

# Charles Tolley

---

*Astrophysics*

## Education

2021-present **Bachelor of Arts**, *University of California, Berkeley*, Berkeley, CA, GPA - 4.00  
**Astrophysics**

## Research Interests

I have interest in mapping the universe and finding, classifying and simulating interactions between different types of astronomical objects. I also enjoy learning about dark matter and other dynamics theories that could fit the phenomena we observe.

## Research Experience

### Python DeCal Final Project

Planetary Retrograde Simulation This was a group project in which we animated the paths of planets through the sky from the perspective of someone on Earth using our knowledge of python libraries and Object Oriented Coding. In addition to coding, we each wrote a report on our contributions to the project.

### High School Research Project

Light Pollution and Christmas Lights For the AP Capstone program in my junior year of high school, I designed and conducted an experience to measure and analyze the effects of Christmas lights on the light pollution of Winters, CA. I wrote a literature review, method, discussion and conclusion for the project, including relevant graphs.

### Buckhorn Meat Company Data Analysis

Product Sales Analysis I analyzed and presented data for Buckhorn Meat Company in order to help them track sales and decide how the data should be acted upon. It was a startup company and so we were able to help each other gain experience and insight.

## Research Talks

Python DeCal I gave a report alongside my group mates on the process, implementation and trials while coding our simulation.

AP Capstone I gave multiple practice presentations for my high school research described in the above section, although because of the pandemic I was not required to submit a presentation video in accordance with the emergency measures taken by CollegeBoard.

## Skills

Softwares Python, Java

Soft Skills Critical Thinking, Thoughtful Critique, Taking Suggestions, Cooperating in a Team Environment

### Languages

English: First Language

*(Strong writing skills)*

Spanish: Grew up learning the language, passed AP Test

*(Strong comprehension)*