NICHOLAS MOHAMMAD

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458-7 Lambeth Lane
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EDUCATION

University of Virginia, Charlottesville *Expected May 2020*
Bachelor of Science, Computer Engineering, Minor in Engineering Business, GPA 3.94

Relevant Coursework: Program and Data Representation, Digital Logic Design and Fundamentals of Electrical Engineering

The Governor's School at Innovation Park, Manassas, Virginia *May 2016*
Invitation-only High School; STEM research initiative with George Mason University
Worked with Dr. Ales Psaker on research projects related to computer science and physics.

TEAM PROJECTS AND AWARDS

Music Frequency Detector *May 2018*
- Designed and constructed a PCB circuit board which takes music signals as input and light up LEDs depending on frequency of music.
- Primary role was the design of the Butterworth Sallen key filters and the peak detection which drove the LEDs.
- All circuit planning was done using National Instrument's Multisim design program.

Automated Fall Detector *May 2016*
- Developed and built a device and smart phone application that contacts emergency services when a fatal fall is detected; device also allows user to communicate directly with emergency services until help arrives.
- Received the *Project Recognition Award* from the AFCEA, Belvoir Chapter; IEEE recognition during annual banquet event
- Primary role was the programming of the components connected to the Arduino microcontroller, all done in C and corresponding device libraries.

Maze Solving Robots *May 2015*
- Implemented Arduino and Xbee module to develop three robots that communicated via Bluetooth to solve a maze.
- Primary role was Arduino device programming in C and corresponding Xbee and servo libraries.

PERSONAL PROJECTS

Dota 2 Player Analyzer *January 2018 - Present*
- Python script that uses the beautiful soup and request libraries to ping a Steam ID website for core player info that is run through the OpenDota API. Also uses the json library for parsing of data streams on both player and game information received by the OpenDota server.
- The script returns Dota statistics for the player, including most picked heroes, skill rating, and overall win-rate, among other things.

Personalized Backup Server *September 2016*
- Used a raspberry pi and mounted external hard drive to create a personalized, google-drive like service that could be accessed by smart-phone and pc.
- Established the server through barracuda drive and ran the service by SSHing into the headless raspberry pi.

PREVIOUS WORK EXPERIENCE

Swift Inc., Manassas, Virginia *June 2019 – August 2019*
Python Developer / Tester
- Created a multitude of regression tests to be performed during installation and upgrading of Swift's SNF service application
- Produced a driver client that connected to the development application via SSL to run through message flows
- Work was done exclusively on RHEL host systems through the terminal, and code was developed solely in vim

University of Virginia, Charlottesville, Virginia *Fall 2018 - Present*
Teaching Assistant – CS2150: Program and Data Representation
- Main topics of class include: C++ coding structure and syntax; Coding through command shell in a linux environment; Data structures and Big Oh runtime analysis in C++; x86 Assembly and relevant calling conventions for C++; Machine code programming; Computer number representation and memory system.
- Work requirements include assisting in the grading of tests, working with students in office hours, supervising required lab sessions, and meeting weekly to discuss class progress and assignment refinement.

CLUBS/INTERESTS

- Member of the IEEE UVA Chapter
- UVA Collegiate Dota 2 Team Analyst