William Harrington

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Education

B.S., Computer Engineering, Minor, Mathematics **GPA: 3.42/4.00**
Portland State University, Portland Oregon *2013-2016*

A.A., General studies **GPA: 3.80/4.00**
St. Petersburg College, St. Petersburg, Florida *2009-2012*

Technical Skills

- **Programming:** C/C++, Python, Verilog, Objective-C, MATLAB, Assembly (ARM, x86)
- **Development tools:** Git, GNU tools (Emacs, gcc, gdb, etc.), Make, avrdude, OpenOCD
- **IDEs:** Spyder, Xcode, Visual Studio, Arduino
- **CAD:** EagleCAD
- **Project management:** Scrum, Trello
- **OS:** Linux, Mac OSX, Windows XP/7/8

Work \Volunteer Experience

Digital Signal Processing Intern – `APDM, Inc.` – *Portland, Oregon* *6/2015 - Present*
- Embedded system design and development
  - System level design
  - Schematic capture and PCB layout using EagleCAD
  - Firmware development in C/C++
  - Assembly (soldering) and debug/testing
  - Project documentation (project proposal, requirements, test plan, etc.)
  - Manage projects using Scrum framework and Trello
- Customer support
  - Managed RMA process
  - Implemented out of warranty program to generate revenue from RMAs
  - Developed software utilities for customers in python
- Used git for version control on all software, CAD designs, and documentation

Embedded Systems Engineer – `Portland State Aerospace Society` – *Portland, Oregon* *7/2015 - Present*
- Designed and developed Command, Control, and Communication module for CubeSat
  - System level design
  - Schematic capture and PCB layout using EagleCAD
  - Firmware development in C
  - Assembly, debug and testing
  - `Project documentation` (project proposal, requirements, test plan, etc.)

Engineering Intern I – `APDM, Inc.` – *Portland, Oregon* *6/2014 - 1/2015*
- Algorithm development
  - Implemented Unscented Kalman Filter in C++ for kinematic tracking
  - Made heavy use of MATLAB and Python for verification and validation
  - Used git for version control
  - Participated in Scrum framework
- Software development
  - Developed iOS app for motion tracking in Objective-C that utilizes OpenCV
  - Used git for version control

Control Systems Engineer – `Portland State Aerospace Society` – *Portland, Oregon* *6/2014 - 7/2015*
- Roll control for LV2.3 airframe
  - `PID algorithm`
  - `Simulation`
  - `Code for flight computer`
  - `Video of Launch-12`
  - `Analysis pt 1`, `Analysis pt 2`

IEEE Computer Engineering Tutor – Portland State University – *Portland, Oregon* *9/2013 - 06/2015*
- Topics: Mathematics, programming, digital design, and circuit analysis.
  - Differential equations workshop (`Workshop materials`)
  - Intro to Verilog (`Part 1, Part 2`)

Conference Papers

- **Alleviating Freezing of Gait using phase-dependent tactile biofeedback** - *IEEE-EMBC 2016*
- **Development of a Low-Cost, Open Software/Hardware Command, Control and Communications Module for CubeSats** - *AIAA SPACE 2016*