

Jason Long

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EDUCATION

North Carolina State University

Raleigh, NC

Bachelor of Science in Computer Science

May 2024

- Cumulative GPA: 4.0/4.0
- Summa Cum Laude, Dean's List

EXPERIENCE

Signalscape Inc.

Cary, NC

Software Engineer

May 2024 – Present

- Developed a generic SDK using Java and C/C++ for a novel biometric device that supports 4 finger, 2 finger, and roll fingerprint scans
- Assisted 2 other embedded software developers by implementing new Usb commands for advanced scan routines and device diagnostics using the NXP MIMXRT1020 and Microchip SAMD20 MCUs
- Spearheaded major codebase restructuring by splitting the monolithic repository into 7 sub-components that were maintained in the central manifest repository for version management and record
- Implemented a full continuous integration pipeline that built, tested, and released code using GitLab CI for all 7 sub-components including an Android application, the generic SDK, and the embedded code

Software Engineering Intern

May 2022 – May 2024

- Research and developed a proof of concept custom Android operating system for the Qualcomm RB5165 processor that leveraged the 4 cores and DSP for ultra-low power sensor data retrieval
- Built up an Android application for WiFi traffic surveying using C/C++ that could scan all channels on both 2.4 GHz and 5 GHz bands
- Coordinated with a team of 4 members to develop, troubleshoot, and test project applications

North Carolina State University

Raleigh, NC

Teaching & Research Assistant

December 2020 – May 2022

- Managed weekly grading responsibilities and lab procedures among 7 other TAs
- Taught weekly labs containing roughly 30 students
- Graded 4 weekly assignments and 4 projects throughout the semester
- Redesigned the automated grading process using Python and Docker to give instant feedback to roughly 120 students for all 12 weeks of programming assignments

Signalscape Inc.

Cary, NC

Engineering Intern

June 2020 – October 2020

- Created a modern web interface using VueJS and Flask to display over 40 relevant data points from an externally running software defined radio
- Communicated with software defined radio using HTTP and web sockets
- Ported LoRa software defined radio written in C++ to Android application leveraging Android NDK with the help of 2 other software engineers

PROJECTS

Jason's OS | C/C++, x86 Assembly, CMake, Qemu

December 2020 – Present

- Designed a modern x86 32-bit POSIX kernel with preemption and multi-processing completely from the ground up
- Implemented support for physical and virtual memory management, userland processes, ext2 and virtual filesystems, and primitive graphics using VGA
- Built a libc that supports roughly 50% of the POSIX specification

TECHNICAL SKILLS

Languages: C/C++, Java, Kotlin, Python JavaScript, HTML/CSS

Frameworks: Make, CMake, Google Test, JUnit, Node.js, VueJS

Developer Tools: Linux, Git, GitLab, Docker, JIRA, GitLab CI, Vim, VSCode, Android Studio/IntelliJ, Eclipse