Aashir Farooqi

(949)-226-9612 | afarooqi@ucdavis.com | *https://github.com/AashPointO*

Education

University of California, Davis	**Fall 2016 - Summer 2020**

B.S. Computer Engineering

GPA: 3.4

Technical Skills

Programming/Markup Languages:	**Technological Environments/Libraries:**
C/C++, Rust, Bash, MIPS, RISC-V,	SPICE, Linux/UNIX, ModelSim,
Verilog, HTML/CSS, MATLAB,	Vim, Android Studio, Quartus,
Python, Java, JavaScript, LaTeX.	Git, EAGLE, Altium.

Experience

Firmware Engineer - Research Assistant	**April 2018 - June 2020**
Miller Lab (*millerlab.faculty.ucdavis.edu*)	**Auditory Neuroscience and Speech Recognition Lab**

- Independently brought up, prototyped, and implemented a hybrid hardware/firmware solution to cross-reference external audio and serial data inputs, with our EEG acquisition system in real-time. Brought latency down from the previous iteration by a factor of 10.

- Wrote a Python to MATLAB wrapper which grabs the gaze angle from our eye-tracker through the Lab Streaming Layer API. Designed as a proof of concept to be incorporated into future studies which will require eye tracking data.

- Wrote embedded firmware code, created hardware schematics, and designed/assembled multiple PCBs in EAGLE.

Software Engineer - Intern	**June 2018 - August 2018**
General Atomics	**EMS - Software and Controls**

- Converted mathematical intensive algorithms of the aircraft landing simulation from MATLAB to C++, bringing the runtime of the simulation down by over a factor of 2. My conversion is now used in research and development of the actual aircraft landing system contracted for the world's most expensive aircraft carriers.

- Only intern in department of over 20 to earn "MVP" award for saving "hundreds of hours in simulation time and greatly reducing control system tuning efforts".

- Wrote a variety of unit-tests using a testing-framework to verify my team's simulations.

Projects

Operating Systems Course Projects: *C/C++ & UNIX Command Line*	**Spring 2020**

- Implemented multiple OS functionality spanning the user and kernel space, such as writing a basic UNIX shell in C, preemptive scheduling of different processes, support for multi-threaded safe variables, and writing a Linux driver for a FAT16 file system.

- Refined my ability in utilizing the GNU Debugger in debugging multi-threaded processes.

Senior Design Project: *Smart Dog Collar* *C & Verilog*	**Fall 2019 & Winter 2020**

- Wrote embedded firmware and HDL code onto Cypress's PSoC. Incorporated a BLE module for wakeup interrupts and data transfer from a mobile application to our device. Communicated with external peripherals such as MEMS mics, accelerometers, and gyrometers through I^2C, I^2S, and SPI.

- Designed multiple iterations of PCBs through Altium by consulting data sheet, which I assembled through the use of soldering irons and hot air stations.

IOS Games (**Formerly Published**)**:** *Round 'a Bound*, *Tic-Tac Emoji* *Swift*	**Winter 2017 & Spring 2018**

- Utilized the Spritekit API to detect physics collisions between nodes and to exhibit independently made animations and sounds.

- Incorporated an online leaderboard via a realtime database through Google's Firebase API, which parses through JSON data.