Zhiyuan Wang

Institution: University of Electronic Science and Technology of China (UESTC)

Status: Master Degree Candidate

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EDUCATION

University of Electronic Science and Technology of China (UESTC)　　　　Sep 2023 — Jun 2026

Master in Computer Science and Technology　　　　Cumulative GPA: 3.62/4.00

Co-advised by Xiaoshuang Shi and Kaidi Xu

Chongqing University of Posts and Telecommunications (CQUPT)　　　　Sep 2019 — Jun 2023

Bachelor in Internet of Things Engineering (**Hons**)　　　　Cumulative GPA: 3.65/4.00 (Rank 1/153)

RESEARCH

- Hallucination detection via uncertainty decomposition and quantification in (multi-modality) question-answering tasks of (black-box or white-box) large (vision-)language models across both closed-ended and open-domain settings;
- Statistically rigorous guarantees of task-specific metrics, such as correctness miscoverage rate and factuality, at various user-specified risk levels based on conformal uncertainty and significance test (conformal p-value).

PUBLICATIONS

Published Papers:

1. Qingni Wang, Tiantian Geng, **Zhiyuan Wang**, Teng Wang, Bo Fu*, Feng Zheng*. Sample then Identify: A General Framework for Risk Control and Assessment in Multimodal Large Language Models. International Conference on Learning Representations (**ICLR**), Spotlights, 2025.
2. **Zhiyuan Wang**, Jinhao Duan, Chenxi Yuan, Qingyu Chen, Tianlong Chen, Yue Zhang, Ren Wang, Xiaoshuang Shi*, and Kaidi Xu. Word-Sequence Entropy: Towards Uncertainty Estimation in Free-Form Medical Question Answering Applications and Beyond. Engineering Applications of Artificial Intelligence (**EAAI**), JCR Q1 (IF=7.5), 2025.
3. **Zhiyuan Wang**, Jinhao Duan, Lu Cheng, Yue Zhang, Qingni Wang, Xiaoshuang Shi*, Kaidi Xu, Hengtao Shen, Xiaofeng Zhu. ConU: Conformal Uncertainty in Large Language Models with Correctness Coverage Guarantees. Conference on Empirical Methods in Natural Language Processing (**EMNLP**), Findings, 2024.
4. Jin Sun, Xiaoshuang Shi*, **Zhiyuan Wang**, Kaidi Xu, Heng Tao Shen, Xiaofeng Zhu. Caterpillar: A Pure-MLP Architecture with Shifted-Pillars-Concatenation. ACM International Conference on Multimedia (**MM**), Poster, 2024.

Preprints:

1. **Zhiyuan Wang**, Qingni Wang, Yue Zhang, Tianlong Chen, Xiaofeng Zhu, Xiaoshuang Shi*, Kaidi Xu*. SConU: Selective Conformal Uncertainty in Large Language Models. In submission to Annual Meeting of the Association for Computational Linguistics (ACL), 2025
2. One paper on multi-stage conformal risk control (co-first author), work in progress.
3. One paper on uncertainty decomposition (co-first author), work in progress.

ACADEMIC SERVICES

Program Committee Member of Conferences:

- International Conference on Learning Representations (ICLR)　　　　2025

- Workshop on Large Language Models and Generative AI for Health at AAAI (GenAI4Health@AAAI) 2025
- Survey Track for International Joint Conference on Artificial Intelligence (IJCAL) 2025
- Annual Meeting of the Association for Computational Linguistics (ACL) 2025
- Conference on Empirical Methods in Natural Language Processing (EMNLP) 2025
- ACM International Conference on Multimedia (MM) 2025
- Annual Conference on Neural Information Processing Systems (NeurIPS) 2025

Journal Reviewer:

- Neural Networks (NN)

HONORS AND AWARDS

- Academic Youth Award 2025
- Outstanding Graduate Student 2024
- Outstanding Student Scholarship 2023, 2024
- Honours Degrees 2023
- Provincial Merit Student 2022
- National Scholarship 2021, 2022
- The First Prize Scholarship 2020, 2021, 2022
- Merit Student 2020, 2021, 2022