# Ayodeji Ige

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## Education

**B.A.Sc. Honours Mechatronics Engineering**, University of Waterloo Sep 2013 – Jun 2019

**Degree Honours:** With Distinction, Dean's Honours List

**Relevant Courses:** Algorithms and Data Structures • Computer Structure and Real Time Systems • Microprocessors and Digital Logic • Computer Networks • Sensors and Instrumentation • Microprocessor Systems and Interfacing

## Skills

**Software:** C • C++ • Python • MATLAB • ROS • Linux • Git

**Hardware:** Verilog • Embedded Platforms: Arduino, BeagleBone, NVIDIA Tegra • Oscilloscope • Logic Analyzer • I2C

## Relevant Experience

**Sensors Algorithms/Firmware Intern,** *Apple, Los Angeles, CA* May – Sep 2018

- Developed prototypes to investigate various sensor use cases to inform product decisions
- Accelerated development time by developing python application for tuning and validation of sensor algorithms

**Software Engineering Intern,** *Microsoft, Redmond, WA* Jan – Apr 2018

- Designed and implemented solution to improve data transfer between drivers and Windows service from request based to event driven model to minimize resource usage
- Developed windows driver module to enable the use of state machines in driver development by abstracting the core state machine operations

**Embedded Systems Engineering,** *Inscopix, Palo Alto, CA* Sep 2016 – Aug 2017

- Developed data acquisition software for in in vivo brain imaging system with a team of engineers and scientists
- Designed and implemented multimedia pipeline in C++ using Gstreamer framework for display, storage, and inline processing of microscope data
- Designed hardware controller for electronic focusing in Verilog and simulated supporting circuitry with LT-Spice
- Developed imaging sensor driver in C with MIPI CSI and I2C interfaces using Video4Linux framework

**Embedded Software Developer,** *Cognitive Systems Corp., Waterloo, ON* Jan – Apr 2016

- Developed application in C and Python on Embedded Linux platform to synchronize capture of wireless transmission using GPS timing signals
- Developed framework for end-to-end and module functionality tests in Python for an Embedded Linux device

**Software Lead,** *UW Robotics – Mars Rover Team, Waterloo, ON* Jul – Apr 2016

- Led development of rover software built on ROS for the 2016 University Rover Challenge using Python and C++; Components included teleoperation, driving/steering controls, camera gimbal control and GUI
- Built software to visualize rover information including IMU data, camera feed and GPS tracking on web GUI

**Lab Test Engineering,** *Teledyne DALSA, Waterloo, ON* Apr – Aug 2015

- Developed Python scripts to enable continuous validation of thermal imaging sensors by visualizing and quantifying sensor quality based on images and metadata
- Accelerated test time by automating use of equipment such as oscilloscope and black body radiator controlled via TCP/Serial in Python

## Projects

**ECE499 Research project** Jan 2019 – Apr 2019

- Investigated root cause and developed solution for USB sample drop issue in sensor data acquisition system. This involved investigating USB packets, Atmel firmware, and Linux scheduling policies

**Armari,** *Capstone Design Project* Sep 2018 – Apr 2019

- Developed IOS application, Python backend and hardware for smart closet solution to automate outfit selection process

**Underwater ROV**, *Autonomous Underwater Robot* Sep – Dec 2017

- Led software development for Arduino controlled underwater ROV built to navigate an obstacle course; Components include teleoperation, sensor data acquisition/filtering, task scheduling, and UART communication

**Pacman Game** Oct – Dec 2015

- Created a Pacman game for the Keil Embedded platform in C utilizing the LCD display, on-board peripherals, task allocation, and synchronization