

Weixian Xu

 HZxCzar |  hzxczar.github.io |  hz.czar@sjtu.edu.cn

EDUCATION

Shanghai Jiao Tong University

Sept. 2023 – June 2027 (Expected)

B.S. in Computer Science, **Zhiyuan College (ACM Honors Class)**

GPA: **3.83**/4.3

Selected Courses: Large Language Models (**A+**), Compiler Design (**A+**), Computer Systems (**A+**), Comprehensive Programming Practice (**A+**), Advanced Compiler Design (**A+**).

RESEARCH INTERESTS

My research pursues **Self-Evolving AI**—systems that transcend static tool-use to become dynamic partners. I aim to enable models to continuously refine their knowledge and utilize affective understanding to deeply align with user preferences over **long-term interactions**.

To address limitations in **sustained self-improvement** and **long-horizon reliability**, I explore novel architectures and training paradigms to enhance **memory and growth**. My work proceeds on two fronts: refining the **internal architecture and learning objectives** of individual models, and engineering the **system-level architecture and optimization strategies** of multi-model ecosystems.

Ultimately, I seek to empower **human-centric** models to master **interactive evolution**, growing through usage to benefit the wider community.

RESEARCH EXPERIENCE

GAIR Lab

June 2025 – Present

Research Intern, supervised by Prof. Pengfei Liu. Participated in the development of the **ASI-Arch** project, focusing on autonomous neural architecture discovery.

OPEN SOURCE PROJECTS

ASI-Arch: Autonomous Neural Architecture Discovery  [Code \(1.1k ★\)](#) [arXiv]

- Co-developed an autonomous AI system for neural architecture discovery to reveal new design patterns.
- The pipeline executed 1,773 autonomous experiments and discovered 105 state-of-the-art architectures.
- The repository garnered **1.1k+ stars** within a month of publication.
- **Key Contributions:**
 - Designed and implemented the pipeline for autonomous discovery.
 - Leveraged higher-level code constructs to expand search domains.
 - Orchestrated experiments enabling large-scale autonomous testing.
 - Conducted research visualization and validation experiments.

PERSONAL PROJECTS

ACore [\[Link to Repo\]](#)

A comprehensive OS kernel exploring core concepts through independent development.

- Implemented memory management with virtual memory and page allocation.
- Developed process scheduling, thread management, and user/kernel space isolation.
- Built a file system with a VFS layer supporting multiple filesystems.
- Optimized performance specifically for modern hardware architectures.

Imxc [\[Link to Repo\]](#)

Full-mark course project for Compiler Design. A compiler for Mx^ (C-like language) written in Java.*

- Achieved performance **comparable to Clang** after implementing Mem2Reg and RegAlloc.

- Implemented optimizations: Function Inlining, SCCP, ADCE, and Local CSE.
- Designed a high-performance Register Allocation module using Graph Coloring.
- Supported multi-file compilation with shared rules and incremental compilation for faster builds.

CPU (RISC-V Processor) [\[Link to Repo\]](#)

Computer Architecture course project. A processor core implementation in Verilog.

- Implemented **Tomasulo architecture** enabling dynamic instruction scheduling.
- Supported basic RISC-V (RV32I) instruction set.
- Capable of deployment on FPGA hardware.

AWARDS AND HONORS

Foresight-Sequoia Talent Development Fund *2025*

*Selected **Top 5** students in Zhiyuan College*

Zhiyuan Honors Scholarship *2023, 2024*

*Academic Excellence Award (**Top 2%** in SJTU)*

Provincial Second Prize, Chinese Physics Olympiad (CPhO) *2022*

Zhejiang Province

TEACHING & LEADERSHIP EXPERIENCE

Head Teaching Assistant *Spring 2025*

Data Structures (CS1951), Instructor: Prof. Yong Yu.

Teaching Assistant *Fall 2024, 2025*

Programming (CS1953), Instructor: Prof. Huiyu Weng.

Class Monitor, ACM Honors Class *Present*

Lead the ACM cohort, coordinating schedules and managing administrative tasks.

SKILLS

Programming C++, Python, Java, Rust, Verilog

Tools Git, Markdown, L^AT_EX, PyTorch, Linux

Languages Chinese (Native), English (Fluent, TOEFL 104, Speaking 25)