

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:

C/C++, Rust, Bash, MIPS, RISC-V,
Verilog, HTML/CSS, MATLAB,
Python, Java, JavaScript, \LaTeX .

Technological Environments/Libraries:

SPICE, Linux/UNIX, ModelSim,
Vim, Android Studio, Quartus,
Git, EAGLE, Altium.

Experience

Embedded Software 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 and software 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 General Atomics

June 2018 - August 2018
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++ & Linux Command Line

Spring 2020

- Implemented multiple OS functionality spanning the user and kernel space, such as writing a basic Linux 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. Wrote software modules to interface with external sensors and hardware peripherals, through I²C, I²S, SPI, and UART.
- Designed multiple iterations of PCBs through Altium by consulting data sheet, which I assembled through use of soldering irons and hot air stations, and eventually debugged through use of logic analyzers, oscilloscopes, and more.

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.