Yizhou Zhang

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EDUCATION

University of Southern California — Los Angeles, CA, United States
Ph.D. Candidate in Computer Science, GPA: 4.0/4.0, Advisor: Yan Liu — 2019–Current

Peking University — Beijing, China
B.S. in Computer Science and Technology, GPA: 3.7/4.0, Advisor: Guojie Song — 2015–2019
- Graduate with Summa Cum Laude
- Top 10 Undergraduate Thesis in the School of EECS
- Research at Montreal Institute for Learning Algorithms (MILA) in Summer 2018, advised by Prof. Jian Tang

RESEARCH INTERESTS

My research interests mainly lie on the interdisciplinary fields bridging advanced **Machine Learning** with diverse areas of applicable problems, such as **Trustworthy Social Connectivity**, **Public Health** and **Computational Social Science**. To this end, I have been focusing on enabling machine learning models to adapt data from **Complex**, **Irregular** and **Heterogeneous** environments (e.g. graph-structured data and temporal point process), and make **Causally Interpretable Predictions** that are persuasive and convincing for human experts and public. Notably, my proposed algorithms and models have shown substantial capacity in applications on **Social Media Analysis** areas, such as **Detecting Misinformation Campaign** and **Counterfactual Analysis on User Behaviors**. For future works, I will focus on applying the advanced **AI Foundation Models**, such as **Large Language Models** and **Large Multi-modal Models**, to better benefit **Societal Interests** and **Scientific Exploration**, such as **Misinformation Mitigation** and **AI-driven Medication**.

TUTORIALS

1. [**TheWebConf 2024**] **Yizhou Zhang**, Karishma Sharma, Lun Du and Yan Liu "Toward Mitigating Misinformation and Social Media Manipulation in Large Language Model Era", *To be Delivered on The Web Conference, 2024*.

PREPRINTS

1. **Yizhou Zhang**, Loc Trinh, Defu Cao, Zijun Cui and Yan Liu, "Interpretable Detection of Out-of-Context Misinformation with Neural-Symbolic-Enhanced Large Multi-modal Model". arXiv preprint arXiv:2304.07633

2. **Yizhou Zhang**, Lun Du, Defu Cao, Qiang Fu and Yan Liu, "Guiding Large Language Models with Divide-and-Conquer Program for Discerning Problem Solving". arXiv preprint arXiv:2402.05359

CONFERENCE PUBLICATIONS

1. [**NeurIPS 2023**] **Yizhou Zhang**, Jingchao Ni, Wei Cheng, Zhengzhang Chen, Liang Tong, Haifeng Chen and Yan Liu "Hierarchical Gaussian Mixture based Task Generative Model for Robust Meta-Learning", *To Appear in Advances in Neural Information Processing Systems, 2023*.

2. [**ECIR 2023**] **Yizhou Zhang**, Karishma Sharma and Yan Liu "Capturing Cross-Platform Interaction for Identifying Coordinated Accounts of Misinformation Campaigns", *European Conference on Information Retrieval, 2023*.

3. [**NeurIPS 2022**] **Yizhou Zhang***, Defu Cao* and Yan Liu "Counterfactual Neural Temporal Point Process for Estimating Causal Influence of Misinformation on Social Media", *Advances in Neural Information Processing Systems, 2022.* (* Equal Contribution)

4. [**ICPR 2022**] **Yizhou Zhang**, Zhaoheng Zheng, Ram Nevatia and Yan Liu "Improving Weakly Supervised Scene Graph Parsing through Object Grounding", *in Proceedings of the 27th International Conference on Pattern Recognition, 2022.*

5. [**ICWSM 2022**] Karishma Sharma, **Yizhou Zhang** and Yan Liu "COVID-19 Vaccine Misinformation Campaigns and Social Media Narratives", *Proceedings of the 15th International AAAI Conference on Web and Social Media, 2022.*

6. [**NeurIPS 2021**] **Yizhou Zhang***, Karishma Sharma* and Yan Liu "VigDet: Knowledge Informed Neural Temporal Point Process for Coordination Detection on Social Media", *Advances in Neural Information Processing Systems, 2021.* (* Equal Contribution)

7. [**KDD 2021**] Karishma Sharma*, **Yizhou Zhang***, Emilio Ferrara and Yan Liu "Identifying Coordinated Accounts on Social Media through Hidden Influence and Group Behaviours", *Proceedings of the 27th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, 2021.* (* Equal Contribution)

8. [**TheWebConf 2020**] Lichen Jin, **Yizhou Zhang**, Guojie Song and Yilun Jin "Active Domain Transfer on Network Embedding", *Proceedings of The Web Conference 2020.*

9. [**IJCAI 2019**] **Yizhou Zhang**, Guojie Song, Lun Du, Shuwen Yang and Yilun Jin "DANE: Domain Adaptive Network Embedding", *Proceedings of the 28th International Joint Conference on Artificial Intelligence, 2019.*

10. [**ICDM 2018**] **Yizhou Zhang**, Xiaojun Ma and Guojie Song "Chinese Medical Concept Normalization by Using Text and Comorbidity Network Embedding", *IEEE International Conference on Data Mining, 2018.*

JOUNAL PUBLICATIONS

1. [**JHIR 2021**] Nitin Kamra, **Yizhou Zhang**, Sirisha Rambhatla, Chuizheng Meng, and Yan Liu "PolSIRD: Modeling Epidemic Spread Under Intervention Policies", *Journal of Healthcare Informatics Research, 2021.*

2. [**TBD 2020**] Guojie Song, **Yizhou Zhang**, Lingjun Xu and Haibing Lu "Domain Adaptive Network Embedding", *IEEE Transactions on Big Data, 2020.*

ACADEMIC SERVICES

- **Organizing Experience:** Session Chair of AAAI 2023 (in the sessions of Graph-based Machine Learning and Time-Series/Data Streams)
- **Review Experience:**
  - Senior Program Committee (Meta-Reviewer): AAAI 2023
  - Reviewer/Program Committee: IJCAI 2021, NeurIPS 2021, ICML 2022, NeurIPS 2022, SDM 2023, KDD 2023, ICML 2023, NeurIPS 2023, EMNLP 2023

SKILLS

- **Machine Learning Frameworks:** PyTorch, TensorFlow, Scikit-Learn

- **Programming Languages:** Python (Proficient), C&C++ (Proficient), Java (with coding experience) and R (with coding experience)

- **Programming Abilities:** Sufficient experience and knowledge of programming on Linux

LANGUAGES

- **Chinese (Mandarin):** Mother Language
- **English:** Fluent

SELECTED AWARDS

- Annenberg Fellowship, USC
- Top 10 Undergraduate Thesis in the School of EECS, Peking University