qinghua Zheng, Jundong Li, Minnan Luo.

In *Proceedings of The Web Conference (WWW) 2023*.

[4] **TwBot-22: Towards Graph-Based Twitter Bot Detection.**

Shangbin Feng*, Zhaoxuan Tan*, Herun Wan*, Ningnan Wang*, Zilong Chen*, Binchi Zhang*, Qinghua Zheng, Wenqian Zhang, Zhenyu Lei, Shujie Yang, Xinshun Feng, Qingyue Zhang, Hongrui Wang, Yuhan Liu, Yuyang Bai, Heng Wang, Zijian Cai, Yanbo Wang, Lijing Zheng, Zihan Ma, Jundong Li, Minnan Luo.

In *Proceedings of the NeurIPS, Datasets and Benchmarks Track 2022*.

[3] **PAR: Political Actor Representation Learning with Social Context and Expert Knowledge.**

Shangbin Feng, Zhaoxuan Tan, Zilong Chen, Peisheng Yu, Qinghua Zheng, Xiaojun Chang, Minnan Luo.

In *Proceedings of EMNLP 2022*.

[2] **Heterogeneity-Aware Twitter Bot Detection with Relational Graph Transformers.**

Shangbin Feng, Zhaoxuan Tan, Rui Li, Minnan Luo.

In *Proceedings of AAAI 2022*.

[1] **AHEAD: A Triple Attention Based Heterogeneous Graph Anomaly Detection Approach.**

Shujie Yang, Binchi Zhang, Shangbin Feng, Zhaoxuan Tan, Qinghua Zheng, Ziqi Liu, Minnan Luo.

In *Proceedings of CIAC 2023*, honorable mentioned for best paper.

Honors and Awards

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| Excellent Bachelor Thesis (rank 1/172), XJTU | 2023 |
| AAAI Student Scholarship | 2022 |
| National Second Prize, CUMCM | 2021 |
| Dean's List, XJTU | 2020, 2021, 2022 |

Services

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| Reviewer for Temporal Graph Learning Workshop @ NeurIPS | 2023 |
| Reviewer for ICLR | 2024 |
| Reviewer for TKDE | 2023 |
| Reviewer for TNNLS | 2023 |
| Reviewer for ICWSM | 2023 |
| Reviewer for NeurIPS | 2023 |
| Virtual Volunteer for EMNLP | 2022 |
| Reviewer for NeurIPS Datasets and Benchmarks Track | 2022 |
| Reviewer for Learning on Graphs Conference | 2022, 2023 |
| Director of the LUD lab | 2022 - 2023 |

Teaching

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| Teaching Assistant of "Intro to AI", University of Notre Dame | 2023 Fall |
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Skills

- Programming Skills: Python, PyTorch, MATLAB, C/C++, bash, HTML/CSS, SQL, \LaTeX , Git, ssh
- Language Skills: Mandarin (native), English (TOEFL 107: R 29, L 29, S 22, W 27), Cantonese (native)