MAAZ AZAM

Senior Electrical Engineering Student

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EDUCATION

Electrical Engineering (Co-op)
McMaster University - Class of 2021

09/2016 – Present (Expected Grad: 12/2021) Hamilton, ON, Canada

- Data Structures & Algorithms, Principles of Programming, Control Systems, Logic Systems, Comm. Systems, RF Engineering, Microprocessors, Electronic Devices, Digital/Analog Circuits

WORK EXPERIENCE

Hardware Integration Intern
Tesla

08/2020 – Present San Francisco Bay Area, CA

- Special projects group – electrical/software integration and simulation for multiple projects to advance future Tesla vehicles

Cell Engineering Intern
Tesla

06/2019 – 05/2020 San Francisco Bay Area, CA

- Integration and calibration of cameras, lasers and other metrology tools to enhance quality inspections of cell designs
- Designed mechanical apparatus for micron-level measurements using Solidworks, carried project from initial stage to final design
- Performed design validation plans, statistical analysis using JMP, and created DOE's for sensors and battery systems, while setting up automated test frameworks using Python/MySQL

Hardware Development & Research Intern
Eaton

05/2019 – 06/2019 Mississauga, ON, Canada

- Hardware testing/integration of smart lighting sensor devices to ensure measured electrical characteristics meet DALI protocol
- Utilized Altium PCB design and created electrical test plans for device circuitry/debugging, using lab tools and schematic capture
- Debug and validate firmware written in C and develop testing software using LabVIEW for functional verification of products

Lab Assistant
Center of Mechatronics & Hybrid Technologies

09/2018 – 04/2019 Hamilton, ON, Canada

- Created hardware design for embedded systems to test engine quality using AutoCAD Electrical and HMI interface connectivity
- Modified a Siemens PLC control module to test multiple high-power servo motors using Verilog programming for both battery and international combustion engine performance tests

Avionics Engineer Intern
PAL Aerospace

05/2018 – 08/2018 Mississauga, ON, Canada

- Conducted and led several aircraft reliability projects such as strain gauge and current testing, using RCA/FMEA tactics
- Prepared test fixtures, schematic/circuit designs, calibrated lab equipment using data-acquisition system with C/C++ & ECAD

TECHNICAL SKILLS

Programming Languages/Frameworks
C/C++, Python, Verilog, Java, JavaScript, SQL, HTML, CSS, Linux

Softwares/Programs
Altium, Cadence, PSpice, MATLAB, Quartus, Tableau, LabVIEW, Simulink, JMP, Solidworks, CATIA V5, Git, AutoCAD, MS Office

Technological Equipment/Devices
Arduino's, Oscilloscope, Signal Analyzers, Sensors, FPGA's, PLC's, HMI's, PCB's, Integrated Circuits, Microprocessors, Power Meters

Other Skills
I2C, UART, SPI, SCI, USB, Project Management, Technical Reports, Fabrication/Soldering, Teamwork, Results-Driven, Data Analysis

EXTRA-CURRICULAR EXPERIENCE

Control Systems/Simulation Modelling Team
EcoCAR Mobility Challenge

09/2018 – 04/2019 Hamilton, ON, Canada

- Modified the drivetrain of the GM 2019 Chevrolet Blazar to an autonomous P3 hybrid architecture using MATLAB/Simulink
- Design implementation of the powertrain by equation-based modelling and HIL testing to improve fuel consumption by 12%

PROJECTS

Angle Inclination Sensor System, Data Acquisition (03/2019)
- Created embedded system utilizing accelerometer with Esduino micro-controller to convert physical analog movement to digital signals using C
- Angle inclination displayed graphically in real-time using MATLAB through UART, SPI, I2C communication, with multiple user features

AM Radio (03/2019)
- Research of different amplifier and RF circuit design to accurately filter and amplify certain AM frequencies through superheterodyne process
- Soldered components including antenna, resistors, transistors, diodes and capacitors onto PCB designed through Altium

Eco-Bin, Embedded Systems (01/2019)
- Created an automated garbage sorter using Google Vision API capable of processing images using ML through trigger from ultrasonic sensor
- Utilized Arduino micro-controller with components such as LED's, buzzer and stepper motor to detect and automate sorting process

ACHIEVEMENTS & AWARDS

Community Contribution Award (06/2020)
Awarded through demonstration of superior leadership and innovative skills throughout various university activities and contributing to community at-large

Future Leader Recognition Award (03/2020)
Awarded for co-op and academic achievements in the workplace, in addition to being an ambassador for the co-op education program in engineering

McMaster Engineering Competition – 2nd Place (09/2018)
Finding intuitive and innovative methods to increase food production by over 70% by 2050 using machine learning and other R&D, AI tools