

Robert McElwaine

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Education

Bachelor of Arts, Physics

Minor in Computer Science

Pomona College - Claremont, CA (*May 2014*)

Relevant Coursework: Fundamentals of Computer Science, Data Structures and Advanced Programming, Calculus 3, Discrete Math, Linear Algebra Differential Equations, Electronics Laboratory, Programming for the Scientist and Engineer, Mechanics, Advanced Intro to Astronomy, Electricity and Magnetism, Foundations of Modern Physics, Contemporary and Experimental Physics, Thermodynamics and Statistical Mechanics.

High School Diploma

The Community School of Naples -Naples, FL (2010)

Current Project

Fall '13 Currently a team member on an industry sponsored project at Harvey Mudd College.
Project Statement: Develop and verify an energy efficient drive circuit for an implantable drug pump powered by a MEMS actuator.

Work/Research Experience

- Summer '13 **Conservation Consultants Inc.**, Intern
- Summer intern for a non-profit group dedicated to improving energy efficiency in homes and buildings.
 - Duties included making site visits to targeted structures and assisting in analyzing them for suggested improvements. Also routine office work.
 - Applied for and successfully won a \$2500 grant for the group.
- Summer '12 **Pomona College Department of Physics**, Research Assistant
- Improved the design and functioning of a dual axis altitude-azimuth solar tracker.
 - Required a detailed technical understanding of the electrical and mechanical systems of the solar tracker.
 - The solar tracker continues to be used to this day and assists physics students with their research and theses.
- 2011-2012 **Pomona College Annual Fund**, Student Caller
- Responsible for calling alumni and parents in order to obtain monetary gifts for the college's Annual Fund.
 - Required excellent communication and persuasion skills.
- Seasonal '10-11 **Shaw Development**, Machinist and Assembler
- Assembled automotive parts using machines, filled and completed work orders, organized, sorted and collected inventory .
 - Required great attention to detail, and high levels of focus for sustained periods of time.

Skills

Hardware: Machine Shop tools (Lathe, Mill, etc.), Arduino Uno microcontroller, oscilloscope, waveform generators

Software: Matlab, Java, C++, SML, Arduino, Mathematica, LabView, SolidWorks, Graph, Microsoft Office, Windows, OS X

Other: Wilderness First Aid Certified, First Language: English, Second Language: Spanish, BSA Eagle Scout, Writer for *The Student Life*, Track and Field Varsity Athlete for 400m dash, Active Drummer and Percussionist of 11 years