

Education

University of California, Berkeley

Dec. 2022

Bachelor of Science in Electrical Engineering and Computer Science

Cumulative GPA: 3.54/4.00

• Relevant Coursework:

Operating Systems (C, x86), Data Structures (Java), Machine Structures (C, RISC-V), Efficient Algorithms, Embedded Systems (C), AI, Cyber Security, Databases, Computer Vision, Machine Learning

Skills

- **Languages:** (proficient): Java | Python | C | SQL | HTML | CSS (familiar): TypeScript | Go | C++ | x86 | RISC-V
- **Frameworks:** (proficient): Django | Spring Boot | React.js | NumPy | openCV | (familiar): Gin | Pandas | Microsoft Playwright
- **Database:** (proficient): Amazon Web Services (DynamoDB, S3) | PostgreSQL (familiar): MongoDB
- **Tools:** (proficient): Git | Linux | software development | OOP | JWT | Postman (familiar): OpenMP | SIMD | WebRTC | Websockets | Docker

Work Experience

Software Engineer Intern

pi-lit (startup)

May 2022 - Aug 2022

- Improved a GPS module's performance by increasing its accuracy to 1 m by using post processing kinematics.
- Wrote a custom driver in both C and Python for the GPS module that uses UART for communication.
- Helped testing and debugging an IoT impact detection system.
- Enhanced an internal logging tool's efficiency by 30%, as measured by CPU utilization, by using interrupts for data retrieval instead of polling.

Software Projects

Real Time Chatroom | Go, Gin, PostgreSQL, Websockets, React, TS, TailwindCSS, Docker July 2023 - July 2023

- Created a full-stack chat room app with new message broadcasting using WebSockets.
- Implemented a scalable backend system with secure user authentication (JWT tokens) and efficient message storage and retrieval through a REST API.
- Developed a scalable message upvote and downvote feature by using record locks.

Video Streaming Server | Python, WebRTC, openCV, NumPy

June 2023 - June 2023

- Developed a web server to generate a video stream showcasing a bouncing ball animation.
- Established a secure WebRTC video stream to clients utilizing TCP socket signaling.
- Used openCV to estimate the ball's position and transmit the estimates back to the server through a data channel.

Cyclopath | Java, Spring Boot, TS, React Native, Playwright, DynamoDB, S3

Mar. 2023 - May 2023

- Developed a full-stack cycling workout app providing users with detailed workout information, including route, weather, distance and speed.
- Utilized AWS DynamoDB to store workout details and S3 to store the generated workout static maps.
- Integrated Mapbox Maps API and a weather API for route visualization and workout insights.

End-to-End Encrypted File Sharing system | Go, Cryptography

Mar. 2022 - May 2022

- Built an End-to-End encrypted file sharing system with a file share and revoke functionality
- Designed an algorithm to securely and efficiently store, load, and append to files.
- Used asymmetric encryption to share files securely using public key encryption and digital signatures.
- Added a revoke user functionality that prevents a revoked user and their children from reading future modification to the shared file.

PintOS | C

Feb. 2022- May 2022

- Worked in a team of 4 to implement various functionalities in an educational OS for the x86 architecture.
- Implemented the functionalities to create threads, fork processes, and pass arguments to user programs and a MLFQ scheduler
- Improved the file system speed by an average of 40% by adding a buffer cache.