Aashir Farooqi

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Education

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

Major: Computer Engineering, B.S
GPA: 3.4
CS Coursework: Algorithm Design & Analysis, Operating Systems, Networks.
EE Coursework: Embedded Systems, Digital Systems (Verilog), Circuits, Signal Processing.

Experience

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

- Brought latency down by a factor of 10 by implementing a hybrid hardware & firmware solution for our real-time EEG acquisition system.
- Implemented an eye-tracking system in MATLAB, for incorporation in behavioral studies.
- 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**

- Brought the runtime of the aircraft landing simulation down by a factor of 2 by converting the mathematical intensive algorithms from MATLAB to C++.
- Only intern in department to earn "MVP" award for saving "hundreds of hours in simulation time and greatly reducing control system tuning efforts".
- Leveraged skills in algorithm design principles, TDD for unit-testing, and MATLAB's MEX API.

Projects

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 and assembled multiple iterations of PCBs through Altium, which incorporated the PSoC, external sensors, and a rechargeable battery.

IOS Games: *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.
- Both originally published and reviewed on the App Store, culminating in over 250 downloads.

Website: *aashpointo.github.io/KmapWebsite* *HTML/CSS & JavaScript* **Winter 2018**

- Incorporated the Quine-McCluskey method to output the *Sum of Products* and *Product of Sums* equations from a set of truth-table inputs.
- Unlike other K-Map Generating websites, mine allows for multiple outputs, an algorithm which is scalable up to an arbitrary number of bits, and a dynamically sizing table through incorporation of JavaScript.

Technical Skills

- **Proficient:** C/C++, MATLAB, Verilog, Bash, RISC-V.
- **Familiar:** Python, Java, Rust, LaTeX.