Pierson Lipschultz

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Astronomy + Data Science

Research Experience

College of DuPage — Glen Ellyn, IL
Honors Independent Study ◇ GitHub ◇ Publication — 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 — Evanston, IL
REACH Further ◇ GitHub ◇ Visualizations — 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.

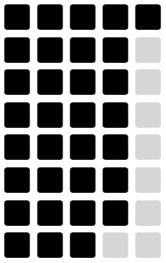
Education

University of Illinois Urbana–Champaign — Urbana–Champaign, IL
Bachelor of Science in Astronomy & Data Science — Expected May 2028

College of DuPage — Glen Ellyn, IL
Honors Scholar — August 2024 – May 2025

Research Skills

Blender
LaTeX
Python
Pandas
Bokeh
Matplotlib
Git
Tinker



Outreach

President and Founder, *COD Space Club* — Glen Ellyn, IL
https://codspace.club/ — January 2025 – May 2025

- Grew the club to ≈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* — Glen Ellyn, IL
https://www.storiesofspace.com/ — 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* — Glen Ellyn, IL
https://sites.google.com/view/stories-of-space-project/ — February 2025 – July 2025

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

Talks

Student Speaker, ***College of DuPage*** Glen Ellyn, IL
COD Library Student Research Symposium May 2025

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

Guest Speaker, ***Northwest Suburban Astronomers*** Barrington, IL
https://www.nsaclub.org/ February 2025

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

Publications

Photography Glen Ellyn, IL
Emulsion and Noise September 2025

Mass Transfer in Binary Stars Glen Ellyn, IL
Digital Commons May 2025

Photography Glen Ellyn, IL
Prairie Light Review May 2025

Press

Curious about astrophotography in C-U? Here's a . . . look at the craft Champaign-Urbana, IL
IPM Newsroom November, 2025

Student Spotlight, ***College of DuPage*** Glen Ellyn, IL
https://www.cod.edu/about/stories/students/lipschultz.html January 2025

STORIES of Space and College of DuPage students . . . weather balloon launch
Daily Herald March 2025

Projects

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

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.