Ruitian Wang

skywong14 | skywong14@sjtu.edu.cn |

EDUCATION

Shanghai Jiao Tong University   Shanghai, China

B.S. in Computer Science, ACM Honors Class   Aug 2023 - present

Average score: 89.9

Selected courses: Principle and Practice of Computer Algorithms(98/100), Mathematical Logic(97/100), Compiler Design and Implementation(94/100), Algorithm Design and Analysis(96/100)

RESEARCH INTEREST

My research interests lie in Machine Learning Systems (MLSys), with a focus on Efficient Inference for Large Language Models (LLMs).

EXPERIENCE

Research Intern, Sysdom Lab   Shanghai, China

Advisor: Prof. Chen Chen   June 2025 - Present

- Currently working on research related to efficient LLM inference and sparse attention.

PERSONAL PROJECTS

Mx-Compiler   Link to Github

A Compiler from Mx language (which is a C++ & Java like language) to RV32I Assembly via LLVM-IR. I've implemented several optimizations:

– mem2reg and linear scan register allocation
– Funtion Inlining, Sparse Conditional Constant Propagation
– Constant Folding and Common Subexpression Elimination
– Dead Code Elimination, Global-to-Local Transformation, Tail Recursion Optimization

RISC-V-CPU   Link to Github

A Tomasulo RISC-V CPU with iCache and branch predictor. The architecture design can be successfully implemented on FPGA board.

ACore-OS   Link to Github

An operating system for the RISC-V architecture, built from scratch. Implemented core functionalities including:

– **Memory Management**: Buddy system allocator and multi-level page tables.
– **Process Management**: Multitasking scheduler and system call interface.
– **Storage and I/O**: A simple file system, device drivers, and an interrupt handling mechanism.

TEACHING EXPERIENCE

Teaching Assistant   Programming(CS1953), 2024 Fall
Teaching Assistant   Data Structure(CS1951), 2025 Spring
Teaching Assistant   Compiler Design and Implementation(CS2966), 2025 Fall

Awards and Honors

Zhiyuan Honors Scholarship Zhiyuan College of SJTU, 2023, 2024
Awarded to top 5% students in SJTU annually.

Skills

Programming	C++, Python, Java, Rust, Go
Languages	Chinese(Native speaker), English

Interest

Photography	Photography enthusiast, with photos selected for publication multiple times. Participated in microfilm production.
Rock Music	Passionate about Britpop and rock music, especially bands like Oasis(I saw their reunion show in Manchester!), The Beatles, and Radiohead.
Long-distance Running	