Andrew Fantino

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Education

University of California Los Angeles Expected June 2023

BS in Computer Engineering; Concentration in Business Management *GPA: 3.59*

Coursework

- *Operating Systems*
- *Digital Signal Processing*
- *Signal and Systems*
- *Analog Circuits I*
- *Digital Logic Design*
- *Data Structures & Algorithms*
- *Circuits Laboratory*
- *Circuits Theory II*

Skills

Programming Languages: C++, C, Python, Java, SystemVerilog, Reactjs, SQLite (SQLAlchemy)
Software: Linux, Git, Jira, Tableau, Solidworks, LaTeX

Hardware Tools: Lab Equipment, 3D printing, I2C Devices, SPI, UART, STM32, Arduino, ARMv7/v8
PCB and Schematic Design: Autodesk Eagle, KiCad, LT Spice

Experience

Software Engineer Intern June 2022 – Sept. 2022

Viasat Inc. *Carlsbad, CA*

- Researched and evaluated next generation user/kernel-space packet processing solutions, such as DPDK, XDP, and ODP for upcoming network encryption modules
- Loaded best performing solutions to various embedded ARMv7/v8 platforms for a 10x speedup from baseline Linux networking stack
- Applied Agile SCRUM process to report results with automated test and analysis scripts to product owners for future development

Electrical Engineer Intern June 2021 – Dec 2021

Ocean Aero Inc. *San Diego, CA*

- Developed firmware on Cortex ARM v7 microcontroller for autonomous water sampling project for University of Washington research group
- Designed and tested an new iteration of proprietary power management/distribution system and implemented resulting circuit in production PCB with Autodesk Eagle
- Assembled and verified production PCBs for next generation sailing submarines
- Implemented UART logging and automation features into existing firmware for ultrasonic anemometer test platform to speedup testing by 4x

Digital Audio Visualizer – Project Lead May 2021 – June 2022

IEEE at UCLA *Los Angeles, CA*

- Taught 7+ lectures on SystemVerilog, DSP, and serial communication protocols using Altera FPGA for 50+ students with 98% completion rate
- Yearlong SystemVerilog program with projects on digital design and signal processing, including implementing 16pt FFT for the final project of a digital audio visualizer using an FPGA with VGA output
- Architected piano and pipelined calculator projects and updated existing lesson plans for in person teaching

GSOC Ops Intern June 2020 – Sept. 2020

Qualcomm Inc. *San Diego, CA*

- Developed new Tableau dashboards to improve UX which was implemented into production to be used by thousands of full-time staff
- Designed RESTful API in python to connect web based super grid tool to Tableau with a backend database of SQLite.

Projects

BOLDR | *ReactJS, Firebase, Git, CSS* Mar. 2022

- Created social media platform to rate difficulty and quality of bouldering problems and bookmark favorites.
- Used Firesbase Auth and Firestore with custom React hooks as a backend to store user data and local gym info.

Micromouse (IEEE) | *PCB Design, Embedded C, PID, Floodfill, STM32 MCUs* May 2020

- Worked with a small team to create an autonomous maze solving robot with a self-designed PCB and schematic
- Implemented IR sensor fusion, wheel encoder distance calcuation, PID and Flood Fill algorithms in embedded C

Arduino Electrocardiogram | *Arduino C, Laser Cutting, PCB Design* Mar. 2020

- Designed, built and tested an Arduino powered electrocardiogram using simple low and high pass filters to isolate frequencies of interest.
- Added OLED display and battery power to view QRS complex without the need for an external display
- Laser cut and assembled custom acrylic enclosure to enable hand-held portability at a low cost.

BAC Measuring Cup | *Arduino C, 3D Printing, Bluetooth* Jan. 2020

- Designed and programmed a weight-measuring cup consisting of an Arduino, a load cell, and basic Android app that tracks the user's BAC
- IDEAHacks - Sustainability Award