

Education	<p>University of California, Davis 2012 – 2018 Ph. D. Physics: Dec 2018 M. S. Physics: Dec 2013</p> <p>Saint Mary's College of California, Moraga 2007 – 2011 B. S. Physics, Minor: Mathematics, <i>summa cum laude</i> (GPA: 3.873)</p>
Computing	<p>Python (proficient), C++ (intermediate), Go (intermediate), Javascript (intermediate), CUDA (intermediate). Git, Python scientific/data vis stack (scipy [contributor], numpy, matplotlib, ...). Web development with Django (and Django REST), React+Redux, AngularJS.</p>
Skills	<p>Agile development, Simulations, Data Analysis, Statistics, Data Visualization, Linux, HPC (slurm), Distributed Computing, VTK, Jekyll.</p>
Research & Experience	<p>Voltaiq, Berkeley, CA Oct 2019 – Present <i>Software Engineer</i></p> <ul style="list-style-type: none"> Developed and deployed bespoke, modern, and production-quality data analysis and visualization tools to provide quantitative insight into battery performance for some of the world's largest battery manufacturers using Django (with Django REST Framework), Plotly.js, and React. <p>Computational Physics Laboratory, Tampere University, Finland Jan 2019 – Aug 2019 <i>Postdoctoral Researcher</i> Advisor: Lasse Laurson</p> <ul style="list-style-type: none"> Simulated nanoscale magnetic materials on the CSC's Taito-GPU supercluster using a combination of open source software and in-house code (Go, CUDA, and Python). Numerical calculations of domain wall motion were compared to an analytic model [6]. <p>Department of Physics, University of California, Davis 2012 – 2018 <i>Graduate Student Researcher</i> Advisor: Kai Liu</p> <ul style="list-style-type: none"> Developed PyFORC, a suite of open source tools for analyzing and visualizing magnetic measurements using the First-Order Reversal-Curves (FORC) technique (Python). Streamlined the Liu group's material analysis pipeline by developing tarmac, a Python library for quickly visualizing Markov-chain monte carlo (MCMC) samples. This library makes it simple to identify correlations between parameters in a statistical model and evaluate convergence during fitting. Fabricated and characterized a wide range of nanoscale magnetic materials, including nanoparticles, thin films, single crystals, and patterned nanostructures using a variety of cutting-edge techniques. Programmed data acquisition and instrument control software for crucial laboratory equipment. <p>Physics Division, Lawrence Berkeley National Laboratory, Berkeley, CA 2011 – 2012 <i>Junior Specialist, ATLAS Experiment</i> Principal Investigator: Maurice Garcia-Sciveres</p> <ul style="list-style-type: none"> Developed system control software for an integrated circuit tester (C++ with Qt GUI; version control with SVN), allowing for automated testing of hundreds of chips at a time, greatly increasing throughput. Chips which passed tests were installed as part of the Insertable B-Layer system at the LHC in 2014, enabling continued studies of the Higgs boson [12]. <p>Physics Department, Saint Mary's College of California, Moraga 2010 – 2011 <i>Research Assistant, ALFALFA Collaboration</i> Advisor: Ron Olowin</p> <ul style="list-style-type: none"> Classified galactic and extragalactic astronomical observations as part of the Arecibo Legacy Fast-ALFA (ALFALFA) project, an international collaboration of astronomers based at the Arecibo Radio Observatory in Puerto Rico.
Teaching	<p><i>Teaching Assistant, Dept. of Physics, University of California, Davis</i> 2012 – 2016</p> <p><i>Student Tutor and Live-In Mentor, Physics Dept., St. Mary's College of California</i> 2010 – 2011</p>

Publications, selected conferences, and laboratory skills are listed on the extended CV [on my website](#).