# Shengtao Yao

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## Education

**New York University, New York, NY** 2022/ 09 - Present
Computer Science and Mathematics, Class of 2026, GPA 3.87
**Relevant courses:** Operating system, Parallel computing, Applied Internet Technology, Intro to Robotics Intelligence, Probability and Statistics
**TA:** Operating system taught by Jocelyn Chen 2024/ 09 - Present

## Professional Experience

**Huawei Technologies Co., Ltd., Shanghai, China** 2024/ 06 - 2024/08
*Software Development Engineer Intern, wireless software group*

**HERT (HUAWEI Enhanced Radiological Technology)**
Manage resource pools and provide interfaces to L2RAT(Level 2 Radio Access Technology Software)
- Design a solution that maps one application model to a fixed cpuid and add logs to validate in simulated communication scenarios using BBU (Board Baseband Unit)
- Manage zombie procedures by releasing its resources and managing it in cpuid pools, finally offering robustness of the whole process.
- Develop clear interfaces of monitors to keep track of performance data of hot functions (data from linux tool "perf") , which provides efficient tools for other system developers and improving readability while debugging

## Projects

**tsh shell** [tsh shell](tsh shell) 2023 / 06 - 2023 / 07
A customized Unix shell implemented in C
- Implement core functionalities like process management and command parsing
- Optimize for job control, signal handling, and managing foreground and background processes
- Provide several user-level functions like wc, ls, pipe

**NYU Discuss** [NYUDiscuss](NYUDiscuss) 2024 / 02 - 2024 / 04
A fully functioning discussion website, currently deployed in NYU Courant server
- Develop RESTful APIs using Express.js framework that handles NYU students' accounts and contents
- Implement user authentication with password validation and JWT-based stateless session management.
- Design database models for users, posts, and comments with integrated validation using the Validator library.

**Weensy OS** 2024 / 02 - 2024 / 04
A small OS implemented in Assembly, C and C++.
- Develop kernel-level process scheduling to efficiently manage context switching and execute runnable processes.
- Build comprehensive virtual memory management functions, page table checks, ownership validation, and memory mapping visualization
- Support 2 MB physical and 3MB virtual memory

## Skills and Tools

**Programming languages:** C/C++, Java, Python, R, Html, CSS, Javascript
**Tools and Frameworks:** Express.js, React.js, Scipy, Numpy, Pytorch