

**Joseph Levine**  
236 W. Frances Willard Ave  
Chico, CA 95926  
☎ 310-697-9363  
✉ josephmlevine123@gmail.com  
🌐 josephml.com

To  
*Whom it may concern*

January 23, 2019

**Passionate physics undergraduate seeks creative research opportunity for summer 2019**

○ **What I can contribute to your team**

As a senior physics major with a strong work ethic and project based experience, I can thrive in many roles ranging from electronics design and implementation to data collection and analysis. My self-motivation, hard work and can-do attitude will be an asset to any team.

○ **What I want to accomplish this summer**

Learning is my primary objective. I want to solidify my current lab skills and develop new ones as I build confidence working in a professional lab. I look forward to being on a team that makes progress toward goals, and presenting findings.

I love to work, I am passionate about physics and I am excited that you are reading this letter. I am currently seeking an opportunity for summer 2019 that will potentially continue after I graduate at the end of the Fall 2019 semester. My long term academic goal is to enter a graduate program in either electrical engineering or physics.

I am completely absorbed when I am involved with designing new, and enhancing existing devices and writing code to use them. I have found that I am naturally drawn to Electromagnetism and Electronics, and I particularly enjoyed Senior Lab where I had space to experiment and apply previous knowledge in a more pragmatic setting than the traditional classroom. I am a team player and would be thrilled to have an opportunity to work alongside scientists and engineers to support and perform meaningful research.

Please see my website, josephml.com, for an up-to-date portfolio. It includes more information about the research and projects I have done as an undergrad.

I look forward to hearing from you to discuss how we can help each other.

Sincerely,

**Joseph Levine**

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## Education

2013 - 2019 **Bachelor of Science: Physics**  
**Bachelor of Arts: Recording Arts**  
**Minor: Mathematics**  
*California State University, Chico.*  
Current GPA 3.72, Dean's Honor Roll

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## Awards and Research

Summer 2017 **Cheuk - Kin Chau Summer Research Award.**

November 2017 **Poster Presentation.**

American Physical Society Regional Meeting, Merced, CA. Magneto-optical traps: The making of an external cavity diode laser: J. Levine, M. Doris, C. Leveille, J. Pechkis, A. Petrova-Mayor, & H. Pechkis

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## Skills

- **Tenacious problem solver** Both in class and in the lab
- **Programing** Physical simulation, collection, analysis and visualization of data. Languages (in order of proficiency): Python, C, MATLAB, LabVIEW
- **Circuit Prototyping and PCB design** SPICE, breadboarding/testing, EagleCAD/KIcad
- **Surface Mount Soldering** Highly skilled at assembly of electronics (especially surface mount)

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## 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 programed a simulation that exhibits many of the same behaviors

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## Work Experience

- 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
- 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
- January 2017 **Physics Tutor** *Chico State Student Learning Center, Chico, CA.*  
- present Small group tutor: Calculus based Mechanics, Electricity and Magnetism
- Spring 2017 - **Learning Assistant** *Chico State Physics/Mathematics Department, Chico, CA.*  
Fall 2017  
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 **Technical Director** *1078 Gallery, Chico, CA.*  
- present Coordinates staff & provides sound technician services for music, theater, art, & literary events. Staffs events, operates & maintains sound equipment
- October 2014 **Audio Engineer**, Chico, CA.  
- present 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

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## Organizations

- November 2016 - **Society of Physics Students, CSU Chico chapter**, Assists with events, participates in meetings.  
present
- May 2013 - **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.
- September 2017 - **Association of Loudspeaker Manufacturing and Acoustics (ALMA International)**, Attends yearly conferences.  
present