Chenyuan Zhou

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Education

Shanghai Jiao Tong University 2023.9 - 2027.6(expected)
B.S in computer science, **ACM Honors Class**

GPA(Core Courses): **3.94**/4.3
Selected courses:

- Algorithm Design and Analysis :**A+, 98/100**
- Compiler Design and Implementation:**A+, 99/100**
- Computer Architecture:**A+, 97/100**
- Data Structure:**A+, 97/100**
- Mathematical Analysis(Honor):**A+, 95/100**

Research interest

My major interest is **Robotic** and **Computer Vision**. Especially, at present, I'm interested in how to enhance model's perception of 3D structure and instruction following ability with multimodal data in the real world.

Research Experience

RHOS (Yonglu Li, Cewu Lu) 2025.6 - now

Our work focus on the precise manipulation with visual instruction and diverse tools adaptation, under the supervision of Yonglu Li and CeWu Lu.

Projects

Mx Compiler (Course Project) Link to Repo

A compiler for Mx* (an educational language with basic features of C), as well as Clang (with `mem2reg` and register allocation).

- Implemented various optimizations including SCCP, DCE, inlining, GVN & GCM, loop detection, and unrolling.
- Utilized SSA graph coloring to allocate registers based on liveness analysis.

RISCV CPU (Course Project) Link to Repo

Designed a CPU in Verilog implementing the basic RISCV instruction set.

- Implemented branch prediction and instruction prefetching.
- Successfully executed on FPGA.

Partial Rollout for LLM RL (LLM Course Project) Link to Repo

Decomposed the single rollout process into multiple turns and propagated unfinished rollouts to the next iteration, reducing the negative impact of long-tail rollouts.)

- Achieved a 30% increase in overall speed without performance degradation.
- Implemented partial code and conducted experiments in collaboration with Zeng Ji and Li Zhiyan. Details in PR 1826

Visual Instruction and Automatic Tool Design for Precise Manipulation

Co-led the project developing visual instruction methods to improve the precision and tool-use ability of VLA models, combined with automatic tool design.

Awards and Honors

2023, 2024 Zhiyuan Honors Scholarship (**2 %** in SJTU)

Student Work and Teaching Experience

Computer Programming, Teaching Assistant	2024 Fall
Data Structure, Teaching Assistant	2025 Spring
Principle and Practice of Computer Algorithms(AI), Teaching Assistant	2025 Summer
Vice Monitor of ACM Honors Class 2024	2024.9 - 2025.9

Skills

Programming	C++, Python, Java, Verilog,
Tools	Git, Solidworkers, ros2, LaTeX
Languages	Chinese(Native speaker), English(Fluent)