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, Networks, Operating Systems.
EE Coursework: Embedded Systems, Digital Systems, Circuits, Signal Processing.

Experience

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

- Implemented object-oriented programming/design principles alongside low-overhead data structures in an embedded system, in order to cross-references external audio inputs with an EEG acquisition system. My improvements brought the latency down from the previous iteration a factor of 10.
- Taught myself networking principles, such as TCP/IP communication, to communicate with an external eye-tracking system for use in our behavioral studies.
- Designed a database in MATLAB to track participants in behavioral studies.

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

- Leveraged algorithm design and object-oriented programming/design principles as I rewrote the computationally intensive portions of the codebase for an aircraft landing simulation from MATLAB to C++. 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

Algorithm Design & Analysis (Course Project): **Summer 2020**

- Implemented, tested, and designed a number of different Algorithms in C++, utilizing well-known mathematical optimization methods such as dynamic programming and greedy algorithms.

Networking Simulations (Course Project): **Spring 2020**

- Simulated the behavior of a Wireless Local Area Network and a single server queue in C++ for the sake of modeling and analysis.

Mobile Applications (Independent Projects): *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.
- Implemented a realtime database for use in an online leaderboard via Google's Firebase API.
- Apps originally published and reviewed on the App Store, culminating in over 250 downloads.

Web Applications (Independent Projects): *aashpointo.github.io/KmapWebsite* *HTML/CSS & JavaScript* **Winter 2018**

- Taught myself how to create Web Applications using JavaScript in order to implement the Quine-McCluskey algorithm from a set of truth-table inputs.

Technical Skills

- **Proficient:** C/C++, Java, MATLAB, Bash.
- **Familiar:** Python, Rust, Swift, R, LaTeX.