Isaac Davis

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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, Algorithms/Data Structures, Programming Language Design/Implementation, 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
- Extensive research into 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
- 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
Debug Solutions Team - Maintains emulators, simulators, and development tools for Analog's full range of 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) at Brown University
- 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
Audio engineering company designing high-quality acoustic instrument microphones and signal processing software
- Debugged codebase of patented embedded-software drum amplification system, written in C
- Began porting drum system from TI to XMOS architecture; began implementing Ethernet AVB/TCP 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	Proficiency: C, Go, Python, Java Familiarity: x86 asm, C++, Node.js, Scheme
Tools, Frameworks, APIs	Bash, Make, GDB, MDB, DTrace, Git, SVN, protobuf, JUnit, Alloy Analyzer, LaTeX
Development Platforms	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