

# XIAOYING SONG

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## RESEARCH INTERESTS

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Human-centered AI, Large Language Models, Natural Language Processing

## EDUCATION

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**University of North Texas, USA** August 2023 - Now  
*PhD in Information Science, concentration in Data Science*

**Central China Normal University, China** August 2021 - June 2023  
*Master in Information Science*

**Wuhan Institute of Technology, China** August 2017 - June 2021  
*Bachelor in Accounting*

## PUBLICATIONS

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- [1] **Xiaoying Song**, Anirban Saha Anik, Dibakar Barua, Pengcheng Luo, Junhua Ding, & Lingzi Hong. Speaking at the right level: Literacy-controlled counterspeech generation with RAG-RL. In *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing*. **EMNLP 2025**
- [2] **Xiaoying Song**, Anirban Saha Anik, Eduardo Blanco, Vanessa Frias-Martinez, & Lingzi Hong. A dynamic fusion model for consistent crisis response. In *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing*. **EMNLP 2025**
- [3] Anirban Saha Anik\*, **Xiaoying Song\***, Elliott Wang, Bryan Wang, Bengisu Yarimbas, & Lingzi Hong. Multi-agent retrieval-augmented framework for evidence-based counterspeech against health misinformation. In *Proceedings of the Second Conference on Language Modeling*. **COLM 2025** (\*co-first authors)
- [4] **Xiaoying Song**, Sharon Lisseth Perez, Xinchun Yu, Eduardo Blanco, & Lingzi Hong. Echoes of discord: Forecasting hater reactions to counterspeech. In *Proceedings of the 2025 Conference of the North American Chapter of the Association for Computational Linguistics*. **NAACL 2025**
- [5] **Xiaoying Song**, Sujana Mamidisetty, Eduardo Blanco, & Lingzi Hong. (2025, January) Assessing the human likeness of AI-generated counterspeech. In *Proceedings of the 31st International Conference on Computational Linguistics*. **COLING 2025**
- [6] Lingzi Hong, Pengcheng Luo, Eduardo Blanco, & **Xiaoying Song**. Outcome-constrained large language models for countering hate speech. In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing*. **EMNLP 2024**
- [7] **Xiaoying Song**, Anirban Saha Anik, Vanessa Frías-Martínez, & Lingzi Hong. Dynamic fusion of large language models for crisis communication. In *Proceedings of the 22nd International Conference on Information Systems for Crisis Response and Management*. **ISCRAM 2025**.
- [8] Jinyu Liu, **Xiaoying Song**, Diana Zhang, Jason Thomale, Daqing He, & Lingzi Hong. A hybrid framework for subject analysis: Integrating embedding-based regression models with large language models. In *Proceedings of the 2025 Annual Meeting of the Association for Information Science and Technology (ASIS&T)*. **ASIS&T 2025**
- [9] Sharon Lisseth Perez, **Xiaoying Song**, & Lingzi Hong. Analyzing the language of rejection: A study of user flagging responses to hate speech on Reddit. *Information Research: An International Electronic Journal*, 30(iConf), 815–823. **iConference 2025**
- [10] Qitao Tan, **Xiaoying Song**, Guanghui Ye, & Chuan Wu. (2023). An effective negative sampling approach for contrastive learning of sentence embedding. *Machine Learning*, 112(12), 4837–4861. **Machine Learning**
- [11] Guanghui Ye, Cancan Wang, Chuan Wu, Ze Peng, Jinyu Wei, **Xiaoying Song**, Qitao Tan, & Lanqi Wu. (2023) Research frontier detection and analysis based on research grants information: A case study on health informatics in the US. **Journal of Informetrics**

RESEARCH PROJECTS

Human Signals in Large Language Models and Spatio-Temporal Reasoning

Aug 2025 – Present Project Leader

Exploring the integration of human signals (e.g., EEG, gaze, behavioral cues) into large language models to enhance reasoning. Designed methods for spatio-temporal reasoning tasks that capture dynamic human–AI interactions, and investigated multimodal approaches to improve interpretability and user alignment.

Addressing Information Needs and Enhancing Communication During Crises

Aug 2024 – Present Project Leader

Built a taxonomy of information needs during crises such as pandemics, natural disasters, and conflicts. Designed a Retrieval-Augmented Generation (RAG)-based crisis communication system to provide reliable and timely responses, and conducted multidimensional evaluation of response quality (accuracy, empathy, actionability).

User-Centered Health Misinformation Mitigation and Counter-Narrative Evaluation

Aug 2023 – Present Project Leader

Analyzed COVID-19 health misinformation and identified linguistic patterns across online communities. Developed a multi-agent system for literacy-controlled counter-narratives tailored to diverse health literacy levels, and conducted user studies to evaluate personalization, trust, and effectiveness.

HONORS AND AWARDS

UNT Phil and Lis Turner Outstanding Award, First Place	2024 – 2025
UNT Porter-Evans Scholarship	2024 – 2025
UNT COI/IS Leon M. Liddel Scholarship	2023 – 2024
UNT Graduate School Travel Award	2023 – 2024
CCNU Excellent Student Awards	2021 – 2023
CCNU Graduate Scholarships	2021 – 2023

EXPERIENCES

Research Assistant CCNU, UNT, Aug 2021 – Present

Teaching Assistant UNT, Aug 2023 – Jul 2024

Introduction to Data Science; Data Visualization; Information Architecture

Conference Tutorials

- Song, X. & Hong, L. (2025). *AI-assisted Communications*.
- Song, X. & Hong, L. (2024). *Data Collection, Classification, and Transformation*.
- Song, X. & Hong, L. (2024). *Comprehending the Semantic Essence of Text: Leveraging SEANCE for Textual Analysis*.

All presented at IDEA Institute on AI, Association for Information Science & Technology (ASIS&T).

MISCELLANEOUS

**Programming & Data Processing:** Python (Pandas, NumPy, PySpark); proficient in data wrangling, preprocessing, and scalable pipeline development.

**Machine Learning & AI:** Hands-on work in setting up, fine-tuning, and evaluating LLMs using Hugging Face Transformers and PEFT methods.

**Database Management:** Proficient in SQL; experienced with MySQL and Toad for relational data querying and manipulation.

**Academic Service:** Reviewer for conferences NAACL, EMNLP, COLING, COLM, and NeurIPS