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Education

Harvey Mudd College, Claremont, CA
B.S. Engineering, anticipated May 2014

Research

Lab for Autonomous and Intelligent Robotics (LAIR) researcher

- designed, programmed, and machined rotating sonar mount for underwater ROV
- co-authored: *Towards Three-Dimensional Underwater Mapping Without Odometry*

Work Experience

Robotics Choice Lab Class Co-developer, Summer 2011

- developed underlying software architecture in ROS for student lab exercises
- designed and fabricated class robot platform

Bosch Research and Technology Center Robotics Hardware Intern, Summer 2012

- Developed C++ software drivers for MEMS sensors under the ROS framework

Autonomous Vehicles Class Co-developer and Teaching Team Tutor

- Redesigned class robot PCB
- Lead Class Tutor and Grader (Fall, 2011-2012)
- Lab Proctor (Fall, 2013)

Machine Shop Proctor, Fall 2011 - Fall 2013

- Assist Students and Clinic teams in safe cnc and manual machine usage

Digital Design Textbook Source Code Co-Author, Fall 2013

- developed source code examples for ARM-based microprocessor textbook

Digital Electronics Lab Tutor, Spring 2013

- Assisted students on weekly lab assignments, featuring MIPS processor design.

Microprocessor Design Tutor, Fall 2013

- Assist students on weekly lab assignments, featuring hardware design with an Altera FPGA and a PIC32 microprocessor.

Honors

Eugene H. Kopp Scholarship Recipient

Technical Skills

- embedded Linux, ROS, C, C++, Arduino, System Verilog, Python, Solidworks, PCB design with PADS and Eagle, \LaTeX , Git, Matlab, Mathematica
- proficiency with 2-axis CNC Mill, manual mill, manual lathe, Epilog Laser Cutter

Club Activities

HMC Fabrication Studio Club President, Combat Robotics

Personal Projects

detailed descriptions available at joshuavasquez.com

- Fabricated Composite Quadcopter
- cnc-machined two-axis gantry

Hobbies

Rock Climbing, Hiking, Learning Guitar, 3D Modeling for Papercraft Costume-Making