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**EDUCATION**

**Harvey Mudd College (HMC)** Claremont, CA

Bachelor of Science, Engineering – Cumulative GPA: 3.7 Expected May 2015

*Relevant Courses:*

CMOS VLSI Design | Embedded Systems | Electronics Laboratory | Dynamics of Elastic Systems |

Info/Comm. Theory | Systems Simulation | Project Management | Data Structures/Program Development

*Honors & Activities:*

Dean’s List | South Dorm President (‘13-‘15) | Astronomy Club (Co-founder/President) | Juggling Club | Unicycle Club (President) | IEEE Harvey Mudd Chapter | Admissions Tour Guide | Skate Society

**SKILLS**

**Software:** PADS, MATLAB, Simulink, LabVIEW, SolidWorks, ModelSIM, Unix, Microsoft Visio, SVN, Git,   
**Languages:**  C, C++, Arduino, Java, Android, Python, SystemVerilog, Assembly (MIPS), LaTeX

**Tools:** Oscilloscope, NI Signal Conditioning and DAQ, Soldering Iron, Lathe, Mill, ShopBot, Thermotron

**WORK EXPERIENCE**

**Recoverable Ethernet Flight Data Recorder Project (PM), SpaceX-HMC Clinic**Fall 2014, Spring 2015

Leading a team of five to rapidly develop, prototype, and eventually qualify a recoverable “black box” for SpaceX

**PCB Developer (PADS), HMC**Fall 2014

**Lab Tutor/Proctor for Electronics and Microprocessors Laboratories, HMC**Fall 2014

**Semi-autonomous Transport Quadcopter, Independent Project** Summer 2014, ongoing

Designing and constructing 1 kg lift capacity quadcopter from base parts for semiautonomous flight

**Command and Control Intern, SpaceX Vandenberg**Summer 2014

Led and supported various launch pad maintenance operations and development projects

* Designed, integrated, and aided construction of hardware systems for hazardous vapor detection
* Designed and constructed a safe, quick operation, mobile pressure sensor accuracy verification system
* Investigated structural weaknesses in strongback cable trays and presented design revisions

**Psychology Department Engineering Contractor, Caltech**Summer 2013

Designed, constructed, and tested an automated machine to reliably dispense treats for humantest subjects

* Worked with clients to design a low cost treat dispenser and associated MATLAB GUI for research operations
* Designed a weight sensor to detect fallen treats to ensure high reliability required for psychological testing

**Seismic Sensor Noise Analysis Intern, Kinemetrics Inc.**Summer 2013

Developed LabVIEW and Java programs to automate and simplify seismic sensor noise analysis

* Created modularized programs to be compatible with existing base code, and planned future extensions
* Implemented dual incoherent noise analysis tools into a user friendly GUI

**ADDITIONAL PROJECT EXPERIENCE**

**Embedded Systems Development Projects, HMC**Spring 2014

Invented, produced, and presented embedded electronic products over 4-6 week development cycles

* Designed and constructed a Raspberry Pi Nerf turret and web interface to view, aim, and fire Nerf darts
* Created an Arduino system to lock and unlock a dorm room window via an Android Bluetooth application
* Created a wrist-wearable device to compliment or insult the user based on level of athletic activity

**Experimental Model Rocket Localization, HMC**Spring 2013

Led a team of four to build, test, and launch an I-motor rocket and test localization techniques

* Designed, tested, and built a payload incorporating a 6 DOF IMU, a 3 axis magnetometer, and an altimeter
* Calculated rocket trajectory using several experimental localization techniques and presented results

**Hydrophone-based Whale Localization Simulation, HMC** Fall 2012

Worked with a team to analyze hydrophone signals to estimate locations of whales

* Processed audio signals to suppress background noise and determine signal travel time delays in MATLAB
* Developed uncertainty maps of possible signal source locations using error analysis in Python

**Autonomous Arduino Vehicle, HMC** Fall 2011

Worked with a partner to design, program, and test an autonomous Arduino robot to play Capture the Flag