Huanli Gong

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EDUCATION

University of California, Berkeley *May 2026*
M.Eng. Industrial Engineering and Operations Research, Concentration in Management Science & Engineering
- Fung Excellence Award

Duke University *May 2025*
M.S. Computer Science, Concentration in Artificial Intelligence/Machine Learning GPA: 4.00/4.00

The Ohio State University (OSU) *May 2023*
B.S. Computer Science and Engineering, Artificial Intelligence Option; Minor: Mathematics GPA: 4.00/4.00
- Dean's List (all semesters)
- Summa cum laude

EXPERIENCE

ByteDance *Algorithm Engineer Intern* *May 2024 ~ Aug 2024*
- Designed and implemented multi-phase experiments for allocating quotas among all recall methods in various scenarios, to expand the use of efficient methods and reduce the use of inefficient methods based on metrics such as click-through rate and order rate of each method, resulting in a 183k increase in daily gross merchandise volume.
- Optimized the strategy in the Pre-Ranking stage by grouping model-based and rule-based methods to eliminate bias issues between groups, resulting in a 36k increase in daily search page views.
- Improved the main Recall model by introducing a new Bilateral Softmax Loss function and adjusting the temperature parameter settings for positive and negative samples, resulting in an 18.94% increase in offline click-through rates, as well as a 2k increase in daily order.

OSU NLP group *Research Assistant* *May 2022 ~ Sep 2023*
- Implemented a pipeline to generate Automatic Speech Recognition (ASR) errors by simulating noise, and used it to obtain noisy versions of datasets.
- Proposed a method to improve model performance in the pre-training process by not only training in terms of word meanings from context, but also in terms of pronunciation, decreasing word error rate by ~50%.
- Took the lead in natural language understanding subteam in Amazon's Alexa Prize TaskBot Challenge 2. Developed and deployed a new ASR error correction module for TaskBot with a knowledge-based approach tailored for dialog scenarios, while evaluating its performance in comparison to various language models.

PROJECTS

Design and Programming of Intelligent Assistant for the T-One Platform *Jun 2024 ~ Oct 2024*
Developed an LLM-powered assistant for the Anolis community based on the open-source T-One platform. Built and indexed a local vector database from community documents, utilizing sparse vectors for keyword matching and dense vectors for semantic search, and implemented multi-turn conversational AI with RAG-based intelligent response generation.

Dataset for Generating Deep Questions in Education *Aug 2021 ~ Sep 2022*
Created a dataset by extracting, paraphrasing and annotating real questions and answers from students at Khan Academy. Used this dataset to train models including GPT, BART, and T5, and tested them with automatic (BLEU, METEOR, ROUGE-L) and human evaluations, analyzing the effects of different types of prompts, and developing conclusions about ways in which models are challenged as they generate human-like deep questions.

PUBLICATIONS

- Huanli Gong, Liangming Pan, and Hengchang Hu. 2022. KHANQ: A Dataset for Generating Deep Questions in Education. In *Proceedings of the 29th International Conference on Computational Linguistics*, pages 5925–5938.
- Lingbo Mo, Huanli Gong, Sunit Singh, Chang-You Tai, Tianhao Zang, Tianshu Zhang, Huan Sun. 2023. Taco 2.0: A Task-Oriented Dialogue System with Mixed Initiatives and Multi-Modal Interaction. In *Proceedings of the Alexa Prize TaskBot Challenge 2*.
- Patent CN216565201U - Router capable of displaying network information. 05-17-2022
- Patent CN214151904U - Four-way responder based on RS trigger. 09-07-2021
- Patent CN112713861A - Automatic gain and linear control device and method in radio frequency power amplifier. 04-27-2021

AWARDS

- Drawing with LLMs: Gold Medal (1st/1313) 05-27-2025.
- LLMs - You Can't Please Them All: Gold Medal (2nd/1693) 03-04-2025.
- USPTO - Explainable AI for Patent Professionals: Silver Medal (50th/ 571) 07-24-2024.
- 2024 Love of Learning Award from The Honor Society of Phi Kappa Phi.

SKILLS

- **Programming Languages:** Python, Java, C, C++, C#, SQL, R, MATLAB, JavaScript
- **Tools and Platforms:** AWS, GitHub, Microsoft Office, LaTeX