Zhuochun Li

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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

Research Interests

My research interests include Natural Language Processing (NLP) and Machine Learning.

Publications

Li, Z., Xie, B., Hilsabeck, R., Aguirre, A., Zou, N., Luo, Z., & He, D. (2024, June). 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.

Li, Z., Thaker, K., & He, D. (2023, October). 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.

Luo, Z., Ji, Y., Gupta, A., **Li, Z.**, Frisch, A., & He, D. (2023, October). 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.

Li, Z., Wang, Z., Yan, W., Huang, M., Fan, Q., & Wang, X. (2022, September). 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.

Academic Experience

Research Assistant, iRiS Lab at University of Pittsburgh May 2022 – May 2023
Supervised by Director Daqing He and collaborated with Ph.D. students. *Pittsburgh, U.S.*

- Conducted the project of Ovarian Cancer Forum, which was cooperated with the School of Nursing.
- Studied few-shot learning methods in the application of text classification and recommendation system.
- Achieved average accuracy over 60% by 10-shot training on Siamese Networks, which is comparable to base Bert performance on this task.

Computer Vision - 16-720A, Carnegie Mellon University Jan 2022 - Apr 2022
Completed 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 vector 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 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 accuracy rate 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.

Teaching

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)

Work Experience

AI 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) model based on Tactron and built server to train model 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, MySQL, Linux, AWS, Matlab.

Tools: GIT, Anaconda, Pytorch, TensorFlow, Keras, Numpy, Scikit, OpenCV, Spacy, Rasa_nlu, Word2Vec, BERT.