Aashir Farooqi

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Education

University of California, Davis **Davis, CA**

College of Engineering: B.S. Computer Engineering *GPA:* 3.00

Expected graduation: June 2020

Relevant Courses: Data Objects and Structures (C/C++), Object-Oriented Programming (Rust), Programming/Problem Solving (C), Discrete Mathematics, Digital Systems, Circuits.

Self-Taught: Android/IOS development; Web development

Technical Skills

Programming/Markup Languages:

Fluent: C/C++.
Advanced: HTML/CSS, Javascript, Swift, Bash, MATLAB.
Beginner: Rust, Java, LaTeX.

Technological softwares/libraries:

SpriteKit, Unix-Based OS's, XCode,
Vim, Android Studio, Arduino IDE,
Microsoft Office, Chrome Console, GitHub.

Experience

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

- I converted thousands of lines of code of the mathematical intensive algorithms of an aircraft landing simulation from MATLAB to C, enabling the simulation to run more than twice as fast as its original speed. 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 20 to earn "Most Valuable Player" award for saving "hundreds of hours in simulation time and greatly reduce control system tuning efforts."
- I created and Presented several PowerPoint Presentations detailing the general process of the aircraft landing system, which are now being used for teaching new employees.

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

- Wrote Arduino software which takes in digital inputs from buttons, and analog data from multiple audio jacks, and relays this information to our EEG acquisition program through soldered serial pins. Crucial in accurately interpreting data of brain wave patterns in response to audio cues from our behavioral studies.
- Wrote a 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 backend database in MATLAB to track participants in our studies.

Independent Projects (*source code available on GitHub*)

IOS Apps: *Round 'a Bound*, *Tic-Tac Emoji* *Swift* **Winter 2017 & Spring 2018**

- Mobile games utilizing the Spritekit API to detect physics collisions between nodes, and to exhibit independently made animations and sounds.
- Incorporates gradients and textures through self use of Photoshop.
- Online leaderboard via a realtime database through Google's Firebase API, which parses through JSON data.
- Both are published and reviewed on the App Store, culminating in over 100 downloads and 2600 page views.

Websites: *aashpointo.github.io/KmapWebsite* *HTML/CSS & Javascript* **Winter 2018**

- Given a set of of truth table inputs, my website outputs a *Sum of Products* equation through an independently created algorithm with a time complexity of $O(n^2 log(n))$.
- 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 my incorporation of Javascript.