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 SoCs
PCB and Schematic Design: Autodesk Eagle, KiCad, LT Spice

Work Experience

Viasat Inc. Carlsbad, CA

Software Engineer Intern *June 2022 – Sept. 2022*

- 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 to product owners for future development with automated test and analysis scripts written in Tcl and Python

Ocean Aero Inc. San Diego, CA

Electrical Engineer Intern *June 2021 – Dec 2021*

- 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

Qualcomm Inc. San Diego, CA

GSOC Ops Intern *June 2020 – Sept. 2020*

- 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.

Other Experience

IEEE at UCLA Los Angeles, CA

Project & Lab Manager *May 2022 – June 2023*

- Lead 'How to be an Officer' workshops to teach new officer technical and leadership skills such as how to use certain lab tools and conflict resolution
- Reviewed lectures, parts orders, and specification documents for project leads to ensure smooth experience leading general members

Digital Audio Visualizer – Project Lead *May 2021 – June 2022*

- Taught 7+ lectures on SystemVerilog, DSP, and serial communication protocols using Altera FPGA for 50+ students with 98% completion rate
- Architected piano and pipelined calculator projects and updated existing lesson plans for in person teaching

Research

Nader Lab Los Angeles, CA

Lab Assistant *May 2022 – Present*

- Lead 'How to be an Officer' workshops to teach new officer technical and leadership skills such as how to use certain lab tools and conflict resolution

Integrated Bioelectronics Lab Los Angeles, CA

Lab Assistant *May 2020 – June 2020*

- Lead 'How to be an Officer' workshops to teach new officer technical and leadership skills such as how to use certain lab tools and conflict resolution

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.

Caster Counter | *Arduino* Jan. 2022

- JLKJDAS;LKFJASD;LKFJAS;DLKF

FPGA Tic-Tac-Toe | *Verilog, VGA Protocol* Dec. 2021

- Designed and implemented a 2 player tic-tac-toe game on a Xilinx Spartan6 FPGA with VGA display

Digital Audio Visualizer (IEEE) | *SystemVerilog, Digital Design, FPGA Signal Analysis* June 2021

- Yearlong SystemVerilog program with projects on digital design and signal processing, including implementing 16pt FFT for the final digital audio visualizer using an FPGA with VGA output

Busy Signal | *ESP32 wifi, IoT Devices, Google Calendar API* Jan. 2021

- OAISDJFLKAJSDFLK;ASJD;FLKAJSD;FL
- SJKLAJLKSAJD:LAKSFJ:LKASJF:LKAS

Micromouse (IEEE) | *PCB Design, Embedded C, PID, Floodfill, STM32 MCUs* June 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 heartbeat 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

IoT Skating Detection Machine Learning | *C, Embedded ML* Dec. 2019

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Project Radian Robosub | *Python, OpenCV, Solidworks* Aug. 2019

- Lead the programming development of a small team that built an autonomous underwater vehicle to complete complex vision challenges in competition against 40+ universities with a total cost of less than $1500