

Tianyang Xu

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ACADEMIC INTERESTS

My academic interests lie in the field of Natural Language Processing (NLP) and large language models (LLMs), with a focus on mitigating hallucinations, aligning models with human-centered objectives, and enhancing the overall safety and reliability of these systems. I am interested in exploring innovative approaches that ensure the effective use of LLMs in real-world applications in terms of trustworthiness and ethical use.

EDUCATION

- **Purdue University** 2023/8 – 2028/5 (Expected)
Ph.D. Elmore Family School of Electrical and Computer Engineering
◦ Adviser: [Prof. Jing Gao](#) West Lafayette, Indiana
- **Wuhan University (China)** 2019/9 – 2023/5
B.Eng. School of Computer Science Wuhan, China
◦ GPA: 3.95/4.0, Rank 1/30
◦ Awarded **National Scholarship**, Graduated with **Outstanding Graduate Award**

PUBLICATIONS

Note: {} encloses co-first authors

- [1] **SaySelf: Teaching LLMs to Express Confidence with Self-Reflective Rationales** EMNLP 2024
Tianyang Xu, Shujin Wu, Shizhe Diao, Xiaoze Liu, Xingyao Wang, Yangyi Chen, Jing Gao [Code]
- [2] **SHIELD: Evaluation and Defense Strategies for Copyright Compliance in LLM Text Generation** EMNLP 2024
Xiaoze Liu, Ting Sun, Tianyang Xu, Feijie Wu, Cunxiang Wang, Xiaoqian Wang, Jing Gao [Code]
- [3] **Evaluating the Factuality of Large Language Models using Large-Scale Knowledge Graphs** arXiv 2404.00942
Xiaoze Liu, Feijie Wu, Tianyang Xu, Zhuo Chen, Yichi Zhang, Xiaoqian Wang, Jing Gao [Code]
- [4] **Mixture-of-Domain-Adapters: Decoupling and Injecting Domain Knowledge to Pre-trained Language Models Memories** ACL 2023
{Shizhe Diao, Tianyang Xu}, Ruijia Xu, Jiawei Wang, Tong Zhang [Code]
- [5] **Efficient Triangle-Connected Truss Community Search in Dynamic Graphs** VLDB 2023
Tianyang Xu, Zhao Lu, Yuanyuan Zhu [Code]
- [6] **TGraph: A Tensor-centric Graph Processing Framework** Submitted to SIGMOD 2025
Yongliang Zhang, Yuanyuan Zhu, Hao Zhang, Congli Gao, Yuyang Wang, Guojing Li, Tianyang Xu, Ming Zhong, Jiawei Jiang, Tieyun Qian, Chenyi Zhang, Jeffrey Xu Yu

ACADEMIC SERVICES

- **Reviewer**
Served as a Conference External Reviewer for PAKDD 2023.
- **Teaching Assistant**
Served as a teaching assistant for various Purdue courses, including ECE 56200 (Data Management) and ECE 36800 (Data Structures).

SKILLS

- **Programming Languages:** Python (Advanced), C++ (Intermediate), Java (Intermediate)
- **Machine Learning Frameworks:** PyTorch (Advanced), TensorFlow (Intermediate), Scikit-learn (Advanced)
- **Natural Language Processing (NLP) Tools and Techniques:** Hugging Face Transformers, spaCy, NLTK, BERT, GPT, Language Model Fine-tuning
- **Research Tools:** Jupyter, NumPy, Pandas, Matplotlib
- **Software Development and Version Control:** Git, GitHub, Docker
- **Research Skills:**
 - Strong background in interpretability and explainability techniques for LLMs
 - Designing and conducting experiments in NLP and LLM evaluation
 - Knowledge of adversarial attacks and defenses in machine learning models
 - Experience with large-scale data processing and statistical analysis
 - Literature review and academic paper writing in NLP and LLMs