Mian Zhang

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Education

The University of Texas at Dallas *2024 - Apr. 2027 (anticipated)*
- Ph.D. in Computer Science *Dallas, TX, USA*
- Advisor: Zhiyu Zoey Chen

Virginia Tech (transferred out) *2023 - 2024*
- Ph.D. in Computer Science *Blacksburg, VA, USA*

Soochow University *2020 - 2023*
- M.S. in Computer Science *Suzhou, Jiangsu, China*
- Advisors: Wenliang Chen, Xiabing Zhou
- Outstanding Graduate; Outstanding Thesis

Nanjing University of Posts and Telecommunications *2016 - 2020*
- B.Eng. in Computer Science *Nanjing, Jiangsu, China*
- Top 3% in the Department; Principal's Award

Research Summary

My current research focuses on **post-training techniques** (e.g., reinforcement learning) and **synthetic data generation** to evaluate and equip Large Language Models (LLMs) with reliable and advanced capabilities, such as instruction following [1], reasoning [7], tool using [2,3,5] and efficient inference [4]. I have experience in adapting LLMs for healthcare applications [8,9,10]. I am particularly interested in developing **controllable LLM Agents**. Topics include complex instruction following [1], smart agentic search [2,5], and instruction hierarchy enforcing.

Before the era of LLMs, my work primarily focused on improving the dialogue abilities of language models—for example, maintaining self-consistency [11] and safety [12] in conversation, as well as understanding the speaker's core semantic meaning [13] and emotions [14].

Overall, I have published 15 papers in these directions, including 9 first-authored papers and 10 peer-reviewed publications in top-tier AI conferences.

Research Experiences

Human Language Technology Research Institute at UTD *Sep. 2024 - present*
Student Researcher (Advisor: Zhiyu Zoey Chen) *Dallas, TX*
Topics: Synthetic Data Generation, Post-training

Zoom Gen AI *Jun. 2025 - Aug. 2025*
Research Intern (Mentor: Kaiqiang Song) *Seattle, WA*
Topic: Complex Instruction Following

Tencent AI Lab *May. 2024 - Jul. 2024*
Research Intern (Mentors: Haitao Mi, Linfeng Song) *Seattle, WA*
Topics: Reinforcement Learning from Human Feedback

Tencent AI Lab *Dec. 2021 - Dec. 2022*
Research Intern (Mentor: Lifeng Jin) *Shenzhen, China*
Topics: Dialogue Understanding, Semi-supervised Learning

Institute of Human Language Technology at Soochow University *Sep. 2020 - Jul. 2021*
Student Researcher (Advisors: Wenliang Chen, Xiabing Zhou) *Suzhou, China*
Topics: Dialogue State Tracking, Conversational Emotion Recognition

Papers (*denotes equal contribution)

1. Complex Logical Instruction Generation (*Preprint*)
   Mian Zhang, Shujian Liu, Sixun Dong, Ming Yin, Yebowen Hu, Xun Wang, Steven Ma, Song Wang, Sathish Reddy Indurthi, Haoyun Deng, Zhiyu Zoey Chen, Kaiqiang Song
2. HiPRAG: Hierarchical Process Rewards for Efficient Agentic Retrieval Augmented Generation (*ICLR 2026*)
   Peilin Wu, **Mian Zhang**, Kun Wang, Wentian Zhao, Kaiyu He, Xinya Du, Zhiyu Chen
3. LiveMCP-101: Stress Testing and Diagnosing MCP-enabled Agents on Challenging Queries (*Preprint*)
   Ming Yin, Dinghan Shen, Silei Xu, Jianbing Han, Sixun Dong, **Mian Zhang**, Yebowen Hu, Shujian Liu, Simin Ma, Song Wang, Sathish Reddy Indurthi, Xun Wang, Yiran Chen, Kaiqiang Song
4. MMTok: Multimodal Coverage Maximization for Efficient Inference of VLMs (*ICLR 2026*)
   Sixun Dong, Juhua Hu, **Mian Zhang**, Ming Yin, Yanjie Fu, Qi Qian
5. Search Wisely: Mitigating Sub-optimal Agentic Searches By Reducing Uncertainty (*EMNLP 2025*)
   Mian Zhang*, Peilin Wu*, Xinlu Zhang, Xinya Du, Zhiyu Zoey Chen
6. LMR-Bench: Evaluating LLM Agent's Ability on Reproducing Language Modeling Research (*EMNLP 2025*)
   Shuo Yan, Ziming Luo, Zimu Wang, Ruochen Li, Daoyang Li, Liqiang Jing, Kaiyu He, Peilin Wu, Juntong Ni, George Michalopoulos, Yue Zhang, Ziyang Zhang, **Mian Zhang**, Zhiyu Chen, Xinya Du
7. IDEA: Enhancing the Rule Learning Ability of Large Language Model Agent through Induction, Deduction, and Abduction (*ACL 2025*)
   Kaiyu He, **Mian Zhang**, Shuo Yan, Peilin Wu, Zhiyu Zoey Chen.
8. Preference Learning Unlocks LLMs' Psycho-Counseling Skills (*Preprint*)
   Mian Zhang, Shaun M. Eack, Zhiyu Chen.
9. CBT-Bench: Evaluating Large Language Models on Assisting Cognitive Behavior Therapy (*NAACL 2025*)
   Mian Zhang*, Xianjun Yang*, Xinlu Zhang, Travis Labrum, Jamie C. Chiu, Shaun M. Eack, Fei Fang, William Yang Wang, Zhiyu Chen.
10. Large Language Models for Disease Diagnosis: A Scoping Review (*npj AI 2025*)
    Shuang Zhou*, Zidu Xu*, **Mian Zhang***, Chunpu Xu*, Yawen Guo, Zaifu Zhan, Sirui Ding, Jiashuo Wang, Kaishuai Xu, Yi Fang, Liqiao Xia, Jeremy Yeung, Daochen Zha, Mingquan Lin, Rui Zhang.
11. Inconsistent dialogue responses and how to recover from them (*EACL 2024*)
    Mian Zhang, Lifeng Jin, Linfeng Song, Haitao Mi, Dong Yu.
12. SafeConv: Explaining and Correcting Conversational Unsafe Bahavior (*ACL 2023 Oral*)
    Mian Zhang, Lifeng Jin, Linfeng Song, Haitao Mi, Wenliang Chen, Dong Yu.
13. Friend-training: Learning from Different but Related Tasks (*EACL 2023*)
    Mian Zhang, Lifeng Jin, Linfeng Song, Haitao Mi, Xiabing Zhou, Dong Yu.
14. Emotion Recognition in Conversation from Variable-Length Context (*ICASSP 2023*)
    Mian Zhang, Xiabing Zhou, Wenliang Chen, Min Zhang.
15. A Pairing Enhancement Approach for Aspect Sentiment Triplet Extraction (*KSEM 2023*)
    Fang Yang, **Mian Zhang**, Gongzhen Hu, Xiabing Zhou.