Zhenduo Wang

AI/ML Engineer at Growth Protocol
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RESEARCH EXPERTISE

I am currently an AI/ML engineer at Growth Protocol Inc., working on developing and maintaining LangGraph-based tool-calling LLM agents and workflows for Enterprise Growth. My research interests lies at the intersection of Natural Language Processing (NLP) and Information Retrieval (IR), with a particular focus on conversational AI, natural language generation and large language models (LLMs) post-training. I also bring substantial experience in Reinforcement Learning and Imitation Learning, which have been central to several of my previous research projects.

EDUCATION

University of Utah — Aug. 2018 - Jan. 2024
Ph.D. in Computer Science
Advised by: Qingyao Ai and Vivek Srikumar
Thesis: Modeling Mixed-initiative Conversational Search

University of Minnesota Duluth — Sept. 2016 - May 2018
M.S. in Mathematics
Advised by: Yang Li and Ted Pedersen

Dalian University of Technology — Sept. 2012 - Jun. 2016
B.E. in Department of Software Engineering

WORK EXPERIENCE

AI/ML Engineer at Growth Protocol Inc — *May. 2025 - Now*

- Improving and maintaining LangGraph-based tool-calling LLM agents and workflows for Enterprise Growth.

Postdoc at Georgia Institute of Technology — *March. 2024 - March. 2025*

- Advised by: Alan Ritter
- Led dataset creation for physical safety in instructional chat assistant.
- Aligned large language models (e.g., Llama-3.1, Qwen-2.5) with physical safety awareness for conversational chat assistant with Supervised Finetuning (SFT) and Proximal Policy Optimization (PPO).

Research Intern at Microsoft — *May. 2022 - Aug. 2022*

- Conducted research about Zero-shot Clarifying question generation for conversational search and published in The Web Conference 2023 (WWW'23).

Machine Learning Intern at Roku Inc. — *May. 2021 - Aug. 2021*

- Conducted online and offline unbiased learning-to-rank research for Roku's Search system and demonstrated its effectiveness.

Data Scientist Intern at American Family Insurance   *May. 2019 - Aug. 2019*

- Developed, tested, and refined a BERT based Multi-Task Learning model for home issue classification.

SELECTED PUBLICATIONS

Zhenduo Wang, Ethan Mendes, Ryan Burke, Wei Xu, Alan Ritter, Generating Physical Safety Warnings in Instructional Chat Assistants. In submission to the 2025 Conference on Empirical Methods in Natural Language Processing (**EMNLP'25**).

Andrew Li, **Zhenduo Wang**, Ethan Mendes, Duong Minh Le, Wei Xu, Alan Ritter, ChatHF: Collecting Rich Human Feedback from Real-time Conversations. In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing: System Demonstrations (**EMNLP'24** Demo Track).

Zhenduo Wang, Zhichao Xu, Vivek Srikumar, and Qingyao Ai. An In-depth Investigation of User Response Simulation for Conversational Search. In The Web Conference 2024 (**WWW'24**).

Zhenduo Wang, Yuancheng Tu, Corby Rosset, Nick Craswell, Ming Wu, and Qingyao Ai. Zero-shot Clarifying Question Generation for Conversational Search. In The Web Conference 2023 (**WWW'23**).

Zhenduo Wang and Qingyao Ai. Simulating and Modeling the Risk of Conversational Search. In ACM Transactions on Information Systems (**TOIS**)

Zhenduo Wang and Qingyao Ai. Controlling the Risk of Conversational Search via Reinforcement Learning. In The Web Conference 2021 (**WWW'21**).

TALKS

Conference Presentations
- "An In-depth Investigation of User Response Simulation for Conversational Search." **Distinguished Speaker** in The Web Conference 2024 (WWW).
- "Zero-shot Clarifying Question Generation for Conversational Search." In The Web Conference 2023 (WWW).
- "Controlling the Risk of Conversational Search via Reinforcement Learning." The Web Conference 2021 (WWW).

Invited Talks
- "Modeling Mixed-initiative Conversational Search" at Objective Inc.
- "Controlling the Risk of Conversational Search via Reinforcement Learning." SCAI: Search-Oriented Conversational AI Workshop at SIGIR Conference 2022.

ACADEMIC SERVICE

PC Members
- CIKM 2023 (**Distinguished Reviewer**), 2024, 2025
- SIGIR 2025
- LREC-COLING 2024
- WWW 2024
- TOIS-2023-0153
- TOIS-2025-0012
- CCL 2021
- SemEval 2018

HONOR AND AWARDS	Distinguished Speaker in WWW 2024	2024
	Distinguished Reviewer in CIKM 2023	2023
	Outstanding Graduate Student at University of Minnesota Duluth	2018
	Outstanding Graduate Teaching Assistant at University of Minnesota Duluth	2018
	1st prize in Mathematical Contest In Modeling	2016
	3rd prize in Microsoft Imagine Cup Games Competition	2015
	Outstanding Academic Work Scholarship at Dalian University of Technology	2014