Ashe Lee

B.Sc Physics - University of British Columbia

@ AsheKLee@proton.me (236) 996-8971 iceymu.github.io linkedin.com/in/ashe-lee-544b9b14b

Education

B.Sc. Physics

University of British Columbia Graduated 2023

Skills

Software:
SolidWorks, OnShape, MS Office suite, LaTeX, KiCad, Cura, Prusa Slicer

Manufacturing Skills:
FDM 3D Printing, Waterjet Cutting, Lathes, Milling, Bandsaws

Experience

Scientific Developer

University of Victoria Nov 2022 - Sep 2024

heprc.phys.uvic.ca

- Wrote Ansible playbooks to help automate management tasks of the virtual machines in UVic's computing cluster.
- Saved bandwidth on data transfers by using third party copy to reduce redundant transfers between machines on a network using XRootD.
- Used HTCondor to set up batch computing on virtual machines, improving utilization by running jobs on otherwise idle hardware.
- Explored the use of MinIO to configure virtual machines as S3 compatible object servers.

Research Assistant

Fred Young Submillimeter Telescope Sep 2020 - Apr 2021

ccatobservatory.org

- Wrote a Python program that handled the networking for controlling Prime-Cam's infrared camera allowing it to be operated with single commands from the telescope operator or onboard computer.
- Created Python scripts that subtracted out galaxy clusters from telescope data to get a measurement of the cosmic microwave background to detect the Sunyaev-Zel'dovich effect.

Research Assistant

Herzberg Institute of Astrophysics Jan 2019 - Aug 2019

- Simulated how the image quality of a telescope changes with mirror surface roughness using Physical Optical Propagation in Python. The results were used to set specifications for prototype mirror panels.
- Used MATLAB to control a deformable mirror and record position data to measure and characterize hysteresis and creep. This allowed for the control of the mirror to be calibrated.

Mechanical Designer

Robocup SSL Teams Sep 2017 - Present

github.com/sfunderbots

github.com/UBC-Thunderbots

- Used Python to model stress in flexible robot components and find optimal geometries to minimize fatigue.
- Measured the maximum acceleration of our robots by applying statistics to the vision data from trials of the robot driving back and forth, which allowed for performance comparisons when upgrading motors.
- Conducted design reviews where I gave feedback to improve manufacturability, prevent regressions, and ensure the new design integrates with the robot.
- Co-authored the team description papers, which published improvements made to the robot in the previous year.