

# Aashir Farooqi

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## Education

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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, Circuits, Signal Processing.

## Experience

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Embedded & Hardware Engineer - Research Assistant

April 2018 - June 2020

Miller Lab ([millerlab.faculty.ucdavis.edu](http://millerlab.faculty.ucdavis.edu))

Auditory Neuroscience & Speech Recognition Lab

- Independently brought up, prototyped, and developed a real-time solution to cross-reference external audio inputs with an EEG acquisition system by writing embedded firmware code in C and designing/assembling a single-bit ADC circuit. Brought latency down from the previous iteration by a factor of 10.
- Taught myself networking principles, such as TCP/IP communication, to communicate with an external eye-tracking system for use in behavioral studies.

Software Engineer - Intern

June 2018 - August 2018

General Atomics

EMS - Software and Controls

- Leveraged object-oriented and algorithm design principles to convert the code base for an aircraft landing from MATLAB to C++, bringing the runtime of the simulation down by a factor of 2. Despite tight time constraints and minimal assistance, I earned the "MVP" award for saving "hundreds of hours in simulation time and greatly reducing control system tuning efforts".

## Projects

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Smart Dog Collar Senior Design Project C & Verilog

Fall 2019 & Winter 2020

- Wrote embedded firmware code in C and HDL code in Verilog onto Cypress's Programmable-SoC.
- Implemented 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<sup>2</sup>C, I<sup>2</sup>S, SPI, and UART.
- Designed/assembled multiple iterations of PCBs in Altium.

Mobile Applications (IOS): *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.
- Apps originally published and reviewed on the App Store, culminating in over 250 downloads.

Website: [aashpointo.github.io/KmapWebsite](https://aashpointo.github.io/KmapWebsite) HTML/CSS & JavaScript

Winter 2018

- Implemented the Quine-McCluskey algorithm in JavaScript to compute the *Sum of Products* and *Product of Sums* from a set of truth-table inputs.

## Technical Skills

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- Proficient:** C/C++, Verilog, MATLAB, Bash, RISC-V.
- Familiar:** Python, Java, Rust, Swift, R, L<sup>A</sup>T<sub>E</sub>X.