

Joseph Levine

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🌐 josephml.com

Education

- Expected May 2025 **Ph.D student, Physics** *University of California, Davis*
Advisor: J. Anthony Tyson .
- December 2019 **Bachelor of Science: Physics**
Bachelor of Arts: Recording Arts
Minor: Mathematics
California State University, Chico.
Current GPA 3.72, Dean's Honor Roll
- Summer 2018 **Programming bootcamp** *42 Code Academy, Fremont.*
Intensive bootcamp which covered fundamentals of computer science using C and UNIX

Awards and Research

- Summer 2019 **Paper** *Search for Dark Photon Dark Matter: Dark E-Field Radio Pilot Experiment: In preparation for submission to Physical Review D.*
B. Godfree, S. Hilbrand, J. Balajthy, D. Polin, J. Anthony Tyson, S. M. Tripathi, S. Klomp, J. Levine and N. MacFadden
- November 2017 **Poster Presentation.**
American Physical Society Regional Meeting, Merced, CA. Magneto-optical traps: The making of an external cavity diode laser: M. Doris, C. Leveille, J. Levine, J. Pechkis, A. Petrova-Mayor, & H. Pechkis
- Summer 2017 **Cheuk - Kin Chau Summer Research Award.**

Skills

- **Experimental data collection and statistical analysis**
- **Fast Learner** Ability to quickly learn, synthesize, and utilize new technical skills and techniques
- **Tenacious problem solver** Both in class and in the lab
- **Programming** Physical simulation (including finite element analysis using COMSOL), analysis and visualization of data. Python, LabVIEW, C, MATLAB
- **Surface Mount Soldering, Circuit prototyping and PCB design** Assembly of electronics including two years experience assembling surface mount PCBs. SPICE, breadboarding/testing, EagleCAD/KIcad.

Relevant Projects

More information and additional projects available on my website: josephml.com

- Designed and constructed a single string “guitar” and optical pickups to measure the frequency spectrum at different locations. Wrote a program to calculate the analytic solution and compare theoretical to experimental data
- Built a PDE solver from scratch to visualize two-dimensional acoustic phenomena
- Developed a model of a Wacky Waving Inflatable Arm Flailing Tube Man and programmed a simulation that exhibits many of the same behaviors

Work Experience

- January 2020 - August 2020 **Controls Engineering Intern, SLAC National Accelerator Lab (LCLS)**, Menlo Park, CA.
Performed a variety of tasks to support Photon Control and Data Systems (PCDS) prepare for run 18 of LCLS. Projects included control system design and installation for liquid jet experimental end station and mobile spectrometer as well as vacuum system UI design and interface with hardware using EPICS
- Summer 2019 **Undergraduate Research Assistant UC Davis Physics Department**, Davis, CA.
Used COMSOL Multiphysics to model electromagnetic fields in a cavity to characterize the sensitivity of a direct detection dark matter search. Oversaw data acquisition and contributed to analysis. Integrated Arduino based temperature collection into data acquisition system.
- Spring 2018 **Electronics Lab Teaching Assistant Chico State Physics Department**, Chico, CA .
Assisted students with troubleshooting and problem solving in Electronics for Physics lab. Covers a large range of topics from basic DC circuits to PSOC utilization
- Summer 2017 **Undergraduate Research Assistant Chico State Physics Department**, Chico, CA.
Constructed an external cavity diode laser for use in cooling rubidium atoms with an ultimate goal of creating a Bose-Einstein condensate
- January 2017 - December 2019 **Physics Tutor Chico State Student Learning Center**, Chico, CA.
Small group tutor: Calculus based Mechanics, Electricity and Magnetism
- Spring 2017 - Fall 2017 **Learning Assistant Chico State Physics/Mathematics Department**, Chico, CA.
The Learning Assistant (LA) program is a new model currently being researched where small group work is utilized during class time. The instructor and LAs assist groups
- August 2015 - present **Technical Director 1078 Gallery**, Chico, CA.
Coordinates staff & provides sound technician services for music, theater, art, & literary events. Staffs events, operates & maintains sound equipment
- October 2014 - December 2019 **Audio Engineer**, Chico, CA.
Set up, operation & tear down of a variety of sound reinforcement systems for events at several venues including: County fairs, private events, nightclubs, and events on the CSU Chico campus in Laxson Auditorium and through the School of the Arts. Mixes front of house and monitors. Records and mixes bands at Energy Plant Studios in Chico CA

Organizations

- November 2016 - December 2019 **Society of Physics Students, CSU Chico chapter**, Assists with events, participates in meetings.
- May 2013 - present **Audio Engineering Society, CSU Chico chapter** *President 5/15-5/16, Treasurer 5/14-5/15*, participates in events and meetings. As president: coordinated officer meetings, planned events, managed finances, led meetings. As treasurer: managed finances.