

# ZIJIE ZHAO

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## EDUCATION

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**Bachelor of Computer Science**, Tianjin University

Sep 2020 - Jun 2024(Expected)

GPA: 3.71/4.0

Relevant Coursework: Computer Networks (95), Operating System Principles (97), Computer Architecture (96), Algorithm Design and Analysis (95)

## RESEARCH

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**Automatically Faults Localization and Repair based on Graph Matching**

Dec 2022 - Present

- Extract modification patterns from commit histories of existing Java open-source projects.
- Use deep learning methods to generalize patterns.
- Adapt modification patterns by graph matching on code graphs.

**Automatically Software Defects Repair based on Frequent Pattern Mining**

Oct 2021 - Dec 2022

- A new automated program repair technique that can reuse source code at different granularities with flexibility.
- Our tool has shown good complementarity with other tools.
- We are going to submit paper to the ASE 2023.
- Main Contributor.

## PROJECTS

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**SimpleMIPS.** Implemented a traditional five-stage pipelined MIPS processor using FPGA that supports 57 instructions, interrupts, and exception handling. It's capable of executing the MIPS1 instruction set correctly.

**Trival TCP.** Developed a TCP/IP protocol stack with POSIX-like API using C language and simulated Ethernet packet transmission using UDP. It supports features like reliable transmission, flow control, and congestion control.

**NEMU-x86.** NEMU is a simple but complete computer system simulator designed for teaching. I implemented memory segmentation, memory paging, I/O, interrupt, and exception handling. It can correctly run a classical video game *Chinese Paladin*.

**XV6.** MIT xv6 lab is a hands-on educational project that teaches students about operating system design and implementation. The project involves exploring various aspects of the xv6 operating system, such as process management, file systems, memory management, through practical exercises and assignments.

## SKILLS

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**Technical Tools**

Linux, Git, GDB, QEMU, Docker

**Programming Languages**

C, Go, Python, Java

**Language Skills**

TOEFL 100/120 (Reading 28/30, Listening 28/30)

## EXTRA-CURRICULAR AWARDS

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- First prize of China Undergraduate Mathematical Contest in Modeling, Tianjin Division.

## LEADERSHIP

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**Team Captain**

Jun 2021 - Jun 2022

Debate Team

*Precision Instrumentation College, Tianjin University*

- Achieved second place in the university debate competition.
- Led the team to fourth place in the university debate competition.