Zhiyuan Zhong

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EDUCATION

Southern University of Science and Technology (SUSTech) Aug. 2021 – July 2025 (Expected)
B.E. Computer Science and Engineering

GPA: 3.94/4.0

Ranking: 2/189

English Proficiency: TOEFL score 109 (Speaking 25)

Coursework: Computational Ethics (99), Operating System (99), Natural Language Processing (100),
Artificial Intelligence (94), Object-Oriented Programming & Design (96), Discrete Math (96)

EXPERIENCE

Fuzzing *Fastjson2* with Large Language Models Sep. 2023 - Jul. 2024
Supervised by Prof. Yepang Liu

We leverage LLMs to fuzz *fastjson2*, a JSON library from Alibaba. Based on historical bug-triggering unit tests, we utilize LLMs to generate more diverse test cases by incorporating JSON-specific mutation rules. While manual inspection reveals that LLM-generated tests can be erroneous, particularly with self-contradictory assertions, we demonstrate that LLMs have the potential for classifying false-positive test failures. As of the end of June 2024, we have identified **34** bugs in *fastjson2*, with **30** of them already fixed. I am also a **contributor** to *fastjson2*.

BERT For Downstream Multitasking Apr. 2024 - Jun. 2024
Stanford CS224n Project

Transfer learning allows pre-trained language models to be extended and applied to a variety of downstream tasks. In this project, we focus on generalizing our minBERT model to three downstream tasks: sentiment classification, paraphrase detection, and semantic textual similarity. We investigate optimization techniques including even batching, loss scaling, further pre-training, cross encoding, and task dropout. Our model demonstrates significant improvement in multitask learning ability, achieving performance comparable to the best default projects of *CS224n*.

Web Mining at Summer Workshop, School of Computing, NUS Jul. 2023
Supervised by Prof. Lek Hsiang Hui, Letter Grade: A

Mining and analyzing web data to model housing prices in Beijing. I learned web scraping skills (CSS selectors, Selenium, BeautifulSoup), predictive analytics techniques (regression and classification), and basics of recommender systems. I gained comprehensive experience in solving data science problems through a standard workflow, from data collection and processing to modeling.

PUBLICATIONS

[ASE 2024, CCF-A] Zhiyuan Zhong, Sinan Wang, Hailong Wang, Shaojin Wen, Hao Guan, Yida Tao, and Yepang Liu. ***Fuzzing Data-Serialization Library With Large Language Models-A Practical Case In Fastjson2.*** In the 39th IEEE/ACM International Conference on Automated Software Engineering (Industry Showcase Track). *(Submitted)*

AWARDS

- First Class Outstanding Student Scholarship, 2022
- Second Class Outstanding Student Scholarship, 2023
- Outstanding Student, 2023
- Excellent Peer Mentor, 2023
- Outstanding Student Teaching Assistant, 2023
- Successful Participant, Mathematical Contest in Modeling, 2023
- Third prize (Provincial Level), China Undergraduate Mathematical Contest in Modeling, 2023