

ZEBANG HE

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EDUCATION

ShanghaiTech University
Undergraduate | *Computer Science*

2023 - Present
Shanghai, China

SKILLS

Expertise: Full-stack Developing | Product Design | OS | Compiler | HPC

Development: MAUI/Xamarin; React, Next.js, Node.js; Flask, Gin; Redis;

Languages: Python | Javascript/Typescript | OCaml | C# | C/C++ | GoLang | LaTeX/Typst

ROLES

GeekPie Association, GeekPie HPC Team | PRESIDENT

I'm a member of GeekPie Association, a comprehensive technology-based science and innovation society. I'm also the team leader of the GeekPie HPC team, preparing for the ASC 2025's final round.

SI 100+ / Intro to Computer Science | INSTRUCTOR & MAIN DEVELOPER

I'm the main instructor and person in charge of the course SI 100+ for freshmen Sep 2024 - Present in ShanghaiTech.

PROJECTS

Pintos | PERSONAL PROJECT

An operating system for the 80x86 architecture.

C, x86 Assembly

Mar 2024 - Jun 2024

- I implemented the advanced scheduling, system call, user/kernel mode, virtual memory and file system of the operating system.
- Pintos contains basic shell and filesystem, and is able to run programs in user mode.

OATC Language Compiler | PERSONAL PROJECT

A simple language compiler for the OATC language.

OCaml, LLVM, X86lite

Aug 2024 - Present

- I implemented an X86lite instruction set simulator and assembler. And the OATC language interpreter using OCaml.
- I've also developed the compiler from OATC to LLVMlite IR, and final to X86lite platform.

Tiny CPU with ZASM | PERSONAL PROJECT

A simple CPU with ZASM which defined by myself.

Verilog, ZASM

Dec 2023 - Aug 2024

- I designed a simple CPU which is turing complete, and it supports 8-bit instructions and interger calculations. It contains 8 registers and 256 bytes of memory.
- I made a simple instruction set and named it "ZASM", it contains 20+ instructions, including function calls, jumps and basic arithmetic and logic operations.

CatLin | FULL-STACK DEVELOP*CatLin is a Deadline Manager with Kawaii Interface***React + Next.js + Flask + SQLite***2025 Spring*

- Available at <https://github.com/HeZeBang/CatLin>
- I used React + Next.js with Flask, SQLite to develop the front-end and back-end of the deadline manager.
- My contribution: I implemented the front-end design and development of the backend.

Desktop Lyric | CONTRIBUTOR*An GNOME extention that shows the lyric of playing songs on the desktop.***GJS, DBus***2024-2025*

- Available at <https://github.com/tuberry/desktop-lyric>
- I contributed to the project by implementing the lyric fetching and displaying logic.
- I'm now working on the lyric translation feature. And adding more motions by using Cairo.

MX OJ Development | FRONTEND DEVELOP*A online judge system for the ACM/OI station.***React + Next.js, Zod, Next UI***May 2024 - Present*

- We used React + Next.js with Zod, Next UI to develop the front-end of the online judge system.
- My contribution: I implemented the front-end design and development of the station's letters and made adjustments for typographic optimization.