HAMZA AHMED

Electrical Engineer & Tech Enthusiast

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EXPERIENCE

Electrical Designer Co-Op
AVIGILON

📅 Jan 2019 – Aug 2019   📍 Vancouver, BC

- Created schematic captures and PCB layout for IR LED boards on Avigilon's new line of camera using Altium Designer
- Developed Python script to automatically update Git Repository with new hardware components when implemented in Altium Designer software by electrical designers
- Designed and programmed electronic test jigs for long-term reliability check of IR cut filters from new suppliers

Electrical Engineer Co-Op
AURORA INDUSTRIAL MACHINES INC.

📅 June 2018 – Dec 2018   📍 Richmond, BC

- Assisted in the development and testing of power electronic systems for company's high efficiency electrical motors and generators
- Followed complex electronic schematics and specifications to solder components and build electronic circuits such as Power Converter PCBs that were used to drive motor
- Programmed Arduino in C with on-board sensors to wirelessly record motor rotational speed and on/off behavior

PROJECTS

Stock Trader Web App
Harvard CS50x Finance

📅 Oct 2020 – Oct 2020

- Implemented a website via which users can buy, sell, quote stocks and view portfolio
- Managed new user registration through multi-table SQL database
- Queried IEX's data via API to get real-time stock information
- Coded in HTML, CSS and JS to configure layout of web pages
- Programmed in Flask to create logic structure and routing of web pages for single user sessions

Simple iPod
UBC

📅 Oct 2017 – Nov 2017   📍 Vancouver, BC

- Programmed DE1-SOC FPGA board to implement audio playback capabilities of a simple iPod.
- Coded glitch-free state machines using SystemVerilog to move between different playback features (play, pause, speed up, slow down, rewind, reset, etc.)
- Coded in PicoBlaze Assembly to display volume control on on-board LED's in real-time audio playback.

For detailed information on completed projects, please visit: https://hamzas.ca/images/projects.pdf

EDUCATION

B.ASc in Electrical Engineering
University of British Columbia

📅 Sep 2016 – May 2020

CS50x - Data Structures & Algorithms Certificate
Harvard University

📅 Sep 2020 - Oct 2020

SKILLS

Java   C/C++   MATLAB/R   Python
Flask   Verilog/SystemVerilog
HTML   CSS   JavaScript   SQL
ARM/8051 Assembly

Altium Designer   ModelSim
Visual Studio   MS Office   SolidWorks
SVN/Git   JIRA   Confluence
Agile PLM

FPGA Design   Soldering
Oscilloscope   Microcontrollers
BC Class 5 Driver's License
Basic Amateur Radio License with Honours

EXTRA-CURRICULAR

$ International Field Trip Co-Lead @ UBC IEEE
Organized an international field trip to Sweden for 15-20 university students as part of the IEEE department at UBC while managing a budget of $20,000+

⚙ Battery Pack Designer @ UBC Solar
Designed and assembled battery pack to power a solar powered racing vehicle motor and peripherals.

🖥 PC Assembly
Assembled & built multiple PCs over the course of a decade. Debugged & troubleshooted hardware, software & operating system issues within builds.