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.

Temple University
Mentor: Wenpeng Yin May. 2022 - Jul. 2022
Thesis: Robustness of learning from task instructions
Contribution: Verified and analyzed the robustness of Tk-instruct on disturbed instructions.

University of Southern California, SPORT lab
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 Aug. 2021 - Dec. 2021
Thesis: Integrated factual information of language models into knowledge graph embeddings

Contribution: Improved link prediction task by factual information mined from language models via prompts.

Publications

Zero-shot Code Generation via Rule-AI Co-learning from Document

First author, second author, third author, fourth author.
Pre-print

Robustness of learning from task instructions
First author, second author, third author, fourth author.
Pre-print

Artificial Intelligence Related Techniques Used in Recent Bio-medical Publications
First author, second author, third author, fourth author.
Pre-print

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.

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) 2020
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