Yijia Ma

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Education

Shanghai Jiao Tong University Sep. 2023 - present

B.S. in Computer Science, ACM Honors Class

- **GPA:** 3.88/4.3 (Rank: #10/27)
- **Selected Courses:**
  - Abstract Algebra: 100/100
  - Linear Algebra: 98/100
  - Mathematical Logic: 98/100
  - Algorithm Design and Analysis: 95/100
  - Computer Architecture: 93/100

Shanghai High School Sep. 2020 - Jun. 2023

Fudan University Mentorship Program

Research Interest

My research interests lie in computer security, with a particular focus on **secure decentralized systems**. I am broadly interested in the **architectures, protocols, and cryptographic foundations** that ensure confidentiality and integrity. I am currently exploring methods for achieving privacy and integrity, including **Trusted Execution Environments (TEEs)**, cryptographic techniques, oblivious architectures, and I am also interested in identifying and analyzing potential **vulnerabilities and exploitations** in such systems.

Research Experience

Network Security and Privacy Protection(NSEC) Lab, SJTU Jun. 2025 - present

Under the supervision of Prof. Guoxing Chen at SJTU, I have been conducting research on performance acceleration for TEEs and Oblivious RAMs.

At present, we are developing a framework to accelerate the loading and attestation of memory-intensive programs in the enclave, providing a smoother startup performance.

Honors and Awards

2023 Zhiyuan Honors Scholarship 2% of SJTU

2024 Zhiyuan Honors Scholarship 2% of SJTU

Academic Dedicated Scholarship Limited to 12 students in the cohort

SJTUCTF 2024 Freshman Exploration Award

SJTU × ZJUCTF 2025 **Silver Medal**, 8^{th} place in SJTU

Teaching Experience

Principle and Practice of Computer Algorithms	Teaching Assistant	2025 Summer
Abstract Algebra	Teaching Assistant	2025 Fall

Projects

RISC-V CPU Repo

An efficient CPU implemented in Verilog using the Tomasulo algorithm, supporting the RV32IC instruction set.

STLite Repo

Course project for Data Structures, featuring C++ implementations of common STL containers. Additionally, B+ Tree is implemented.

Mx* Compiler Repo

A compiler from a customized language to RISC-V assembly written in Java.

Skills

Programming: C, C++, Python, Java, Verilog, Rocq Prover
Tools: LaTeX, Git, Bash, CMake
Languages: English(Fluent, TOEFL 107), Chinese(Mandarin, Wu)(Native)