

Damin Zhang

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Education

Purdue University, Ph.D. in Computer and Information Technology (GPA: 3.9/4.0)	2022 – 2026 (Expected)
Purdue University, M.S. in Computer and Information Technology (GPA: 3.83/4.0)	2020 – 2021
University Of Massachusetts Amherst, B.S. in Computer Science	2015 – 2019

Publications

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- **2025 - Damin Zhang**, Julia Rayz. "Temporal Understanding under Deictic Frame of Reference." *Under Review*. [paper]
 - **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

AI/Machine Learning Engineer Intern, LinkedIn	May 2025 – Aug. 2025
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- Designed and deployed an agentic Deep Job Market Research System, reducing repetitive job discovery by integrating LLM reasoning and scalable retrieval pipelines.
- Fine-tuned Qwen3-8B with knowledge distillation from GPT-4o, followed by reinforcement learning, improving multi-task performance.
- Optimized inference performance by fine-tuning Qwen3-0.6B for low-latency deployment, achieving accuracy comparable to Qwen2.5-1.5B-ins while reducing resource costs.
- Applied PyTorch, LangChain, and LangGraph for scalable experimentation and deployment of ML pipelines.

Research Assistant, Purdue University	Aug. 2024 – May 2025
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- Built a real-time multi-lingual text analysis system to detect high-priority offenders from group conversations, leveraging streaming data pipelines and scalable NLP models.
- Designed and implemented a full-stack interactive interface for rapid event monitoring using React, HTML, CSS, JavaScript for frontend, and Python, Flask for backend.
- Enhanced system scalability and usability by developing modular APIs for text ingestion, processing, and visualization.

Research Assistant, Purdue University	Jan. 2023 - Aug. 2023
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- Developed a task-oriented multimodal chatbot for complex instruction generation, integrating NLP and multimodal reasoning modules into a unified system.
- Orchestrated modular query understanding pipelines that supported compositional reasoning, enabling efficient execution of multi-step tasks.
- Built a scalable analytics dashboard to monitor chatbot performance with visualization.

Projects

RAG-enhanced Multimodal Search System

- Developed a hybrid multimodal search system where users can adopt pets in dialog interactions
- Tools Used: Python, Flask, React, RAG, HTML, CSS, JavaScript

Technical Skills

Programming: Python, JavaScript, HTML, CSS, SQL, Shell (bash)

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