Ziyi (Bella) Liu

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Research Interests

Agent, Reasoning, Evaluation, Human-centered AI

Education

University of Southern California *2023 – Present*
PhD, Computer Science (Advisor: Jieyu Zhao)

University of Southern California *2021 – 2023*
MS, Computer Science (Advisor: Xiang Ren)

Shaanxi Normal University *2016 – 2020*
BS, Computer Science

Preprint

ProMediate: A Socio-cognitive framework for evaluating proactive agents in multi-party negotiation. **Ziyi Liu**, Bahar Sarrafzadeh, Pei Zhou, Longqi Yang, Jieyu Zhao, Ashish Sharma. Preprint.

Can LLMs Grasp Implicit Cultural Values? Benchmarking LLMs' Metacognitive Cultural Intelligence with CQ-Bench. **Ziyi Liu**, Priyanka Dey, Zhenyu Zhao, Jen-tse Huang, Rahul Gupta, Yang Liu, Jieyu Zhao. Preprint.

Publications

AI Sees Your Location—But With A Bias Toward The Wealthy World. Jingyuan Huang, Jen-tse Huang, **Ziyi Liu**, Xiaoyuan Liu, Wenxuan Wang, Jieyu Zhao. Accepted in <u>EMNLP 2025</u>.

InterIntent: Investigating Social Intelligence of LLMs via Intention Understanding in an Interactive Game Context.. **Ziyi Liu***, Abhishek Anand*, Pei Zhou, Jen-tse Huang, Jieyu Zhao. In Proceedings of <u>EMNLP 2024</u>.

Self-contradictory Reasoning Evaluation and Detection. **Ziyi Liu**, Soumya Sanyal, Isabelle Lee, Yongkang Du, Rahul Gupta, Yang Liu, Jieyu Zhao. Findings of <u>EMNLP 2024</u>.

Are Machine Rationales (Not) Useful to Humans? Measuring and Improving Human Utility of Free-Text Rationales. Brihi Joshi*, **Ziyi Liu***, Sahana Ramnath, Aaron Chan, Zhewei Tong, Shaoliang Nie, Qifan Wang, Yejin Choi, Xiang Ren. In Proceedings of <u>ACL 2023</u>.

XMD: An End-to-End Framework for Interactive Explanation-Based Debugging of NLP Models. Lee, Dong-Ho, Akshen Kadakia, Brihi Joshi, Aaron Chan, **Ziyi Liu**, Kiran Narahari, Takashi Shibuya et al. In Proceedings of <u>ACL 2023</u> Demos.

ER-Test: Evaluating Explanation Regularization Methods for NLP Models. Brihi Joshi*, Aaron Chan*, **Ziyi Liu***, Shaoliang Nie, Maziar Sanjabi, Hamed Firooz, Xiang Ren. Findings of <u>EMNLP 2022</u>.

A deep learning framework for multi-level peptide-protein interaction prediction. Yipin Lei, Shuya Li, **Ziyi Liu**, Fangping Wan, Tingzhong Tian, Shao Li, Dan Zhao, Jianyang Zeng. <u>Nature Communication 2021</u>.

(* equal contribution)

Work Experience

Microsoft Research | *Research Intern* *May 2025 - Present*
- Project: AI Mediator in multi-party conversation.

Nokia Bell Labs | *AI Research Intern* *Jun 2024 – Aug 2024*
- Project: Reasoning generation of trouble tickets using RAG.

1DATA (Series A startup) | *Algorithm Engineer Intern* *Nov 2020 – Jul 2021*
- Project: End-to-end system for information retrieval from semi-structured forms.

Silexon AI Technology | *Algorithm Engineer Intern* *Jun 2020 – Nov 2020*
- Project: Peptide-protein interaction prediction using deep learning.

Teaching

Teaching Assistant

- CSCI 566 Deep Learning (Spring 2024), Instructor: Yue Zhao
- CSCI 544 Applied Natural Language Processing (Fall 2024), Instructor: Swabha Swayamdipta

Service

Reviewer EMNLP (2023-2024), NAACL (2024), ACL (2024)
Student Volunteer EMNLP 2024

Honors

Best Research Award - Computer Science (1 of 2 from entire class), USC School of Engineering 2023.
National Scholarship (Top 0.2%), The Ministry of Education of P.R. China 2017.

Technical Skills

Programming languages: Python, Java, SQL, JavaScript, HTML, CSS, C++, C
Software & Tools: PyTorch, Scikit-Learn, SpaCy, Docker