

Damin Zhang

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Education

Purdue University, Ph.D. in Computer and Information Technology (GPA: 3.9/4.0) 2022 – 2026 (Expected)

- **Research Interests:** Intent Recognition, Temporal Knowledge, Meaning Representation

Purdue University, M.S. in Computer and Information Technology (GPA: 3.83/4.0) 2020 – 2022

- **Thesis:** Examination of Gender Bias in News Articles [link]

University Of Massachusetts Amherst, B.S. in Computer Science 2015 – 2019

Publications

- **2025 - Damin Zhang**, Yi Zhang, Geetanjali Bihani, Julia Rayz. "Hire Me or Not? Examining Language Model's Behavior with Occupation Attributes." In *COLING 2025: The 31st International Conference on Computational Linguistics*. [paper]
- **2024 - Damin Zhang** and Julia Rayz. "Beyond the Noisy Form: Fuzzy Author Role Classification with Intention." In *NAFIPS 2024: North American Fuzzy Information Processing Society Annual Conference*.
- **2024 -** Hayden Barber, Torsten Reimer, **Damin Zhang**, Julia Rayz. "Is Alexa Happy or Angry? Perceptions and Attributions of Emotional Displays of Smart Technologies in Residential Homes." *Sustainability* [paper]
- **2023 -** Yifei Hu, Jinen Setpal, **Damin Zhang**, Jacob Zietek, Jack Lambert, Rey Gonzalez, Julia Rayz. "BoilerBot: A Reliable Task-oriented Chatbot Enhanced with Large Language Models." *Proceedings of Alexa Prize TaskBot Challenge 2* [paper]
- **2022 - Damin Zhang** and Julia Rayz. "Examining Stereotypes in News Articles." *The International FLAIRS Conference*, 35 [paper]

Experience

Research Assistant, Purdue University Aug. 2024 – Present

- Built real-time text analysis system to identify high-priority offenders based on conversations with multiple actors and in multiple languages.
- Designed and implemented an interactive interface focusing on effortless navigation and quick comprehension of features using React, HTML, CSS, JavaScript for frontend and Python and Flask for backend.

Software Engineer Intern, WAM Partners Aug. 2024 – Oct. 2024

- Built an all-in-one multimodal AI application to improve pet adoption rate and pet-human match rate.
- Designed and implemented a hybrid search feature enabling both text- and image-based queries using multimodal models and vector databases.
- Developed a RAG-enhanced chatbot for pet care Q&A, achieving an 81.34% hit rate for user inquiries.
- Engineered an advanced UI for interactive communication using React, Vite, and Flask, transforming uni-directional searches into continuous conversations that users can revisit, download, and delete.

Research Assistant, Purdue University Jan. 2023 - Aug. 2023

- Developed task-oriented chatbot for multimodal instruction generation to complete complex tasks.
- Orchestrated comprehensive navigation, streamlined queries to modularized actions, enabling combination of actions for complex task instructions.
- Engineered a multi-dimensional dashboard to display critical metrics such as average daily ratings, abnormal logs, and module status.

Software Engineer Intern, Happy May 2022 – Aug 2022

- Developed advanced speech-to-json data extraction system for frictionless mental health support.
- Integrated large language model into pipeline, leading to a remarkable enhancement in intent recognition and entity extraction, resulted in an average accuracy boost of 35.2% and speed boost of 43% compared to the performance of human annotation.
- Designed and implemented a flexible feature, revolutionizing use scenarios by enabling both recorded audio extraction and real-time speech extraction.

Technical Skills

Programming: Python, JavaScript, HTML, CSS, SQL

Technologies and Frameworks: PyTorch, Django, Flask, React, Docker, Vite, VectorDB, Bootstrap, AWS, Fast API, Git