SHARIQ HAFEEZ

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Education

University Of Michigan – Ann Arbor: Computer Engineering 05/2020

GPA: 3.938 / 4.0 University Honors, Dean's List

Coursework: Intro Logic Design Intro Signals & Systems Intro Circuits

Intro Data Structures Microprocessor Toys Discrete Math

Skills: C++, C, Verilog, Assembly (x86 & ARM), Python, Matlab, Git, LTSPICE

Work History

System Security Intern 05/2018 to Present
Marvell Semiconductor – Marlborough, MA

- Tested and debugged SPI flash driver for the secure BootROM's image download in enterprise SSD controller.

Engineering Intern 04/2017 to 07/2017
Intent Design – Farmington Hills, Michigan

- Assembled and led a team in designing and building a test bench to measure a propeller's thrust with interchangeable motor, speed controller, and battery to determine feasibility of suspending a 15kg device.
- Interfaced an Arduino with a load cell and Hall-effect sensor to measure propeller RPM, power usage, and thrust.
- Guided the team to analyze the data and configure the bench to optimize airflow to the propeller.

Project Experience

2 Factor Authenticated Door Lock 1/2018

- Integrated a solenoid lock and relay with the ability to verify entrants with RFID tags and facial recognition.
- Archived pictures of unauthorized users and recorded their access attempts in a NoSQL database.
- Hosted files in Amazon's AWS framework and managed device communication with their MQTT broker.

Michigan Neuro-Prosthetics [Hardware Lead] 09/2016 to Present

- Collaborated in producing a servo-driven, 3D-printed hand with real-time muscle activity from EMG sensors.
- Oversaw the team on use of all sensors, actuators, boards, peripherals, and signal processing.
- Currently piloting classification of signals with wavelets and fourier transforms through an artificial neural net.

Low Power Security Camera 12/2017

- Designed a camera system with a PIR sensor to detect motion and capture photos if objects of interest are detected.
- Wrote a OneWire protocol to control WS2812 LEDs, stationed with photoresistors to provide appropriate lighting.
- Utilized Google Vision API to filter false positives, before sending security update emails with photo evidence.

ENGR 100 Microprocessor Toy 01/2017 to 04/2017

- Worked in a group to combine an RC car with a camera to give it the functionality to follow a distinct, drawn path.
- Implemented the interfacing the Altera FPGA with the DC motors through an H-bridge and wrote drivers in assembly to make navigational decisions based on the data collected from the camera.

Extracurriculars

- Eta Kappa Nu (Honor Society of IEE) – Member
- Middle School Maker/Tech Club - Founder
- Michigan Club Wrestling - Member
- International Baccalaureate Diploma - Recipient