Hamdan Chaudhry

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SUMMARY OF QUALIFICATIONS

C++ • Python • C • Lua • MySQL
Control Systems • Simulink • MATLAB
Linux • ROS • Bazel • Jenkins

WORK EXPERIENCE

Software Engineer, MDA
Brampton, ON • Jan 2021 – Present

- Working on modernizing department's software development workflow to a CI test-driven development environment using Bazel, Jenkins, Git and clang utilities
- Developing code in C++ for image processing on embedded systems

Software Engineer Intern, MDA
Brampton, ON • Jan 2018 – Aug 2018

- Developed computer vision solution using OpenCV and MATLAB to automate robotic arm for wing panel sealing
- Wrote automated test scripts in Lua for firmware validation of ESA ExoMars Rover actuator drive electronics system

Software Engineer Intern, Autonomoose
Waterloo, ON • May 2017 – Aug 2017

- Implemented algorithms for developing motion planning simulator in Python
- Worked on a behavioral planner for autonomous navigation based on rules and dynamic system models

Firmware Engineer Intern, Tesla Motors
Palo Alto, CA • Jan 2016 – Apr 2016

- Worked on developing an automated hardware in the loop test framework for the Tesla Model X
- Implemented keyword based tests using Robot Framework and Python modules

RELEVANT PROJECTS

RaspBot, *Raspberry Pi Robot*

- Building and programming an autonomous robot in C++ and Python
- Programming it to efficiently navigate through a range of courses using computer vision and sensor fusion

Spoteria, *Capstone Design Project*

- Developed a smart mirror workout assistant for real time feedback and exercise form correction
- Trained a machine learning model using Kinect sensor data to recognize and identify exercises
- Implemented a digital controller using an Arduino and Kinect user height data to actuate TV height for optimal user experience

Cyclops ROV, *Arduino Submarine*

- Built and programmed a semi-autonomous Arduino powered ROV in C
- Performed sensor calibration, integration and interfacing for underwater applications

EDUCATION

University of Waterloo
Bachelor of Applied Science
Mechatronics Engineering, Oct 2019

Relevant Courses:
- Algorithm Design and Analysis
- Microprocessor Systems and Interfacing
- Computer Structures and RTOS
- Autonomous Mobile Robotics
- Sensors and Instrumentation
- Automatic Control Systems
- Image Processing