Palmer Dabbelt

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Looking for a bigger challenge.

Experience

2019-current	**RISC-V Foundation**	
	Chair of UNIX-Class Platform Specification	
	In the process of defining a specification for Linux-capable systems	

2018-current   **SiFive**   **San Mateo, CA**
Director of Software
Technical lead and manager for all software at SiFive
Scaled the software team from one engineer to thirty, across five offices
In charge of ten direct reports
Responsible for two acqui-hires of software teams
Responsible for software product definition and implementation

2017-current   **SiFive**   **San Mateo, CA**
Software Engineer
Maintainer of the RISC-V ports of binutils, GDB, GCC, glibc, Linux, and QEMU
Pre-silicon verification sign-off for SiFive chips
Wrote the manufacturing test suite for the HiFive Unleashed
Responsible for solving customer-specific software emergencies
Author of "All Aboard", a technical series of RISC-V blogs

2016-current   **RISC-V Foundation**
Vice-chair of Software Working Group
Coordinate the RISC-V software ecosystem
Give talks around the world to evangelize RISC-V
Major success: RISC-V Fedora and Debian ports

2013-2014   **CS194-24 TA**   **Berkeley, CA**
TA (Class Title: Operating Systems)
The course is really "intro to Linux hacking", some QEMU development
Wrote labs, ran discussion section, wrote/graded exams
Labs: HTTP server, file system, scheduler, ethernet driver

2011-2013   **Tilera**   **Westborough, MA**
Software Engineer
Ported the Hotspot JVM to Tilera's Tile-Gx processors

2009-11   **Nuvixa**   **Champaign, IL**
Software Engineer
Startup doing depth assisted image processing
Optimization of code for x86 processors
Network video streaming protocol

2009-11   **ECE391 Lab TA**   **Champaign, IL**
Lab TA (Class Title: Computer Systems Engineering)
Write a single user, multi tasking (with virtual memory) OS
I help students with debugging code and learn concepts

Projects

- Original co-chain of Embench, an embedded benchmark suite, along with Dave Patterson from UC Berkeley.

- Original author of Freedom Metal, SiFive's bare-metal portability library.

- Announced the first Linux-capable RISC-V chip, in addition to bringing up the software for it and writing the first manufacturing test bench for the eventual production run of the board.

- Original contributor and maintainer of the RISC-V ports of binutils, GDB, GCC, glibc, Linux and QEMU.

- Architecture/RTL lead on a RISC-V processor on TSMC's 16nm FinFET+ process that includes some DSP extensions.

- RTL lead on a dual-core RISC-V processor with integrated vector units on ST's 28nm FDSOI process that includes integrated power management features and low-speed serial links.

- Ported the Hotspot JVM (and Sun's OpenJDK) to Tilera's Tile-Gx processors. Our team consisted of two people. I started mid-way through the process, with a functional port of Hotspot's interpreter to Tile-Pro (the previous generation of Tilera chips), but I the two of us ported Hotspot's interpreter and the C2 server compiler to Tile-Gx.

- Created a superscalar out of order implementation of the LC3b processor in VHDL. The processor has split L1 caches and a unified L2 cache. It uses Tomasulo's algorithm to achieve out of order execution. This was a group project which ended up winning me the 411 design competiton.

- Single user cluster operating system using serial interconnects for x86. Written in C and x86 ASM. In addition, for this project I wrote an implementation of packet-switched networking over serial ports, a network aware scheduler, synchronization constructs, and an implementation of shared memory over the network. This project won me honorable mention in the ECE391 Programming Contest.

- Created and implemented a real-time video streaming protocol over UDP on GNU/Linux. Written in C. In addition, I wrote code to interface with V4L USB video capture on Linux and code to interface with OpenGL on Linux.

- Created and implemented a real-time background subtraction algorithm using depth cameras. I wrote an implementation using C on GNU/Linux and am currently working on an implementation using C++ on Win32, which will be commercial quality code. I have a patent on this algorithm.

Awards

- EE Times "Most Respected Private Semiconductor Company" awarded to SiFive, 2018
- EE Times "Design Team of the Year" awarded to Tilera, 2012
- 4th in ECE498 (CUDA) Programming Contest, Spring 2010
- Won ECE411 Design Competiton, Fall 2009
- Honorable Mention in ECE391 Programming Contest, Spring 2009

Education

August 2012 - March 2017	**University of California** *MS Computer Science*	**Berkeley, CA**
August 2008 - June 2011	**University of Illinois** *BS Computer Engineering* GPA: 3.6	**Champaign, IL**