Andrew Fantino

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EDUCATION

University of California Los Angeles — Expected 2023
BS in Computer Engineering; Concentration in Business Management — *GPA: 3.59*

Coursework
Operating Systems, Digital Logic Design, Data Structures & Algorithms, Digital Signal Processing

SKILLS

Programming Languages: C++, C, Python, Java, SystemVerilog, Reactjs, SQLite (SQLAlchemy)	**Hardware Tools**: Lab Equipment, 3D printing, I2C Devices, SPI, UART, STM32, Arduino, ARMv7/v8 SoCs
Software: Linux, Git, Jira, Tableau, Solidworks, LaTeX	**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 forwarding solutions on various ARMv7/v8 SoCs 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 Python

Ocean Aero Inc. — San Diego, CA
Electrical Engineer Intern — *June 2021 – Dec 2021*
- Developed firmware on ARM v7 MCU for autonomous water sampling project for University of Washington research group for detection of algal blooms in the Pacific Northwest
- Prototyped a new iteration of proprietary power management/distribution system and implemented resulting circuit in production PCB with Autodesk Eagle 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 tool to Tableau with a backend database of SQLite.

PROJECTS

Project Lead - Digital Audio Visualizer (IEEE) | *SystemVerilog, Digital Design* — 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
- 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

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 calculation, 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