

XINGMENG ZHAO

PHD STUDENT · INFORMATION TECHNOLOGY AT THE UTSA CARLOS ALVAREZ COLLEGE OF BUSINESS

One UTSA Circle, San Antonio, TX 78249

✉ xingmeng.zhao@utsa.edu | 🏠 <https://zephyr1022.github.io> | 🐦 @ZephyrStarr

EDUCATION

University of Texas at San Antonio

San Antonio

PHD IN INFORMATION TECHNOLOGY

Aug 2020 - present

- Advisor: Dr. Anthony Rios

University of Colorado Denver

Denver

MS IN APPLIED MATHEMATICS AND STATISTICS

Aug 2015 - Dec 2017

- Advisor: Dr. Stephanie Santorico

Minzu University of China

Beijing

BS IN STATISTICS

Aug 2008 - May 2012

RESEARCH INTERESTS

Domain: Natural Language Processing; Machine Learning; Clinical Informatics; Biomedical Informatics; Computational Social Science; Artificial Intelligence in Medicine and Imaging; Human-computer interaction; Responsible AI; Generative AI
Method: Information Extraction (Named Entity Recognition, Relation Classification, Text Classification, and Event Extraction), Reinforcement Learning from Human Feedback (RLHF), Retrieval-Augmented LLMs, Few-shot Learning, Text Mining

RESEARCH EXPERIENCE

Graduate Research Assistant - The University of Texas at San Antonio

2020 - present

- Investigated Model Fairness for Gender Bias in Chemical Named Entity Recognition Systems.
- Developed an AI system to automatically extract clinical event information from EHRs data.
- Designed a human-computer interaction system to automatically generate stories about potential AI harm to minority groups, aiming to raise awareness among developers and policymakers about AI fairness and risks.
- Led the UTSA-NLP team to achieve top performances in multiple NLP competitions, including Patronizing and Condescending Language Detection (SemEval), Extracting Social Determinants of Health (N2C2), Radiology Report Summarization (BioNLP), BabyLM Challenge, and Chemotherapy Treatment Timelines Extraction (ClinicalNLP).

PUBLICATIONS

PEER-REVIEWED JOURNAL PUBLICATIONS

J1. **A Marker-based Neural Network System for Extracting Social Determinants of Health.**

Xingmeng Zhao and Anthony Rios

In: Journal of the American Medical Informatics Association (JAMIA).

(Impact Factor: 7.942; H5-index: 74; Quartile: Q1; ABDC Journal Quality List: A)

PEER-REVIEWED CONFERENCE AND WORKSHOP PUBLICATIONS

C1. **Bike Frames: Understanding the Implicit Portrayal of Cyclists in the News.**

Xingmeng Zhao, Xavier Walton, Suhana Shrestha, Anthony Rios

Forthcoming in: Proceedings of the International AAAI Conference on Web and Social Media (ICWSM), 2025.

(H5-index: 56; Acceptance Rate: 20%)

C2. **Charting the Future: Using Chart Question-Answering for Scalable Evaluation of LLM-Driven Data Visualizations.**

James Ford, **Xingmeng Zhao**, Dan Schumacher, and Anthony Rios

Forthcoming in: Proceedings of the 31st International Conference on Computational Linguistics (COLING 2025)

(H5-index: 65)

C3. **A Comprehensive Study of Gender Bias in Chemical Named Entity Recognition Models.**

Xingmeng Zhao, Ali Niazi, Anthony Rios

In: Proceedings of the Conference of the 2024 North American Chapter of the Association for Computational Linguistics (NAACL 2024).

(H5-index: 132; Acceptance Rate: 23%)

- C4. **Translating Natural Language Specifications into Access Control Policies by Leveraging Large Language Models.**
Sherifdeen Lawal, **Xingmeng Zhao**, Anthony Rios, Ram Krishnan and David Ferraiolo
Forthcoming In: IEEE International Conference on Trust, Privacy and Security in Intelligent Systems, and Applications.
- C5. **UTSA-NLP at ChemoTimelines 2024: Evaluating Instruction-Tuned Language Models for Temporal Relation Extraction.**
Xingmeng Zhao and Anthony Rios
In: Proceedings of ClinicalNLP Workshop at NAACL 2024.
- C6. **UTSA-NLP at RadSum23: Multi-modal Retrieval-Based Chest X-Ray Report Summarization.**
Tongnian Wang*, **Xingmeng Zhao*** and Anthony Rios
In: Proceedings of BioNLP Workshop at ACL 2023.
(H5-index: 25)
- C7. **BabyStories: Can Reinforcement Learning Teach Baby Language Models to Write Better Stories?**
Xingmeng Zhao, Tongnian Wang, Sheri Osborn, and Anthony Rios
In: Proceedings of the BabyLM Challenge at the 27th Conference on Computational Natural Language Learning (CoNLL) at EMNLP 2023.
- C8. **Turning Stocks into Memes: A Dataset for Understanding How Social Communities Can Drive Wall Street.**
Richard Alvarez, Paras Bhatt, **Xingmeng Zhao**, Anthony Rios
In: Proceedings of the International AAAI Conference on Web and Social Media (ICWSM), 2022.
(H5-index: 54)
- C9. **UTSA-NLP at SemEval-2022 Task 4: An Exploration of Simple Ensembles of Transformers, Convolutional, and Recurrent Neural Networks.**
Xingmeng Zhao and Anthony Rios
In: Proceedings of the 16th International Workshop on Semantic Evaluation (SemEval-2022).
(H5-index: 46)

PUBLICATIONS UNDER REVIEW AND IN PREPARATION

- W1. **Improving Expert Radiology Report Summarization by Prompting Large Language Models with a Layperson Summary.**
Xingmeng Zhao, Tongnian Wang, and Anthony Rios
arXiv:2406.14500
Under Review In: Proceedings of the 2024 Annual Meeting of the Association for Computational Linguistics (ACL).
(H5-index: 215)
- W2. **Towards Safer Telehealth: Using Storytelling to Educate on Unintended Harm from AI-Powered Tools.**
Xingmeng Zhao and Anthony Rios
In preparation for submission: Journal of Management Information Systems (JMIS).
- W3. **Hierarchical Analysis of Supportive Interaction Patterns in Online Caregiver Communities.**
Dan Schumacher, Vishalakshi Arumugam, **Xingmeng Zhao**, Sashank Nalluri, and Anthony Rios
Targeted at: Proceedings of the International AAAI Conference on Web and Social Media (ICWSM).
- W4. **Linguistic Bias in Real Estate: Evaluating and Mitigating the Influence of Listing Descriptions on Racial Disparities in Housing Prices.**
Xingmeng Zhao, Brandon Lwowski and Anthony Rios
Targeted at: Information Systems Research (ISR).
- W5. **Coding Logical Rule Reasoning and Structured Knowledge into Large Language Models for Enhancing Document-level Relation Extraction.**
Xingmeng Zhao and Anthony Rios
Targeted at: Journal of the American Medical Informatics Association (JAMIA).

Awards, Fellowships, & Grants

Aug 2024	PhD Excellence Fund , UTSA Carlos Alvarez College of Business
June 2024	PhD Excellence Fund , UTSA Carlos Alvarez College of Business
Oct 2023	PhD Excellence Fund , UTSA Carlos Alvarez College of Business
April 2023	2023 Ph.D. Student of the Year Awards , UTSA Carlos Alvarez College of Business
April 2023	Travel Award , University of Michigan MIDAS Future Leaders Summit
June 2022	PhD Excellence Fund , UTSA Carlos Alvarez College of Business
Nov 2022	PhD Excellence Fund , UTSA Carlos Alvarez College of Business

*These authors contributed equally to the paper.

TALKS PRESENTATIONS

- T1. Poster Presented “Bike Frames: Understanding the Implicit Portrayal of Cyclists in the News” at the Los Datos Conference 2024 , held in San Antonio, Texas.
- T2. Selected as the participant of the late-stage AMCIS 2024 Doctoral Consortium at the 2024 annual Americas Conference on Information Systems (AMCIS), held in Salt Lake City, Utah.
- T3. Poster Presented “A Comprehensive Study of Gender Bias in Chemical Named Entity Recognition Models.” at the 2024 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), held in Mexico City, Mexico.
- T4. Poster Presented “UTSA-NLP at ChemoTimelines 2024: Evaluating Instruction-Tuned Language Models for Temporal Relation Extraction.” at the NAACL 2024, held in Mexico City, Mexico.
- T5. Invited to present a flash talk on “Multi-modal Retrieval-Based Chest X-Ray Report Summarization” at the 2023 Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting, held in Phoenix, Arizona.
- T6. Poster Presented “UTSA-NLP at RadSum23: Multi-modal Retrieval-Based Chest X-Ray Report Summarization” at the 2023 Annual Meeting of the Association for Computational Linguistics (ACL), held in Toronto, Canada.
- T7. Poster Presented “A Marker-based Neural Network System for Extracting Social Determinants of Health” at the Los Datos Conference 2023 , held in San Antonio, Texas.
- T8. Short Talk “Responsible data science and AI” at the 2023 MIDAS Future Leaders Summit, held in University of Michigan in Ann Arbor, Michigan.
- T9. Oral Presented “A Marker-based Neural Network System for Extracting Social Determinants of Health” at the 2022 National NLP Clinical Challenges (n2c2) Shared Task and Workshop, held in Washington, DC.
- T10. Poster Presented “UTSA NLP at SemEval-2022 Task 4: An Exploration of Simple Ensembles of Transformers, Convolutional, and Recurrent Neural Networks” at the 2022 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), held in Seattle, Washington.
- T11. Poster Presented “Gender Bias In The Extraction Of Chemicals From Text” at the 2021 San Antonio Military Health And Universities Research Forum, held in San Antonio, Texas.

MENTORSHIP EXPERIENCE

Xavier Walton, (Summer 2022), Community College Undergraduate Student
Suhana Shrestha, (Summer 2022), UTSA Undergraduate Student

TEACHING EXPERIENCE

- Spring 2023 **IS 1413 Excel for Business Information Systems**, Instructor
- Class Size: 75
 - Overall Rating of Instructor Evaluation 4.6/5.0
 - Overall Rating of Course Evaluation 4.7/5.0
- Spring 2024 **IS 2053 Programming Languages I with Scripting**, Instructor
- Class Size: 43
 - Overall Rating of Instructor Evaluation 3.9/5.0
 - Overall Rating of Course Evaluation 4.0/5.0
- Fall 2024 **IS 1403 Business Info Systems Fluency**, Instructor

PROFESSIONAL ACTIVITIES

Reviewer for Neurocomputing, 2024. Journal of the American Medical Informatics Association (JAMIA), 2024. Empirical Methods in Natural Language Processing (EMNLP), 2024. Computers & Security, 2023. Scientific Reports, 2023. EMNLP Workshop, 2023. American Medical Informatics Association (AMIA), 2023. Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics (AACL), 2023. SIGNLL Conference on Computational Natural Language Learning (CoNLL), 2022. the Association for Computational Linguistics (ACL), 2023.

Member of the American Medical Informatics Association (AMIA), Association for Computational Linguistics (ACL), The Institute for Operations Research and the Management Sciences (INFORMS), the Association for Information System (AIS).