

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 the retrieved document information.

The Pennsylvania State University
• Mentor: Wenpeng Yin May. 2022 - Jul. 2022
• Thesis: Robustness of learning from task instructions
• Contribution: Experimented and analyzed the robustness of the instruction-tuned model on perturbed instructions.

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 <ul style="list-style-type: none"> • Mentor: Yuyi Wang June. 2020 - Oct. 2020 • Thesis: Designing pre-training tasks for text summarization • Contribution: Using trained metrics to find the highest importance sentences as summaries, instead of automatic metrics, makes the pre-training task more effective.
Publications	Few-shot Code Generation via Rule-AI Co-learning from Document Jiasheng Gu, Zifan Nan, Dongkuan Xu, Xipeng shen <i>In prep, ACL</i> Robustness of learning from task instructions Jiasheng Gu, Hanzi Xu, Liangyu Nie, Wenpeng Yin <i>Submitted, EACL</i> Artificial Intelligence Related Techniques Used in Recent Bio-medical Publications Jiasheng Gu, Lili Wang, Soroush Vosoughi <i>Submitted, Journal of Medical Internet Research (JMIR)</i>
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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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