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

Digital Signal Processing, Digital Design Lab, Computer Architecture, Secure Computing Systems

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 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