Carl Dawson

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LANGUAGES

Python 2.7+, 3.x
(SciPy, NumPy, matplotlib)
Matlab
C/C++ (basic knowledge)

RELEVANT SKILLS

Scripting – Software Development
Laboratory Electronics - Soldering
Device Testing
Circuit Design/Prototyping
Scientific Data Acquisition/Analysis
Altium – KiCad – Solidworks

PROFESSIONAL/WORK EXPERIENCE

Stanford University **Stanford, CA**

Physical Science Research Professional *October 2017 – Present*

Research Assistant *June 2015 – October 2017*

- Studied SQUID based multiplexing techniques for low temperature detector arrays.
- Designed/executed experiments to test and characterize new SQUID devices
- Developed automated measurements for high-throughput screening of SQUID MUX chips.
  Software PID – software filters – feature recognition – hardware interfacing
- Contributed to data analysis pipelines for Dark Matter Radio and X-ray spectroscopy experiments
- Developed Python and C# applications for interfacing with complex lab systems
  Qt5 – multithreading – real-time data visualization – data logging – HDF5
- Designed and implemented various electrical and mechanical components for use in experimental systems.
  PCB design (Altium) – EE fundamentals – prototyping
  3D CAD (Solidworks) – collaboration with machinists
- Gained experience in scripting, data analysis, data acquisition, cryogenics, wire bonding, microchip handling, cleanroom protocol, and lab equipment such as oscilloscopes, VNAs, DAQs, etc.

Entertainment Industry

Audio Engineer, Stage Hand, Carpenter *Throughout High School and College*

- I have many years of experience in the 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*

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

Other Formal Professional Development (Coursera, Udacity, EdX)

Completed

- Introduction to Embedded Systems, Introduction to Machine Learning, Linear Algebra - Foundations to Frontiers, Reinforcement Learning, Intro to Hadoop and MapReduce

In Progress

- Bayesian Statistics: From Concept to Data Analysis

OTHER INTERESTS

- IoT, robotics, ProjectEuler.net
- Vintage HiFi Audio
- I studied Classical Voice/Opera in San Francisco for a few years
- Cycling (road and MTB), Backpacking