

Patrick Costa

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B.S. in Physics and Astronomy and an M.S. in Space Systems (in progress). Looking for engineering roles in the space industry and I am free to relocate anywhere within the U.S..

OBJECTIVE: Obtain an entry level systems engineering role in the space industry.

EDUCATION

Florida Institute of Technology

Master of Science in Space Systems

Online

January 2024-present

University of Washington, College of Arts and Sciences

Bachelor of Science in Physics and Astronomy

GPA: 3.52

Seattle, WA

September 2019 - March 2023

EXPERIENCE

University of Washington Astronomy Research

Research Aide

Seattle, WA

February 2022 - September 2023

- Used partial differential equations, **orbital mechanics**, and **Python** to calculate the information matrix of the orbital elements in a planet-moon system transiting a star.
- Used **machine learning** (MCMC) to verify results.
- Hired part-time post-graduation, determined the direction of the project, and worked with **minimal guidance**.

Nuclear and Particle Physics Lab

Student

Seattle, WA

Autumn 2022

- Worked with two other students to perform nuclear and particle physics experiments ranging from taking spectra of gamma ray sources to investigating **Compton scattering** and **electron drift velocity**
- Gained experience with **NIM bins and modules** such as discriminators, pulse generators, and logic units.
- **Communicated findings** from each experiment both in a group report and an individual report that delved more into the physics at play.

Ice Hockey Data Analysis

Independent Study

Seattle, WA

Winter 2023

- Learned and used **R** to analyze advanced hockey statistics of a player over his entire career with the goal of identifying which statistic best predicted future success.
- **Visualized data** using ggplot2.
- **Identified trends** and evaluated different **fitting methods** by examining their uncertainties and likelihood.

ANALYTICAL AND TECHNICAL ABILITIES

- **Machine learning with Python** (emcee) - Coursework and research, 2 years experience
- **Data visualization** (matplotlib, ggplot2) - Coursework and independent study, 6 years experience
- **Git** - Coursework, independent study, and collaborative projects, 6 years experience
- **Linux** - Coursework and independent study, 5 years experience
- **CAD** - Coursework, 1 year experience
- **Avionics** - Workshop (in progress)

REFERENCES AVAILABLE UPON REQUEST