

# Carl Dawson

186 Cathedral Dr. Scotts Valley, CA, 95066 : (831) 818-8113 : Carl.Dawson13@gmail.com

## LANGUAGES

Python (SciPy, NumPy, Matplotlib)  
Matlab  
C/C++

## SOFTWARE/SKILLS

Data Acquisition/Analysis	Altium
Numerical Methods	SolidWorks
Data Presentation	MySQL
Electronics Design/Prototyping	Qt

## PROFESSIONAL/WORK EXPERIENCE

### Stanford University

Research Assistant

Stanford, CA

June 2015 – Present

- Studied SQUID (Superconducting Quantum Interference Device) based multiplexing techniques for low temperature detector arrays.
- Developed an automation software package for screening SQUID MUX chips.  
Vastly improved the speed of chip testing as well as facilitated new, previously impossible experiments.
- Developed Python applications for interfacing with complex lab systems
- Designed and implemented various mechanical and electrical components for use in the lab, from device mounting hardware to a regulated battery power supply.
- Gained experience in scripting and data analysis, data acquisition, cryogenics, wire bonding, microchip handling, cleanroom protocol, and lab equipment such as oscilloscopes, VNAs, DAQs, etc.

### Various Labor

Construction, Carpentry, Facilities Maintenance, etc.

Throughout High School and College

- H&M Builders, Barry Swenson Builders, Mission Springs Camp and Conference Center, Camp Hammer
- I have many years of experience with myriad hand and power tools, heavy equipment (tractor, forklift, etc.), auto mechanics, and some welding.

### Entertainment Industry

Audio Engineer, Stage Hand, Carpenter

Throughout High School and College

- IATSE 611, San Francisco Conservatory of Music, Cabrillo College
- I have many years of experience in the fast-paced entertainment industry, primarily as an audio engineer in both live performance and recording studio settings.

## EDUCATION

### SANTA CLARA UNIVERSITY

Santa Clara, CA

BS Physics, Jun 2016

CUM GPA: 3.6 Major GPA: 3.7

- Analytical Mechanics, Numerical/Computational Methods for Physics, Thermodynamics, Electromagnetic Theory, Optics, Circuits and Systems, Quantum Mechanics, Solid State Physics, Advanced Laboratory
- Recipient – John B. Drahmman Prize in Physics – “Awarded each year to the graduating senior physics major who best exemplifies the hard working and earnest values of Dr. Drahmman, long time Dean of Sciences and Professor of Physics.”
- Member Elect – Sigma Pi Sigma – National Physics Honors Society

### Other College Level Education

- Before becoming a Physics major and transferring to Santa Clara University in 2014, I took classes in science, music, and general education at Cabrillo College (2010-2012), then studied classical voice at the San Francisco Conservatory of Music (2012-2014). I completed my Physics degree within two years, and graduated in June 2016.

## ADDITIONAL SKILLS/INTERESTS

- I have studied the basics of Ruby, SQL, LaTeX, Java, Javascript, HTML, CSS, and PHP.
- Automation Systems, Robotics, Space Exploration, Clean/Renewable Energy, Energy Storage, Electric Vehicles, Computational Problem Solving
- Skiing, Cycling, Hiking, Opera