Zhuochun Li

Mobile: +1 (878)-999-6935 Email: zhl163@pitt.edu
Website: https://zhuochunli.github.io/ LinkedIn: https://www/linkedin.com/in/zhuochunli

Education

University of Pittsburgh Pittsburgh, USA
Ph.D. in Information Science Sep 2023 – Present
Master of Science in Information Science, GPA: 3.9/4.0 Jan 2021 – Dec 2022
School of Computing and Information (SCI)
Xi'an University of Technology Sep 2016 – Jul 2020
Bachelor of Engineering in Computer Science Xi'an, China

Profile

Highly motivated Ph.D. student in Information Science with research interests in **NLP** and **Machine Learning**. Proficient in Python, Deep Learning, and advanced NLP methods. Experienced in developing deep learning methods, **LLMs** fine-tuning, and knowledge distillation. Completed internships in machine learning and software engineering, and published research in top venues such as **SIGIR** and **ACL**.

Publications

Li, Zhuochun, Yuelyu Ji, Rui Meng, Daqing He. Learning from Committee: Reasoning Distillation from a Mixture of Teachers with Peer-Review. Arxiv 2024 (**Accepted by ACL 2025**)
Ji, Yuelyu, **Zhuochun Li**, Rui Meng, Daqing He. Reason-to-Rank: Distilling Direct and Comparative Reasoning from Large Language Models for Document Reranking. Arxiv 2024 (**Accepted by SIGIR 2025**)
Ji, Yuelyu, **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*, pp. 810–817, Bangkok, Thailand. Association for Computational Linguistics (ACL), 2024
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 12th 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, Yuelyu 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 LLM 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.*

- Conducted the project of Ovarian Cancer Forum, which cooperated with the School of Nursing.
- 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 Project Jan 2020 - Jul 2020

Implementation of Domestic Violence Crisis Recognition Method Based on Deep Learning *Xi'an, China*

- Related paper has been published in the 2022 8th Annual International Conference on Network and Information Systems for Computers (ICNISC).
- 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%.

Researcher, Intelligent Chat Bot Design Jul 2019 - Aug 2019

Research supervised by instructor Fan Zhang from Massachusetts Institute of Technology *Remote*

- Trained text dataset containing over 1000 sentences and achieved an accuracy of 80% utilizing rasa_nlu.
- Interpreted intentions from user stock queries and supported over 100 daily dialogue occasions by spaCy.
- Integrated the bot on WeChat and enabled users to acquire expected stock information within 1.5 seconds.

Work Experience

Machine Learning Engineer Intern, MEDA AI May 2022 - Aug 2022

Internship with 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 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, Keras, Numpy, Pandas, Scikit-learn, Spacy, NLTK, Rasa_nlu, Word2Vec.

Teaching

Spring 2025: TA for INFSCI 2440 Artificial Intelligence

Fall 2024: TA for INFSCI 0201 Intermediate Programming Python (LAB LEADER)

Fall 2024: TA for INFSCI 0410 Human Centered Systems

Spring 2024: TA for INFSCI 2440 Artificial Intelligence
Fall 2023: TA for INFSCI 2140 Information Storage & Retrieval
Fall 2023: TA for INFSCI 2410 Intro to Neural Networks

Awards

Outstanding Undergraduate Thesis Award (2020)
Third Prize Scholarship for Excellent in Academic Performance (2018)