Derek Gutheil

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School:
220 John Street 5103
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Objectives

To further my education in Computer Engineering and gain valuable experience with co-op employment. Available Summer 2014.

Education and Experience

R·I·T

2011-2016

Rochester Institute of Technology

- Bachelor of Science in Computer Engineering, expected May 2016
- Dean's List honors (Fall 2011 and Spring 2012)
- 3.19 GPA
- Lead Electronics Engineer of RIT's Electric Vehicle Team

May - August 2013

Intel

Firmware Engineering Intern

- Embedded OS on a low power core
- Android application development

September - December 2013

Tesla Motors

Firmware Engineering Intern

- Embedded development on high performance ECUs
- Build environment and infrastructure set up for unit tests, new components, and code metrics used by many teams throughout Tesla

Projects

Fall 2013 - Present | Raspberry Pi powered Bluetooth Infotainment System *

- Bluetooth streaming with support for track information being displayed on standard manufacturer head unit
- Ability to send radio and steering wheel commands back to Bluetooth device

Fall 2012 - Present | Arduino based battery and motor controller monitor **

- Created a motor controller monitor consisting of an Arduino and an Alltrax AXE motor controller
- Studied Serial and RS232 communication protocols; designed a user interface for a 4 line LCD screen
- Published an open source library for communication between Arduino and Alltrax motor controller

Skills

- **Languages**: C, Python , C++, Java, Assembly, VHDL, C#
- **Operating Systems:** Windows, Linux, Unix
- **Hardware:** Freescale HCS12, Atmel AVR, Raspberry Pi, Oscilloscope, Function Generator, Multimeter
- **Software:** Eclipse, Visual Studio, Altera Quartus II, Freescale CodeWarrior, ModelSim
- Eager to learn. e.g. RS232 protocol was studied extensively in the motor controller monitor project

Courses

Digital Systems	Computer Engineering	Computer Science 1-4	Software Engineering
Assembly Language	Innovation Capstone	HW Description Languages	Circuits 1

Labs

Assembly Language Lab

- Designed assembly language code for the Freescale HCS12 Microcontroller to perform basic arithmetic, and IO, as well as handle data-structures, subroutine linkage and interrupts

Hardware Description Languages

- Designed, simulated, and synthesized digital components and combinational and sequential circuits

* Currently in progress: http://derekgutheil.com/raspberry-pi-based-e36-in-car-infotainment/
**http://derekgutheil.com/arduino-alltrax-axe-library/