

# 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**  
• 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: 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**

Jiasheng Gu, Zifan Nan, Dongkuan Xu, Xipeng shen  
*In prep, ACL*

#### **Robustness of learning from task instructions**

Jiasheng Gu, Wenpeng Yin  
*In prep, EACL*

#### **Artificial Intelligence Related Techniques Used in Recent Bio-medical Publications**

Jiasheng Gu, Lili Wang, Soroush Vosoughi  
*In prep, 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 (WSDM) 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 scholarships	and	<ul style="list-style-type: none"><li>• Masters Students Honors Program (University of Southern California) 2021</li><li>• Third Class Scholarship (Xidian University) 2019</li></ul>
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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