

Isaac Davis

69 Brown Street, Box 6559
Providence, RI 02912

isaac_davis@brown.edu

401-480-3693

Education

Brown University - Bachelor of Science, Computer Science

May 2018

GPA: 4.0 in-major, 3.8 overall

Relevant courses: *Operating Systems, Distributed Systems, Computer Systems/Architecture, Software Security/Exploitation, Compilers, Programming Language Design/Implementation, Algorithms, Logic for Software Abstraction, Artificial Intelligence, User Interfaces/User Experience, Discrete Mathematics*

Technical Experience

Joyent, Inc. — Software Engineering Intern

San Francisco, CA — June 2017 - August 2017

illumos kernel development at cloud computing company offering application virtualization and object storage services

- Researched container scalability, working across illumos kernel and Node.js CLI. Increased viable number of containers on a single host from 1,000 to 8,000 by improving algorithm design and resource allocation
- Redesigned and reimplemented illumos kernel ID space mechanism for sublinear time and space complexity
- Fixed bugs in SmartOS, Joyent's open-source illumos distribution

Analog Devices, Inc. — Software Engineering Intern

Chelmsford, MA — June 2016 - August 2016

Member of Debug Solutions Team maintaining emulators and development tools for Analog's embedded processors

- Unified previously separate power-on self-test programs for the ADSP-SC573 processor's ARM and SHARC cores to simplify and automate production testing process
- Wrote command-line application for viewing and editing a processor's memory values while a debug session is in progress. Demonstrates feature feasibility to commercial customers
- Fixed Coverity defects, compiler warnings, and bugs as part of the 2.4.0 release of Analog's end-user IDE

Weenix: A Unix-Like Operating System

Brown University, Providence, RI — February 2016 - May 2016

Implemented a Unix-like operating system in C for CS169 (Operating Systems Laboratory)

- Wrote process/thread constructs, scheduler, terminal line discipline, disk driver, virtual file system, on-disk file system, and virtual memory/userland address space management
- Weenix is able to run any Unix executable in ELF format written with a limited subset of the C standard library

Your Heaven, LLC — Programmer/Studio Assistant

Providence, RI — December 2014 - August 2015

Software design and research at audio company developing cutting-edge instrument microphones and signal processing

- Began porting drum mic system from TI to XMOS architecture; began implementing Ethernet AVB functionality
- Presented to XMOS sales directors and engineers. Collaborated on product needs and capabilities

Teaching/Mentorship Experience

Brown University — Teaching Assistant

Providence, RI — May 2015 - May 2017

- *Operating Systems (CS167/169)* - Mentored students, held office hours and help sessions, graded assignments
- *Algorithms and Data Structures (CS16)* - Implemented automated, anonymized grading/testing system in Python for ongoing use by course staff, ran weekly conference sessions
- *Object-Oriented Programming (CS15)* - Ported Tetris and Pac-Man projects from Swing to JavaFX as part of course transition between graphics libraries, wrote extensive guide to JavaFX graphics library, coded new reference implementation of Pac-Man final project

IntraCity Geeks — Middle-School and Community Teaching Assistant

Providence, RI — May 2015 - August 2015

City of Providence-funded organization focused on increasing technology education in underserved communities

- Staffed "Code Night With the Mayor," a monthly event where adults learn web-oriented programming technologies
- Oversaw/explained programming assignments in middle-school HTML/CSS/JavaScript classes

Technical Skills

**Programming Languages
Tools, Frameworks, APIs
Development Platforms**

Proficiency: C, Go, Python, Java Familiarity: x86 asm, C++, Node.js, Scheme
Bash, Make, GDB, MDB, DTrace, Git, SVN, protobuf, JUnit, Alloy Analyzer, \LaTeX
Linux, illumos/Solaris, Windows, Android, embedded ARM/SHARC/Blackfin

Additional Skills/Interests

- Jazz drummer (Brown Jazz Band, RI All-State Jazz Band), audio recording/mixing/editing, cycling