

# PIERSON LIPSCHULTZ

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Astronomy + Data Science

## RESEARCH EXPERIENCE

### College of DuPage

Honors Independent Study ♦ [GitHub](#) ♦ [Publication](#)

Glen Ellyn, IL  
January 2025 – May 2025

- Authored a paper on mass transfer in binary stars; published in the COD Digital Commons.
- Integrated observational and simulated datasets to cross-validate trends in binary evolution.
- Built Python pipelines to compare ~1,000,000 simulated binaries with observed counterparts.
- Automated typesetting workflows in  $\LaTeX$  to streamline figure and table generation.

### CIERA, Northwestern University

REACH Further ♦ [GitHub](#) ♦ [Visualizations](#)

Evanston, IL  
June 2024 – July 2024

- Collaborated with mentor Ilia Kiato on X-ray binary research.
- Cataloged simulation datasets using Python analysis tools.
- Developed Bokeh dashboards and a GitHub Pages site to analyze subpopulations.
- Reproduced natal-kick velocity results for MAXI J1305-704.
- Created explanatory visualizations of paper methods and results.

## EDUCATION

### University of Illinois Urbana-Champaign

Bachelor of Science in Astronomy & Data Science

Urbana-Champaign, IL  
Expected May 2028

### College of DuPage

Honors Scholar

Glen Ellyn, IL  
August 2024 – May 2025

## RESEARCH SKILLS

Blender

$\LaTeX$

Python

Pandas

Bokeh

Matplotlib

Git

Tinker



## OUTREACH

### President and Founder, COD Space Club

<https://codspace.club/>

Glen Ellyn, IL  
January 2025 – May 2025

- Grew the club to  $\approx 70$  members across two semesters.
- Hosted outreach events, including a booth at [STEMCON](#).
- Led observing nights and organized field trips to Fermilab and other sites.

### Lead Ambassador, Stories of Space

<https://www.storiesofspace.com/>

Glen Ellyn, IL  
February 2025 – Present

- Lead Mission 4 planning and execution.
- Coordinate large-scale collaborations across partner institutions.
- Market and encourage college student engagement with space initiatives.

### Project Head, High Altitude Weather Balloon Collaboration

<https://sites.google.com/view/stories-of-space-project/>

Glen Ellyn, IL  
February 2025 – July 2025

- Coordinated large-scale collaborations across student teams.
- Marketed and promoted participation in space-related projects.
- Led Mission 4 workstream.

## TALKS

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### Student Speaker, *College of DuPage*

[COD Library Student Research Symposium](#)

- Presented an in-depth exploration of mass transfer in binary stars.

Glen Ellyn, IL

May 2025

### Guest Speaker, *Northwest Suburban Astronomers*

<https://www.nsaclub.org/>

- Presented an overview of binary star properties, including X-ray binaries, mass transfer, and stellar evolution; audience  $\approx 50$ .

Barrington, IL

February 2025

## PUBLICATIONS

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### Photography

Emulsion and Noise

Glen Ellyn, IL

September 2025

### Mass Transfer in Binary Stars

[Digital Commons](#)

Glen Ellyn, IL

May 2025

### Photography

[Prairie Light Review](#)

Glen Ellyn, IL

May 2025

## PRESS

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### Student Spotlight, *College of DuPage*

<https://www.cod.edu/about/stories/students/lipschultz.html>

Glen Ellyn, IL

January 2025

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

[Daily Herald](#)

March 2025

## PROJECTS

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### Python Module for Graphing HR Diagrams of POSYDON Datasets

Independent Project ◊ [Example](#) ◊ [GitHub](#)

May 2025 – Present

- Enables rapid creation of publication-ready HR diagrams in Matplotlib or Bokeh.
- Generates interactive HTML viewers for quick dataset exploration (*see link*).
- Balances out-of-the-box defaults with deep configuration options.

### Custom Astrophotography Mounting Rig

Independent Project ◊ [Photos](#)

May 2025 – Present

- Designed components in Fusion 360 and iterated via CAD.
- 3D-printed parts in high-strength materials for durable, long-term use.

## ART

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### Photography

Independent and Academic ◊ [Photographs](#)

December 2024 – Present

- Operate Sony and Canon DSLR workflows; multiple photographs published.

### Astrophotography

Independent ◊ [Photographs](#)

May 2024 – Present

- Assembled a custom rig for faint deep-sky imaging.
- Use tools including NINA, PixInsight, BXT, Siril, and PHD2.