Pierson Lipschultz

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Research Experience

College of DuPage   Glen Ellyn, IL
Honors Independent Study ◇ GitHub ◇ Publication   01/2025 - 5/2025

- Wrote a paper discussing the processes of mass transfer in binary stars
- Combined observational and simulated data
- Used Python to compare a dataset of a million simulated binaries with their observed counterparts
- Utilized LaTeX to allow for greater efficiency
- Published in the Digital Commons

CIERA, Northwestern University   Evanston, IL
REACH Further ◇ GitHub ◇ Visualizations   06/2024 - 07/2024

- Worked with mentor Ilia Kiato assisting with research
- Project one: Researched and cataloged X-ray binary simulation data using python tools.
- Developed a system for analyzing subpopulations using Bokeh and a GitHub Site.
- Project two: Researched natal kick velocities in Black Holes, recreating the results of the paper A Black Hole Kicked At Birth: MAXI J1305-704.
- Created visualizations of the processes of the paper.

Education

College of DuPage   Glen Ellyn, IL
Honors Scholar   08/2024 - 5/2025

Research Skills

Blender
LaTeX
Python
Pandas
Bokeh
Matplotlib
Git
Tinker

Outreach

President and Founder, *COD Space Club*   Glen Ellyn, IL
https://codspace.club/   01/2025 - Current

- Grew club to ≈70 members in 2 semesters
- Hosted numerous outreach events including a booth STEMCON
- Observing nights and field trips to places including Fermilab

Lead Ambassador, *Stories of Space*   Glen Ellyn, IL
https://www.storiesofspace.com/   08/24 - current

- Leading mission 4
- Helping coordinate large scale collaborations
- Marketed and encouraged college student engagement with space.

Project Head, *High Altitude Weather Balloon Collaboration* Glen Ellyn, IL
https://sites.google.com/view/stories-of-space-project/   01/2025 - current

- Helping coordinate large scale collaborations
- Marketed and encouraged college student engagement with space.
- Currently working in charge of Mission 4

Talks

Guest Speaker, *Northwest Suburban Astronomers* Barrington, IL

https://www.nsaclub.org/ 2/7/2025

- Presented an overview of binary star properties, including X-Ray binaries, mass transfer, and stellar evolution
- Audience of ≈ 50 people.

Student Speaker, *College of Dupage* Glen Ellyn, IL

COD Library Student Research Symposium 5/12/2025

- Presented an in-depth exploration of the processes of Mass Transfer in Binary Stars

Publications

Mass Transfer in Binary Stars Glen Ellyn, IL

Digital Commons 5/2025

Photography Glen Ellyn, IL

Prairie Light Review 5/25

Press

Student Spotlight, *College of DuPage* Glen Ellyn, IL

https://www.cod.edu/about/stories/students/lipschultz.html 1/25

STORIES of Space and College of DuPage students . . . weather balloon launch

Daily Herald 3/26/25

Projects

{*WIP*} Python Module for graphing HR diagrams of POSYDON Datasets

Independent Project ⋄ Example ⋄ GitHub 5/25 - Current

- Allows user to easily create elegant and publishing ready graphs in either Matplotlib or Bokeh
- Creates HTML viewing files to allow the user to quickly understand a dataset (*see link*)
- Written for an out-of-the-box solution while still allowing deep configuration

Custom Astrophotography Mounting Rig

Independent Project ⋄ Photos 5/25 - Current

- Custom designed in CAD software (Fusion360)
- 3D printed in high-strength materials to allow for long-term use

Art

Astrophotography

Independent ⋄ Photographs 1/24 - Current

- Custom assembled rig for taking pictures of faint deep sky objects
- Experienced with various AP tools, including NINA, PixInsight, BXT, Siril, PHD2, and more

Photography

Independent and Academic ⋄ Photographs 12/24 - Current

- Experienced with Sony and Canon DSLRs
- Multiple photographs published