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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, Self 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 human test 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