

# Zhuochun Li

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## Education

### University of Pittsburgh

Ph.D. in Information Science

Master of Science in Information Science, GPA: 3.9/4.0

Pittsburgh, USA

Sep 2023 – Present

Jan 2021 – Dec 2022

### Xi'an University of Technology

Bachelor of Engineering in Computer Science

Sep 2016 – Jul 2020

Xi'an, China

## Profile

Highly motivated Ph.D. student in Information Science with research interests in **NLP** and **Machine Learning**.

Proficient in Python, Machine Learning, and advanced NLP methods. Experienced in developing deep learning

methods, **LLMs post-training**, and **knowledge distillation**. Completed **Applied Scientist Intern** at **Amazon**

and Research Intern, published research in top venues such as **SIGIR**, **EMNLP**, and **ACL**.

## Publications

**Li, Zhuochun**, Zhang Yong, Ming Li. Rethinking LLM-as-a-Judge: Representation-as-a-Judge with Small Language Models via Semantic Capacity Asymmetry. *ICLR 2026, Under Review*

César Guerra-Solano, **Zhuochun Li**, Xiang Lorraine Li. Think Globally, Group Locally: Evaluating LLMs Using Multi-Lingual Word Grouping Games. In *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 20155-20176. 2025.

**Li, Zhuochun**, Yuelu Ji, Rui Meng, Daqing He. Learning from Committee: Reasoning Distillation from a Mixture of Teachers with Peer-Review. In *Findings of the Association for Computational Linguistics: ACL 2025*, pages 4190–4205, Vienna, Austria. Association for Computational Linguistics.

Ji, Yuelu, **Zhuochun Li**, Rui Meng, Daqing He. Reason-to-Rank: Distilling Direct and Comparative Reasoning from Large Language Models for Document Reranking. In *Proceedings of the 48th International ACM SIGIR Conference on Research and Development in Information Retrieval*, pp. 2320-2329. 2025.

Ji, Yuelu, **Zhuochun Li**, Rui Meng, Sonish Sivarajkumar, Yanshan Wang, Zeshui Yu, Hui Ji, Yushui Han, Hanyu Zeng, and Daqing He. "RAG-RLRC-LaySum at BioLaySumm: Integrating Retrieval-Augmented Generation and Readability Control for Layman Summarization of Biomedical Texts." In *Proceedings of the 23rd Workshop on Biomedical Natural Language Processing: ACL 2024*, pp. 810–817, Bangkok, Thailand. Association for Computational Linguistics.

**Li, Zhuochun**, Bo Xie, Robin Hilsabeck, Alyssa Aguirre, Ning Zou, Zhimeng Luo, and Daqing He. "Effects of Different Prompts on the Quality of GPT-4 Responses to Dementia Care Questions." In *2024 12<sup>th</sup> IEEE International Conference on Health Informatics (ICHI)*. IEEE, 2024.

**Li, Zhuochun**, Khushboo Thaker, and Daqing He. "SiaKey: A Method for Improving Few-shot Learning with Clinical Domain Information." In *2023 IEEE EMBS International Conference on Biomedical and Health Informatics (BHI)*, pp. 1-4. IEEE, 2023.

Luo, Zhimeng, Yuelu Ji, Abhibha Gupta, Li, **Zhuochun Li**, Adam Frisch, and Daqing He. "Towards Accurate and Clinically Meaningful Summarization of Electronic Health Record Notes: A Guided Approach." In *2023 IEEE EMBS International Conference on Biomedical and Health Informatics (BHI)*, pp. 1-5. IEEE, 2023.

**Li, Zhuochun**, Wang, Zhixiao, Wenyao Yan, Min Huang, Qinyuan Fan, and Xin Wang. "Domestic Violence Crisis Recognition Method based on Bi-LSTM+ Attention." In *2022 8th Annual International Conference on Network and Information Systems for Computers (ICNISC)*, pp. 569-575. IEEE, 2022.

## Academic Experience

### PhD Preliminary Exam Project, University of Pittsburgh

Mar 2024 – Mar 2025

*Enhance the reasoning ability of student LM via knowledge distillation from multiple LLMs.* Pittsburgh, U.S.

- Introduced a novel Fault-Aware Distillation via Peer-Review (FAIR) approach that enables student LLMs to better acquire reasoning skills from multiple teacher LLMs: ChatGPT, Gemini, and Mistral.

- Helped student LM learn not only from the gold-standard rationale but also from feedback on their own mistakes via instruction tuning through a simulated peer-review process between teacher LLMs.
- Demonstrated the effectiveness of our method across comprehensive experiments and analysis on mathematical(GSM8K, SVAMP), commonsense(StrategyQA), and logical(LogiQA) reasoning tasks.

### **Research Assistant, iRIS Lab at University of Pittsburgh**

May 2022 – May 2023

*Improve Few-shot Learning with Clinical Domain Information.*

*Pittsburgh, U.S.*

- Studied few-shot learning methods in the application of text classification and recommendation systems.
- Achieved average accuracy of over 60% by 10-shot training on Siamese Networks via triple loss function, which is comparable to the BERT performance using the whole dataset on this task.

### **Computer Vision - 16-720A, Carnegie Mellon University**

Jan 2022 - Apr 2022

*Complete the Computer Vision course with grade A taught by Professor David Held of CMU* *Pittsburgh, U.S.*

- Learned technologies about Spatial Pyramid Matching, Planar Homographies and Lucas-Kanade Tracking.
- Contributed to tasks about 3D Reconstruction, Neural Networks for Recognition and Photometric Stereo.
- Comprehended the cutting-edge deep learning models such as GAN, VAE and Transformers.

### **Undergraduate Thesis**

Jan 2020 - Jul 2020

*Implementation of Domestic Violence Crisis Recognition Method Based on Deep Learning*

*Xi'an, China*

- Collected 1654 posts related to Domestic violence and built 50-dimensional word vectors via Word2Vec.
- Constructed CNN, RNN, LSTM, Bi-LSTM+self-Attention neural network models to accomplish text categorization task, Bi-LSTM+self-Attention model had the best performance, with an accuracy rate of 90.22% and recall rate of 93.98%.

## **Work Experience**

### **Applied Scientist Intern, Amazon**

Sep 2025 - Dec 2025

*Research with projects of evaluation and optimization of LLM agents*

*San Diego, U.S.*

- Improved natural language optimization of LLMs on the GEPA framework and Amazon Bedrock platform.
- Implemented prompt learning rate and token usage controls to optimize training efficiency and cost.

### **Research Intern, Ping An Technology**

May 2025 - Aug 2025

*Research Internship about LLM Probing on reference-free evaluation tasks*

*Shenzhen, China*

- Probed small LMs' layer representations evaluation scores across 5 aspects on {question, answer} pairs.
- Built effective probing classifiers to filter data and improve fine-tuning performance on LLMs.

### **Machine Learning Engineer Intern, MEDA AI**

May 2022 - Aug 2022

*Internship with Startup Half Moon Tech to work on the Meda Metaverse project*

*Remote, U.S.*

- Improved the text-to-speech (TTS) based on the Tacotron model and built server to train over 10M steps.
- Assisted in constructing 3D character model and got average accuracy over 85% on facial attributes classification task on dataset CelebA.
- Developed API for integrating with backend services and maintained Linux servers.

### **Software Engineering Intern, Pactera Technology**

May 2021 - Aug 2021

*Design and Development of an Intelligent Customer Service System*

*Wuhan, China*

- Conducted field surveys over 100 customers, assisted designing database E-R model containing 34 tables.
- Contributed more than 20 web page interface implementations for different service requirements of clients.
- Developed online semantic analysis system using Baidu voice recognition API with 80% code coverage.

## **Skills**

**Programming Language/Platform:** Python (main), C, C++, JAVA, SQL, Linux, GIT, AWS, Matlab.

**Tools:** Anaconda, Pytorch, Huggingface, Numpy, Pandas, Scikit-learn, Keras, Spacy, NLTK, Rasa\_nlu, Word2Vec.