Song Jianhao's Resume

Personal Information

- Name: Jianhao Song
- Gender: Male Age: 20
- Tel: 15710565260 Email: songjh22@mails.tsinghua.edu.cn
- Major: Computer Science and Technology

Education Background

Tsinghua University Beijing, China
GPA 3.8 Rank 30% *Sept. 2022 –Expected Jun. 2027*

Awards

First Prize in the OS Kernel Implementation Track, CSCC 2025 - National Finals Aug. 2025

ByteDance Trae SOLO Hackathon Outstanding Work Award Aug. 2025

Freshmen Scholarship for Outstanding Students Oct. 2022/2023/2024

Top science student (ranked first) of 2022 college entrance exam in Shenyang City Jun. 2022

First prize at province level in the CNMO (China National Mathematics Olympiad) Nov. 2019

Project Experience

Undefined-OS Mar. 2025–Aug. 2025
Wuhan, China

- First Prize Entry of OS Kernel Implementation Track, CSCC 2025 - National Finals Wuhan, China
- Developed a Linux-like, componentized kernel named Undefined-OS using Rust, based on the Arceos component library. The OS supports thread safety across multiple CPU cores and runs on various architectures (riscv64, aarch64, loongarch64), including QEMU virtual machines and hardware development boards. Implemented Linux-compatible system calls and a future-compatible system call interface. The OS supports applications like Git, GCC, Vim, Sqlite3, Lua, Rust, and Python, enabling full OS development workflows. Won First Prize in the OS Kernel Implementation Track at the CSCC 2025 National Finals.

Face Sculpting Master Aug. 2025
Beijing, China

- Outstanding Work Award Entry of ByteDance Trae SOLO Hackathon 2025, obtaining Trae's official repost
- Created a face-sculpting Agent using the Trae IDE to generate 3D virtual avatars based on user-provided descriptions. The Agent produces Blender code for 3D modeling and supports adjustments to environmental visual effects, such as lighting. The project won the Outstanding Project Award at the ByteDance Trae SOLO Hackathon 2025 and received an official repost by Trae.

Gravity Connect Four May 2023–Jul. 2023
Beijing, China

- Utilized the Upper Confidence Bound (UCB) algorithm combined with Monte Carlo Tree Search (MCTS) to implement the Upper Confidence Trees (UCT) algorithm for simulating Gravity Connect Four. The AI achieved a 99.9% win rate against human opponents and won 97 out of 100 test games against various chess algorithms, demonstrating robustness and adaptability in complex game scenarios.

NYU Teaching Assistant Oct. 2024–Jan. 2025
Shanghai, China

- Served as a Teaching Assistant in the Computer Science Department at NYU Shanghai for one semester. Practiced English communication in the field of computer science, experienced the teaching atmosphere of an English-language university, and engaged in diverse cultural interactions.

Human Resource Machine Nov. 2022–Jan. 2023

Beijing, China

- Led a team to reimplement the programming puzzle game Human Resource Machine using C++. The game allows players to input code to control a robot for task completion, training programming thinking without requiring specific language knowledge. Emphasized code optimization to encourage efficient and simple solutions.

RISC-V Pipelined CPU Nov. 2024–Dec. 2024

Beijing, China

- Designed and implemented a RISC-V pipelined CPU using SystemVerilog on the Vivado platform. The CPU features a five-stage pipeline, robust interrupt and exception handling, virtual address translation with a Memory Management Unit (MMU), and a cache system (Instruction and Data Cache) for improved performance. Integrated a VGA controller for real-time multimedia output.

MiniGLM Sept. 2023–Oct. 2023

Beijing, China

- Developed a MiniGPT model based on a transformer architecture, pretrained and fine-tuned using Jin Yong's wuxia novels and custom Q/A pairs. The model accurately responds to questions about the novels' themes and characters, enhancing comprehension and answer precision.

Extracurricular Activities

TH-MOS Jan. 2025 – Present

- I am a member of TH-MOS, a football team where all the players are robots. Our humanoid robot achieved excellent results in the RoboCup.

AGI-Eval Aug. 2025 – Present

- I am a contributor to AGI-Eval community, where we design professional-level tasks to pose challenging requirements for top industry agents and comprehensively assess their overall performance to promote the construction of a scientific and comprehensive Agent evaluation system.

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