

Education

McGill University - *MSc Physics (Thesis)* *Fall 2024 - Expected April 2026*
University of California Santa Barbara - *B.S in Physics* *Fall 2021 - June 2024*
Concentration: Astrophysics
GPA: 3.62/4.00

Research Experience

De-lensing the CMB - *Mila Institute and University of Montreal, Physics* *Summer 2023*
Using the Abacus Summit simulations of dark matter halos in light cones through time and redshifts, I created a catalog of smaller fields of view through the redshifts. The goal is to then use these field of views as training data, with the light ray-traced through the halos, for a machine learning model that will then be able to de-lens the CMB back to its origin from a given observation point.

Transient Detection with ML - *Lubin Group - UCSB* *February 2022 - June 2024*
Simulated transient data used to train a machine learning algorithm called YOLO Darknet. Currently working on improving results and application to a sky survey pipeline. This pipeline was fully developed by our team and we are using machine learning to see if we can improve accuracy in detecting transients.

Quantum Computing Internship for Physics Undergraduates Program - *Fermilab* *Summer 2022*
3-week program in which participants worked with scientists from the Theory Division at Fermilab. Gained theoretical understanding of how quantum computers work along with hands-on experience running code on a quantum computer, through IBM, using python and QISKIT.

Publications

The Local Galactic Transient Survey (LGTS) applied to an Optical Search for Directed Intelligence | Nth Author *Submitted May 2024*

Presentations

UCSB Senior Thesis Presentation *May 2024*
Performance Evaluation of Deep Learning for Real-Time Transient Extraction

Conferences for Undergraduate Women in Physics *January 2023*
Stellar Transient Detection with YOLO Darknet ([link](#))

Southern California Conferences for Undergraduate Research *November 2022*
Stellar Transient Detection with YOLO Darknet

UCSB Undergraduate Physics Research Symposium *September 2022*
Stellar Transient Detection with YOLO Darknet ([link](#))

Awards and Achievements

Wolfe Fellow in Sci & Tech Literacy *August 2024*
College of Letters & Science Honors Student: UCSB *Fall 2021 - Spring 2024*
Robert G. Schweitzer Scholarship ([link](#)) *Fall 2021, Fall 2022, Fall 2023*
CalSpace Grant ([link](#)) *Winter 2023, Spring 2024*
UCSB Faculty Research Assistance Program Grant ([link](#)) *Spring 2022, Winter 2023*
Edison STEM Research Scholarship ([link](#)) *Fall 2022*

Leadership Experience

Lead Undergraduate | Lubin Lab

Fall 2023 - Spring 2024

In my work with Dr. Lubin, one or two lead undergraduates are designated by him to manage meetings, current projects, and advising new members. I work with another undergraduate to keep things organized and communicate our work to Dr. Lubin.

Secretary | Undergraduate Diversity and Inclusion in Physics

Fall 2023 - Spring 2024

Undergraduate Diversity and Inclusion in Physics (UDIP) is a club committed to creating a welcoming environment for everyone within the physics department at UCSB. We work with the department and coordinate with faculty, students, and other clubs to provide resources, hold workshops, and plan other fun events for the UCSB physics community.

Founding Member/Chair | Physics Peer Educator

Spring 2022 - Spring 2024

The program interfaces with campus resources to train student volunteers to educate their peers on topics such as sexual harassment, diversity, power dynamics, bystander intervention, and otherwise provide support. The goal of the program is to change department climate through preventative education.

Officer | Astronomy Society at UCSB

Fall 2022 - Spring 2023

Astronomy Society aims to bring information and fun to anyone with an interest in astronomy. We hold biweekly events to give a fun break to students and increase interest or love of astronomy.

Volunteer Work

From Planets to Particles: An Exploration Mini-Fair

Sept 2024

Volunteers helped lead space and physics related activities in the McGill physics building for children. Activities included making solar systems, making parachutes, watching demos, and many more.

Society of Physics Students Mentor

Winter 2023 - Spring 2024

This program connected upper-division students with less experienced students in the physics program. I received two mentees and worked with a graduating senior to help answer any questions and encourage them. I keep frequent contact with my mentees even though I am now their only mentor. I also received two additional mentees through the program in Fall 2023. I mentor both my mentees, both of my previous mentees, and the students my previous mentees are mentoring for when they wish it.

Mentor Collective

Fall 2022

This program connected students at UCSB to incoming students. I was matched with a transfer student in the physics department. We discussed life at UCSB and the ins and outs of the physics department. We also discussed what things could be different transferring from a community college to a research institution.

SciTrek

Fall 2021

SciTrek is a program where volunteers help 2nd-12th grade students experience the scientific method. The program was Tuesday and Thursday for a duration of 3 weeks. We brought experiments to a secondary school for one class and led them through experiments.

Work Experience

Campus Learning Assistive Services - Tutor

Fall 2022 - Spring 2024

Student tutors are hired to run tutorial groups and drop-in hours for students seeking assistance in university classes. I was hired as a math and physics tutor at UCSB. I lead group lessons for specific classes as well as work in the drop-in to help students in a case by case basis.