

The Brainstorm Page(s)

List of Achievements:

- 12 years of competitive FIRST Robotics, 11 of which spent in lead positions (team/engineering/software)
- 8 years teaching after-school classes, summer camps, and private tutoring in robotics/programming
- Development of a K-12 after-school program ensuring a robotics program exists in every school in my school district (which survived COVID)
- Nomination as a Deans-List semi-finalist for FIRST Washington
- Research presented at two conferences (PhysCon, Murdock) with the Biophysical Society soon to be
- Ongoing work on two big research projects (Comp Biophysics and Spectrograph)

List of Semi-Achievements:

- Utilized AP classes to take challenging courses
- Concurrently an officer of two SPS clubs (Astronomy and SPS), the Safety Officer of the NASA Student Launch Challenge, helped to start the CWU Table Tennis Club, and a competing member of the CWU Climbing Team
- Consistently been a full-time student with a full 18 credit course load and a part-time employee with a near 20 hour/week work schedule along with the clubs/travel
- Maintained a 3.72 GPA
- Organized a trip for 15 students to fly cross-country for PhysCon
- Organized fundraising activities for SPS (Pumpkin Drop)

List of Experiences/Jobs:

- CWU Package Room Employee 1yr (not super interesting but a good experience)
- Summer Research Assistant (Biophysics, very good experience)
- CWU Math/Physics Tutor (Currently employed, Math Center and PALs)
- NESSP Employee (Dr. Snowden/Deanna's program, I did the summer camp and am currently employed to assist the challenge teams)
- Working to provide technical support for a private observatory (don't have a full title with that but it's an excellent opportunity, don't think I can work it in)
- Guide Astronomer on the Columbia River (didn't actually get to do it last summer but I was asked to come back next Summer!)
- Observational Astronomy research project (not a job but experience with astronomy research)

My Intent for the Future:

I will graduate CWU in June 2024 with a BS Physics, Astronomy, Mathematics, and Applied Computer Science Minors, and I will graduate Magna Cum Laude (GPA 3.72 > 3.7).

I want to go to graduate school and study Cosmology due to my passion for all things Astronomical as well as particle physics and utilize my background in computer science to provide a unique approach (I can't let all these years of doing computer science be for naught!). I want to become a professor and teach as I have a passion for teaching.

The Personal Statement (for the University of Colorado Boulder)

Prompt: A one-page statement describing how this research experience will further your educational or professional goals. Max 500 words.

It has come to my attention that my need to pursue greater a greater understanding of the universe cannot and will not be stopped. My relentless pursuit of the challenge has pushed me to make the most of every moment, class, and opportunity. Starting with 1st grade, I joined a FIRST Robotics team. The next year, I was the team captain. 10 years later, totaling 12 years of robotics experience, I developed and implemented an after-school volunteer service for my school district and every student K-12 had access to an after-school robotics class. Whenever I visit my hometown of North Bend Washington and visit my old robotics team to mentor them, I am greeted by the aged faces of kids I previously taught in my after-school programs. On top of the after-school programs, I would run summer camps with my Dad in robotics and programming. From 6th grade on I was known as the Legoguy's son and would be sought out for private tutoring in programming classes. My busy after-school life wouldn't stop me from pursuing my academic challenges; I took AP classes throughout High School and came to Central Washington University with 45 AP credits including two years of AP Physics and AP Computer Science. Once I got to CWU my desire to push myself never faltered. I took on full course loads in order to maximize my opportunities this Junior and upcoming Senior year. As soon as I was able to, I began research. My first project was as a Summer Research Assistant for the Computational Biophysics group where I developed data visualizations to motivate further exploration. I have been able to present this research at PhysCon 2022 and the annual Murdock Conference. During the following Fall quarter, I joined a research project to develop a Spectrograph for the CWU 0.6m Research Telescope. In this project to develop an exo-planet hunting tool I am developing the software used for data analysis. Our ongoing research was presented at the American Astronomical Society January 2023 meeting. As I work to understand my interests and career goals, I find myself drawn toward areas of physics not currently offered by CWU. I am extremely interested in particle physics, high-energy astrophysics, cosmology, and quantum gravity. A summer research experience at the University of Colorado Boulder would allow me to further my understanding of these fields as I prepare to apply for graduate school.