Zhenyu Bo

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Education

University of Science and Technology of China Hefei, China
Bachelor of Engineering in Computer Science Expected May 2026
Major: Computer Science(Member of Hua Xia Talent Program in Computer Science and Technology)

- GPA: 3.87/4.3 | 89.94/100 Rank: 12th/171 | Top 7%
- Core Coursework: Computer Programming A, Data Structure, Introduction to Computing Systems(H), Operating Systems(H), Computer Organization and Design(H), Principles and Techniques of Compiler(H), Computer Networks, Ethics and Practice of Data privacy, Syllabus of Digital Logic Lab

Honors

National Scholarship (Highest Honor for Chinese Undergraduates, Top 0.2%)	2024
Jianghuai NIO Scholarship	2023
Hua Xia Talent Scholarship	2023, 2024
HarmonyOS Application Developer Advanced Certificationn	2024
OpenHarmony Talent Certification	2024

Research Experience

Improve the Fairness and Accuracy of Cognitive Diagnosis, *State Key Laboratory of Cognitive Intelligence*

- **Fairness**: During the model training process, groups with more data exert greater influence and achieve better fitting performance, which leads to unfair predictions across different groups. I addressed this by dynamically balancing the ratio of data from each group in training batches, prioritizing underperforming groups to maintain balanced performance, thus enhancing fairness.
- **Accuracy**: An auxiliary model assesses data reliability through prediction discrepancies with the main model (smaller differences indicate more reliable student data). Based on date reliability, I adjust data weights to reduce noise impact, improving accuracy.

LLM-assisted Code Repair, *https://github.com/Zhenyu-Bo/Code-Assistant*

- **Motivation:** There are two key limitations of LLMs in code assistance: 1. LLMs cannot perceive untrained repositories, failing to retrieve code information relevant to current requirements. 2. Code repositories typically contain numerous files, yet token limits and LLMs' restricted long-context comprehension prevent full codebase integration into prompts.
- **Strategy**: Use RAG technology: Preprocess the user's codebase, split code files by function units, and build function call graphs. Based on this, retrieve the precise relevant code required by the LLM according to user needs and inject it into the LLM, enhancing code awareness and reducing the amount of code that needs to be input.

FreeRTOS Security Enhancement, *https://github.com/OSH-2024/mustrust*

- Rewriting FreeRTOS core components in Rust to enhance security. The methodology involves modularizing source code functionalities into atomic units prior to systematic reimplementation.

Internship Experience

Internship at Huawei July - Aug 2024

- I developed audio interface demos for OpenHarmony OS using official API and authored official API documentation.

Leadership & Activities

Department head of Youth Volunteers Association of School of Life Sciences	May 2023 - May 2024
Member of Student Union of School of Life Sciences	Sept 2022 - May 2023

Skills

- **Programming:** Languages: C (Proficient), C++/Python/Verilog (Advanced), Rust/TypeScript (Familiar)
- **Language:** English(IELTS:6.5), Chinese
- **Finance:** Minor in finance with most core courses completed