Oswin Rodrigues

University of Waterloo, Mechatronics Engineering, 3rd Year
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Goals

- Micro: to excel in the design of hardware and embedded software technologies.
- Macro: to belong to a team passionate about problems that matter and solutions that revolutionize.

Tools

- Schematics & Layouts · Soldering & Rework · Multimeter & Oscilloscope · Arduino & Raspberry Pi
- C · C++ · Python · Linux · ROS · FPGA Programming · MATLAB · Ladder Logic · JavaScript

Internships

Mechatronics Engineer Fall 2016
KitchenMate Inc. Toronto, ON
Building electrical and software sub-systems in automated home-cooker.

- Designed custom linear encoder sensor with photo-interrupter pair and Python driver.
- Sensed heat modes on cooker with hack involving opto-isolator and ADC combination.

AI & Robotics Engineer Winter 2016
Kindred Systems Inc. Toronto, ON
Robot-wrangling with Python over distributed communication architecture system.

- Soldered robots' power boards and executed safety bringup.
- Sourced and integrated components into system with custom-coded drivers.

EDA & CAD Engineer Summer 2015
Upverter Inc. Toronto, ON
Creating and verifying symbols and footprints for 150+ electronic components.

Junior Mechanical Designer Fall 2014
Prodomax Automation Inc. Barrie, ON
CAD-ing custom jigs and fixtures in Solidworks for automotive part-assembly stations.

Neuro-Robotics Lab Research Assistant Winter 2014
University of Waterloo Waterloo, ON
Implementing C++ and Python nodes on ROS-run Turtlebot for navigation research.

Projects

UW Robotics Team & Waterloo Autonomous Vehicles Lab Various

- Designed and reviewed schematics, layouts and components in EAGLE and DipTrace for motor shields.
- Spec-ed and sourced sensors for soil-analysis, given engineering and science constraints.
- Soldered SMT and THT parts onto bare PCBs and probed subsequently.

Tilt-Sensitive LED Matrix Panel Winter 2016

- Wrote LED matrix panel driver, with two 74HC595N shift registers for I/O expansion.
- Wrote IMU driver for ADXL335 and MPU6050, with filter to integrate gyro and accelerometer.

Education

Mechatronics Engineering, Honors, BASc.
University of Waterloo, Ontario, Canada
Class of 2018

Courses

Microprocessor Systems & Interfacing	95%
Sensors & Instrumentation	80%
Circuits	93%