Rongwu Xu

He/Him
Tsinghua University
FIT Building, Tsinghua University, Beijing, China
0xrwxu@gmail.com
rongwuxu.com

Education

University of Washington W, Seattle WA, USA
PhD in Computer Science & Engineering   2025 - 2030
   - Paul G. Allen School of Computer Science & Engineering
   - Advisor: Prof. Tim Althoff

Tsinghua University ⊚, Beijing, China
MS in Computer Science   2022 - 2025
   - Institute of Interdisciplinary Information Science
   - Advisor: Prof. Wei Xu
   - Thesis: *Evaluating and Enhancing Content Safety of Large Language Models* (Examiners:
     Prof. Minlie Huang and Prof. Tianxing He)
BEng in Computer Science   2019 - 2022
   - Department of Computer Science & Technology
BEng in Electronics Information Engineering (Pre-transfer)   2018 - 2019
   - Department of Electronic Engineering

Beijing No.4 High School 🏛, Beijing, China
High School Diploma   2015 - 2018
   - Class of Olympiad (Chemistry)

Research

My primary interests lie in the field of natural language processing (NLP). My current exploration focuses on the following aspects of large language models (LLMs):

- **AI Safety and Alignment:** Identifying potential safety and ethics risks associated with AI R&D and developing strategies to align AI systems with human values, behaviors, and expectations.

- **Machine Behavior:** Investigating the similarities and differences between AI models and human behaviors, and utilizling psychology-inspired experiments to test and understand machines.

- **AI and Psychology:** Studying both the understanding the psychological impacts of AI systems on humans (Psychology of AI, a subset of Psychology of Technology) and the application of AI in psychological research (AI for Psychology, a subset of AI for Science).

Beyond these, I am interested in evaluation and application of LLMs.

Publications and Manuscripts

(* equal contribution, † corresponding author)

To date, I have (co)authored **24** research papers, including **14** as first/co-first/corresponding author. Most of my works have been accepted to top NLP conferences, including ACL/EMNLP. I received an ACL 2024 **Outstanding Paper Award** as the first author.

See Google Scholar for a complete list and bibliometric.

1. AI Awareness
   Xiaojian Li, Haoyuan Shi, **Rongwu Xu**†, Wei Xu
   arXiv Preprint

2. Humanity's Last Exam
Long Phan, Alice Gatti, Ziwen Han, Nathaniel Li, … **Rongwu Xu** …, Summer Yue, Alexandr Wang, Dan Hendrycks
arXiv Preprint

3. Harnessing Large Language Models to Decode Public Opinions
Qingjie Zhang*, **Rongwu Xu***, Haoting Qian, Di Wang, Ye Yuxian, Yiming Li, Tianwei Zhang, Wenyu Zhu, Chao Zhang, Hewu Li, Han Qiu
Preprint

4. Detecting LLM-Generated Spam Reviews by Integrating Language Model Embeddings and Graph Neural Network
Xin Liu*, **Rongwu Xu***, Xinyi Jia, Jason Liao, Jiao Sun, Wei Xu
Preprint

5. Rules Created by Symbolic Systems Cannot Constrain a Learning System
Shih-Wai Lin, **Rongwu Xu**, Xiaojian Li, Wei Xu
SSRN Preprint

6. DEBATEQA: Evaluating Question Answering on Debatable Knowledge
Rongwu Xu*, Xuan Qi*, Zehan Qi, Wei Xu, Zhijiang Guo
arXiv Preprint

─────────── **Below are published papers** ───────────

7. Nuclear Deployed: Analyzing Catastrophic Risks in Decision-making of Autonomous LLM Agents
Rongwu Xu*, Xiaojian Li*, Shuo Chen*, Wei Xu
In Findings of *the 63rd Annual Meeting of the Association for Computational Linguistics* (**ACL 2025 Findings**)

8. Does Chain-of-Thought Reasoning Really Reduce Harmfulness from Jailbreaking?
Chengda Lu, Xiaoyu Fan, Yu Huang, **Rongwu Xu**, Jijie Li, Wei Xu
In Findings of *the 63rd Annual Meeting of the Association for Computational Linguistics* (**ACL 2025 Findings**)

9. On the Role of Attention Heads in Large Language Model Safety
Zhenhong Zhou, Haiyang Yu, Xinghua Zhang, **Rongwu Xu**, Fei Huang, Kun Wang, Yang Liu, Junfeng Fang, Yongbin Li
In Proceedings of *the Thirteenth International Conference on Learning Representations* (**ICLR 2025**)
Oral

10. MR-BEN: A Comprehensive Meta-Reasoning Benchmark for Large Language Models
Zhongshen Zeng, Yinhong Liu, Yingjia Wan, Jingyao Li, Pengguang Chen, Jianbo Dai, Yuxuan Yao, **Rongwu Xu**, Zehan Qi, Wanru Zhao, Linling Shen, Jianqiao Lu, Haochen Tan, Yukang Chen, Hao Zhang, Zhan Shi, Bailin Wang, Zhijiang Guo, Jiaya Jia
In Proceedings of *the Thirty-Eighth Annual Conference on Neural Information Processing Systems* (**NeurIPS 2024**)

11. Knowledge Conflicts for LLMs: A Survey
Rongwu Xu*, Zehan Qi*, Zhijiang Guo, Cunxiang Wang, Hongru Wang, Yue Zhang, Wei Xu
In Proceedings of *the 2024 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2024**)

12. Walking in Others' Shoes: How Perspective-Taking Guides LLMs in Reducing Toxicity and Bias
Rongwu Xu, Zi'an Zhou, Tianwei Zhang, Zehan Qi, Su Yao, Ke Xu, Wei Xu, Han Qiu
In Proceedings of *the 2024 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2024**)

13. Course-Correction: Safety Alignment Using Synthetic Preferences
Rongwu Xu*, Yishuo Cai*, Zhenhong Zhou, Renjie Gu, Haiqin Wang, Yan Liu, Tianwei Zhang, Wei Xu, Han Qiu
In Proceedings of *the 2024 Conference on Empirical Methods in Natural Language Processing: Industry Track* (**EMNLP 2024**)

14. Long²RAG: Evaluating Long-Context & Long-Form Retrieval-Augmented Generation with Key Point Recall
Zehan Qi*, **Rongwu Xu***, Zhijiang Guo, Cunxiang Wang, Hao Zhang, Wei Xu
In Findings of *the 2024 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2024 Findings**)

15. How Alignment and Jailbreak Work: Explain LLM Safety through Intermediate Hidden States
Zhenhong Zhou, Haiyang Yu, Xinghua Zhang, **Rongwu Xu**, Fei Huang, Yongbin Li
In Findings of *the 2024 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2024 Findings**)

16. Sing it, Narrate it: Quality Musical Lyrics Translation
Zhuorui Ye, Jinhan Li, **Rongwu Xu**
In Findings of *the 2024 Conference on Empirical Methods in Natural Language Processing* (**EMNLP 2024 Findings**)

17. The Earth is Flat because...: Investigating LLMs' Belief towards Misinformation via Persuasive Conversation
Rongwu Xu, Brian S. Lin, Shujian Yang, Tianqi Zhang, Weiyan Shi, Tianwei Zhang, Zhixuan Fang, Wei Xu, Han Qiu
In Proceedings of *the 62nd Annual Meeting of the Association for Computational Linguistics* (**ACL 2024**)
Oral
Outstanding Paper Award

18. Preemptive Answer "Attacks" on Chain-of-Thought Reasoning
Rongwu Xu*, Zehan Qi*, Wei Xu
In Findings of *the 62nd Annual Meeting of the Association for Computational Linguistics* (**ACL 2024 Findings**)

19. Exploring Chinese Humor Generation: A Study on Two-part Allegorical Sayings
Rongwu Xu
In Proceedings of *the 2024 International Joint Conference on Neural Networks* (**IJCNN 2024**)

20. Tempo: Confidentiality Preservation in Cloud-based Neural Network Training
Rongwu Xu and Zhixuan Fang
In Proceedings of *the 2024 International Joint Conference on Neural Networks* (**IJCNN 2024**)

21. LSync: A Universal Timeline-synchronizing Solution for Live Streaming
Yifan Xu*, Fan Dang*, **Rongwu Xu**, Xinlei Chen, Yunhao Liu
In *IEEE/ACM Transactions on Networking, 2024* (**ToN**)

22. MISO: Legacy-compatible Privacy-preserving Single Sign-on using Trusted Execution Environments
Rongwu Xu, Sen Yang, Fan Zhang, Zhixuan Fang
In Proceedings of *the 2023 IEEE 8th European Symposium on Security and Privacy* (**EuroS&P 2023**)

23. LSync: A Universal Event-synchronizing Solution for Live Streaming
Yifan Xu, Fan Dang, **Rongwu Xu**, Xinlei Chen, Yunhao Liu
In Proceedings of *the IEEE INFOCOM 2022 - IEEE Conference on Computer Communications* (**INFOCOM 2022**)

24. LifeRec: A Mobile App for Lifelog Recording and Ubiquitous Recommendation
Jiayu Li, Hantian Zhang*, Zhiyu He*, **Rongwu Xu***, Pingfei Wu*, Min Zhang, Yiqun Liu, Shaoping Ma
In Proceedings of *the 2022 Conference on Human Information Interaction and Retrieval* (**CHIIR 2022**)

Honors and Awards (Selected)

Outstanding Graduate at Tsinghua University (Highest honor, Top 1.3%, 84 out of 6500+, Top 1 in IIIS)	2025
Outstanding Master Thesis at Tsinghua University (Highest honor, Top 1.3%, 84 out of 6500+, Top 1 in IIIS)	2025
Most Recognized Research Outcomes at Tsinghua University Nomination (Top 2 in IIIS)	2024
Tsinghua University Excellent Teaching Assistant (Top 2%, <200 out of 10000+)	2024
National Scholarship (Top 1%, by Ministry of Education of China)	2024
Tsinghua University Outstanding Student Cadre (Top 1.5%, 121 out of 9000+)	2024
ACL 2024 Outstanding Paper Award (Top 0.79%, 35 out of 4407)	2024
IJCNN 2024 Travel Grants	2024
Tsinghua-Yangtze River Delta International R&D Community Talent Scholarship	2023
Tsinghua University Overall Excellence Scholarship (Top 10%)	2023
Tsinghua University Overall Excellence Scholarship (Top 10%)	2022
Tsinghua University Technological Innovation Excellence Scholarship	2020
1st in "Youth in Action" Social Practice at Tsinghua University	2020
Tsinghua-Panasonic Scholarship (Top 10%)	2019
Outstanding Volunteers in Beijing	2018
2nd Prize (Preliminary) in Chinese Chemistry Olympiad (CChO)	2017
1st Prize in Chinese Chemistry Olympiad (Beijing Regional Qualifiers)	2017

Talks and Presentations

Catastrophic Risks and Deception of LLM Agents	
- Misalignment and Control Workshop (w. Concordia AI, FAR.AI, etc), Singapore	Apr 2025
The Choice of Research	
- Speech as a student representative at the 2024 IIIS opening ceremony, IIIS, Tsinghua	Sep 2024
Investigating LLMs' Beliefs and Behaviors Under Persuasive Misinformation	
- Oral report@ACL conference, Bangkok, Thailand	Aug 2024
- Propaganda film, IIIS, Tsinghua	Apr 2024
Knowledge Conflicts for (RAG) LLMs	
- Online talk, NICE (w. Soochow University)	Jul 2024
Privacy-preserving Authentication using TEE	
- Oral report, EuroS&P conference, Delft, The Netherlands	May 2023

Experiences

Working

University of Toronto, Toronto ON, Canada	Sep 2024 - Dec 2024
Research Assistant (Remote)	
- Host: Prof. Zhijing Jin	
- Topic: AI Alignment	
Westlake University, Zhejiang, China	Aug 2023 - Mar 2024
Research Assistant (Remote)	
- Host: Prof. Yue Zhang	
- Topic: Knowledge of LLMs	
Duke University, Durham NC, USA	Apr 2021 - Oct 2022
Research Assistant	
- Host: Prof. Fan Zhang (Now at Yale University)	
- Topic: Privacy-preserving Authentication	

Working

Shanghai Qi Zhi Institute, Shanghai, China   Sep 2024 - Present
RESEARCH INTERN
   - Mentor: Prof. Wei Xu
   - Topic: Clinical Large Multimodal Language Models
TongYi Vision Intelligence Lab, Alibaba Inc., Beijing, China   May 2024 - Aug 2024
RESEARCH INTERN
   - Mentor: Yu Liu
   - Topic: Generative Multimodal Models
Shanghai Qi Zhi Institute, Shanghai, China   Dec 2022 - Jan 2023
RESEARCH INTERN
   - Mentor: Prof. Zhixuan Fang
   - Topic: Decentralized Finance

Teaching

I was invited to share my teaching experience within my department (2024 & 2023) and was awarded as an excellent teaching assistant at Tsinghua University (2024).

Introduction of Large Language Model Applications, Tsinghua University   Spring 2025, 2024
   - HEAD TEACHING ASSISTANT & ORGANIZER
   - Directed labs, organized curriculum, coordinated a team of 10 graduate students
Operating System and Distributed System, Tsinghua University   Fall 2023
   - TEACHING ASSISTANT
   - Held discussions, office hours; graded exams, assignments, and projects
Distributed System and Blockchain, Tsinghua University   Spring 2022
   - TEACHING ASSISTANT
   - Held discussions, office hours; graded exams, assignments, and projects

Mentoring

I have supervised a total of **7** undergraduate/graduate students, many of whom have co-published articles under my mentorship.

Xuan Qi, Undergraduate, IIIS, Tsinghua University	Mar 2024 - Present
Yishuo Cai, Undergraduate, Central South University → Peking Univ. (PhD)	Apr 2024 - Oct 2024
Zi'an Zhou, Undergraduate, Zhili College, Tsinghua University	Dec 2023 - May 2024
Tianqi Zhang, Undergraduate, Tsinghua Univ. → Tsinghua Univ. (Master's)	Jun 2023 - Apr 2024
Brian S. Lin, Undergraduate, Tsinghua Univ. → Tsinghua Univ. (Master's)	Jun 2023 - Apr 2024
Shujian Yang, Master's, SPEIT, Shanghai Jiao Tong University	Sep 2023 - Feb 2024
Xingyu Dang, Undergraduate, IIIS, Tsinghua University	Oct 2021 - Jul 2022

PROFESSIONAL SERVICES

Reviewer
ACL Rolling Review   2024 - Present
   - Tracks: Ethics, Bias, and Fairness, Human-Centered NLP (2025 -), NLP Applications, Resources and Evaluation
IEEE Access   2025
Memberships

Member, Association for Computational Linguistics	Jul 2024 - Present
Member, International Neural Network Society (INNS)	Mar 2024 - Present
Member, Institute of Electrical and Electronics Engineers (IEEE)	Mar 2024 - Present
Member, ACL SIGSEC, Association for Computational Linguistics	Mar 2024 - Present

SOCIETAL LEADERSHIPS

I have held positions in various student organizations at Tsinghua University and IIIS, and have accumulated rich student work experience.

President, IIIS Graduate Students Union, Tsinghua University   Jun 2024 - Jun 2025
 - Responsible for organization and publicity

Freshman Counselor, Graduate Class 2024, IIIS, Tsinghua University   May 2024 - Jun 2025
 - Facilitated communication among new graduate students and fostered class cohesion

Counselor, The 39th Summer School for Graduate, Tsinghua University   Aug 2024
 - Responsible for publicity
 - *Award: Second Prize for Publicity Work*

Captain, Summer Social Practice for Graduate (Shenzhen-Hong Kong Line),   Apr 2024 - Jul 2024
IIIS, Tsinghua University
 - Coordinated team, liaised with government entities, led publicity efforts
 - *Award: Excellent Individual of IIIS Summer Social Practice*

Member, IIIS Graduate Students Union, Tsinghua University   Jun 2023 - Jun 2024
 - Organized the first student festival and various social activities
 - *Award: Excellent Individual of IIIS Graduate Students Union (2023-2024)*

SKILLS AND EXPERTISE

- **Research:** Experienced in deep learning/data analysis, also ability with computer systems/applied cryptography/software engineering.

- **Programming Language:** Proficient in C++/Go/Python/Java/JavaScript/LaTeX, also ability with Verilog/System Verilog/ASM/Rust/P4/HTML/Matlab.

- **Technological:** Proficient in Pytorch/NumPy/Matplotlib/Git/Linux OS/Markdown, also ability with Docker/Wireshark/Microsoft Office.

- **Other Expertise:** Good communication skills, love collaborating with people, experienced in mentoring students, works well in a team.

- **Standard Language Test (TOEFL):** 106 (May 2021).