JOHNSON QU

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SKILLS

- **Languages:** C, Verilog, Python, LaTeX
- **Software:** Minitab, MATLAB, Simulink, Maple, Excel, Microsoft Office, SOLIDWORKS
- **Hardware:** LabView, Quartus Prime, Multisim, Arduino

EDUCATION

Bachelor of Engineering, Mechatronics Engineering (Level III), McMaster University   **cGPA: 3.96/4.00**

Involvement: Baja Racing, Engineering Rep, Engineering Mentor, DeltaHacks Logistics Executive, Mechatronics Society Merchandise Coordinator, SAE Learn Twice Initiative

EXPERIENCE

Vehicle Dynamics Control Systems Co-op, General Motors   **Sep 2020 – Apr 2021**

- *Current role. Job description:*
- Support and develop control and diagnostic algorithms
- Conduct testing of prototype and production software (simulation, bench, and in-vehicle)
- Supported production calibration activities through in-vehicle testing and data analysis

Educational Research Assistant, McMaster University   **May – Aug 2020**

- Created a virtual interface (video feed, file upload, switches) to enable student access of FPGA boards from home. Used Python, PyQt5, OpenCV, Arduino, Verilog, and Quartus Command Line Script
- Rewrote lab literature to accommodate students working from home

Summer Assistant, ATS Test   **May – Jun 2020**

- Soldered 75 PCBs to support a project suffering delays during the COVID-19 pandemic
- Created devices with the aid of PCB123 to test existing assembled, reducing troubleshooting time

Systems Integrator ATS Automation LS   **May – Aug 2019**

- Troubleshooted low voltage electrical issues by reading PLC code & electrical schematics
- Completed device config, network config, I/O testing, safety testing, and factory acceptance testing

Systems Integrator ATS Automation APG   **May – Aug 2018**

- Reduced FAT time by 19% by preconfiguring 3000+ HMIs, PLCs, modules, drives and cameras
- Gained experience with Allen Bradley PLCs & HMIs, SICK Safety controllers, Kinetix drives, Cognex cameras, FMS motors, Keyence sensors and Microsonic sensors

PROJECTS & EXTRACURRICULAR ACTIVITIES

8-bit Stepper Motor ASIP   **Mar – Apr 2020**

- Created a datapath and instruction set for the stepper, including half/full steps, start/stop, #steps, and delay
- Successfully implemented the data-path and control FSM in Verilog, using Quartus Prime

Pacemaker   **Sep – Dec 2019**

- Created a Device Controller Monitor (DCM) using Python to program the pacemaker
- Interfaced between the DCM and the pacemaker, implementing hardware hiding principles in MATLAB Simulink, and implementing error checking algorithms on both ends