

Alvin Marquez - Electrical Engineering (M.A.Sc.)

SKILLS AND PROJECTS

Programming Skills: Python, C++, Bash, Java

Tools: VS Code, Git, JIRA, MATLAB, Simulink, Android Studio

Operating Systems: Linux (Ubuntu & Debian), Windows 7/10

Others: Robot Operating System (ROS), Kalman Filter, Sensor fusion, Object Oriented Programming, CAN protocol, Lidar, Ultra-wideband, Agile, Unit Testing, Automation, Microcontrollers, Positioning Systems

Autonomous Ground Vehicles - Designed and implemented an autonomous ground vehicle for continued indoor positioning research. Created an indoor positioning system using an IMU, Beaglebone and ultra-wideband transceivers. Implemented sensor communication and fusion using ROS and Kalman Filter. Produced analytical comparisons and conclusions using MATLAB.

EXPERIENCE

Danlaw – *Software Engineer - Validation for DataLogger*

February 2019 - Current

- Developed scalable test cases using Python pandas & pytest for test automation and entrypoints for a command line interface
- Maintained Python package using pip and git for distribution
- Analysed fleet devices' data using Python & bash to parse logs from DataLogger & CAN bus to effectively catch field issues

Avidbots Corp – *Applications Engineer for Autonomous Robots*

November 2017 - December 2018

- Utilized Linux, ROS, Python & bash scripting to manage fleet operation of 100+ autonomous floor scrubbers on a daily basis
- Saved +50% of developer debug time by performing detailed root cause analysis using diagnostic log files gathered from the field
- Used JIRA with JQL to effectively identify, report, and track bugs

EDUCATION

University of Windsor, Ontario – *Master of Applied Science (M.A.Sc.) with Thesis - Electrical Engineering*

Graduating class of 2017 with a 85.75 out of 100 GPA

Udacity – *Android Basics Nanodegree by Google*

Designed and created a News Feed app that gathers and displays articles in the 'Game' category using the Guardian News API. (<https://github.com/ehmarquez/GuardianNews>)