Jiasheng Gu

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Research interests

I have a broad interest in natural language processing, machine learning, and artificial intelligence, with a particular interest in text generation, trustworthy AI models, and few-shot NLP.

Education

University of Southern California Los Angeles, CA
M.S. in Machine Learning and Data Science Aug. 2021 - May. 2023
GPA: 4.0

Xidian University Xian, Shaanxi
B.E. in Telecommunications Engineering Sep. 2017 - Jun. 2021
GPA: 3.6

Research experience

North Carolina State University

- Mentors: Dongkuan Xu, Xipeng shen Aug. 2022 – Present
- Thesis: Zero-shot Code Generation via Rule-AI Co-learning from Document
- Contribution: Proposed a zero-shot code generation framework combining rule-based and AI-based methods to generate DSL code from document knowledge.

University of Southern California

- Mentor: Massoud Pedram Aug. 2021 - Dec. 2021
- Thesis: Training Deep Neural Networks for Reduced-Memory-Access Inference
- Contribution: Integrated PyTorch distributed data-parallel framework into the flow to support multi-GPU processing.

University of Southern California

- Mentor: Pedro Szekely Jan. 2022 - May. 2022
- Thesis: Integrating factual information from language models into knowledge graph embeddings
- Contribution: Improved link prediction task by factual information mined from language models via prompts.

ETH Zürich

- Mentor: Yuyi Wang June. 2020 - Oct. 2020
- Thesis: Construct pre-training data for text summarization based on trained metrics
- Contribution: Use the trained metrics to replace ROUGE to construct the pre-training data needed for PEGASUS.

Publications

Few-shot Code Generation via Rule-AI Co-learning from Document
Jiasheng Gu, Zifan Nan, Dongkuan Xu, Xipeng shen
In prep, ACL

Artificial Intelligence Related Techniques Used in Recent Bio-medical Publications
Jiasheng Gu, Lili Wang, Soroush Vosoughi
Submitted, JMIR

Industry experience

Lime Los Angeles, CA
SDE internship Summer 2022
Reengineered a system for extracting and computing features, making it easier to modify feature definitions, compute features more efficiently, and add more tests.

Transwarp Shanghai
NLP internship Spring 2021
Established an NLP system to summarize the text through Tensorflow in the environment built by Nvidia Docker.

Professional service

- ACM International Conference on Web Search and Data Mining 2023

Teaching experience

Teaching assistant, University of Southern California Fall 2022
EE 503: Probability for Electrical and Computer Engineers
Grading coursework and exams, leading and supervising lab exercises, and attending regular meetings.

Honors and scholarships

- Masters Students Honors Program (University of Southern California) 2021
- Third Class Scholarship (Xidian University) 2019

Skills

Programming
Python, C++, C, R, Java, SQL, JavaScript, HTML, MATLAB
Framework
PyTorch, Tensorflow, OpenCV, NumPy, Scikit-Learn, SciPy

Professional Softwares

Git, LaTeX, SPSS, Mathematica, AWS, GCP, Docker, MongoDB