

William Abajian

FIRMWARE ENGINEER · LOGIC AND EMBEDDED

San Francisco, CA, USA

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Summary

Experienced firmware developer and M.Eng. graduate from Cornell University in Electrical and Computer Engineering. Experienced with both embedded Linux platforms such as the Raspberry Pi and DE1-SoC, and programming bare-metal or using an RTOS with platforms like ARM and PIC32. Well-versed in **C** and **Python**, and uses **Git** for version control.

Education

Cornell University

M.ENG. IN ELECTRICAL AND COMPUTER ENGINEERING

Ithaca, NY

Aug. 2016 - Aug. 2017

- GPA: 3.673
- Relevant Courses: Advanced Computer Architecture, Embedded Operating Systems, HL Digital Design Automation, Complex Digital ASIC Design, Advanced Microcontroller Design, Parallel Programming

Cornell University

B.S. IN ELECTRICAL AND COMPUTER ENGINEERING

Ithaca, NY

Aug. 2012 - May 2016

- Minor: Computer Science
- Dean's List: Spring 2014, Fall 2015, Spring 2016
- Relevant Courses: Computer Architecture, Designing with Microcontrollers, Digital VLSI Design, Telecommunications, Operating Systems, Embedded Systems

Work Experience

Apple, Inc.

CAMERA FIRMWARE PLATFORM ENGINEER

Cupertino, CA

Dec. 2019 - Present

- Use chip simulations and FPGA emulations during bring-up run test firmware and validate chip design
- Develop and maintain tools for automating chip bring-up work, mainly parsing JSON files and querying SQL DBs.

Spansive

FIRMWARE DEVELOPER

San Bruno, CA

Jan. 2018 - Dec. 2019

- I worked within a small team designing algorithms and utilizing signal processing in order to achieve orientation and position independent wireless charging under the Qi specification.
- The main microcontroller on the product was an NXP KV5x with ARM Cortex M7, programmed with C
- I spearheaded transition to RTOS from bare-metal in order to more readily address the challenges of a complex system, and continue to work with and maintain said system
- I worked closely with hardware team during bring-up and debugging of board revisions.
- I was the sole maintainer of Python testing and verification suite used to characterize properties of the analog circuitry.
- I implemented our PCB and full assembly tests for manufacturing, and worked with the team at our CM to create the testing procedure and the interface with the testing platform.
- United States Patent 11,031,817 "Coil selection in multi-coil wireless charging system" Abajian, et al. June 8, 2021

Cornell College of Engineering

GRADUATE TEACHING ASSISTANT FOR DIGITAL VLSI DESIGN

Ithaca, NY

Jan. 2017 - May 2017

- Held weekly office hours to assist students with concepts and problem sets.
- Graded problem sets and exams. Graded live demos of lab assignments; these assignments were using Cadence to design specific digital circuits.
- Wrote problems for problem sets and exams. Test drove several labs to verify feasibility.

Cornell Information Technology

COMPUTER LAB OPERATOR

Ithaca, NY

May 2013 - Dec. 2016

- Supervised the use of various computer labs across campus.
- Provided technical support for lab patrons.
- Ensured that the printers were stocked and operational.
- Prepared specialty classrooms for professors.

Cornell Academic Technologies Center

STUDENT TECHNOLOGY ASSISTANT

Ithaca, NY

May 2013 - May 2016

- Provided technical support to professors for various pieces of software.
- Checked out devices such as cameras to professors.
- Performed media conversions (analog to digital) for professors.

Clad Network, Inc.

LEAD HARDWARE ENGINEER

- Early employee in startup
- Discussed business and technology strategy with the rest of the team.
- Implemented adaptive lighting system for our product on an Arduino microcontroller.
- Created a networking solution for the onboard embedded Linux platform in our product.

*Ithaca, NY**Oct. 2014 - Sept. 2015***Wallaby Yogurt Company**

ENGINEERING AND MAINTENANCE INTERN

- Maintained and updated an Access database used for parts inventory.
- Setup virtual environments for testing database software.
- Devised a mobile monitoring system for the plant.
- Performed maintenance on the video surveillance system and the wireless network.
- Assisted in the installation of automation hardware.

*Napa County, CA**June 2014 - July 2014*