

Bennie Mulholland

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Education

B.S. in Astrophysics

May 2025

University of Florida

GPA: 3.61 — Graduated *Cum Laude*

Activities: Astronomy & Astrophysics Club

A.A. in General Studies

May 2023

Florida SouthWestern State College

Honors: Phi Theta Kappa

Research Experience

Undergraduate Researcher, SWIFT Lab (Space Weather Impacts, Forecasting, and Transit)

January 2025 – Present

University of Florida

- Completed additional semester-long involvement studying whistler-mode waves in plasma, contributing to data collection and preliminary analysis efforts (non-project-based).
- Beginning work on a project investigating charged dust behavior in plasma environments relevant to the lunar surface.
- Developing Geant4 simulations to model dust-plasma interactions and evaluate sensor response in lunar-like conditions.
- Assisting in drafting a proposal for a potential mission concept involving deployment of sensors on the lunar surface to study charged dust dynamics and solar-wind interactions.
- Supporting early-stage experimental design discussions and planning for future laboratory measurements.

Research Contributor, RETRHO (Remote Experimental Team at Rosemary Hill Observatory)

May 2024 – Present

University of Florida / Collaborative Group

- Participate in a research effort focusing on telescope testing, alignment, and system performance.
- Contribute to maintaining data quality for undergraduate and graduate observing runs.
- Had imaging data of the open cluster M34 collected and processed raw images using the group's reduction pipeline.
- Developed custom Python code to perform photometry, compute stellar magnitudes and colors, and construct a Color-Magnitude Diagram (CMD) for the cluster.

- Presented the resulting CMD and analysis at a UF research symposium in Astronomy and Astrophysics department, demonstrating data-processing workflow and contributing to evaluation of telescope performance.
- Color–Magnitude Diagram and analysis featured on the group’s formal website: <https://ufretrho.netlify.app/portfolio>

Relevant Work Experience

Tutor — Tutor.com
Remote

September 2025 – Present

- Provide virtual tutoring in mathematics and ELA for students in grades K–12.
- Adapt explanations to diverse learning styles and use interactive tools to support comprehension.

Freelance Tutor

January 2024 – Present

- Tutor upper-level high school and lower-level college mathematics.
- Develop customized lesson plans and targeted practice materials.

Market Analyst — Astralytical Space Consulting

Oct 2024 – Apr 2025

- Conducted market research on telescopes, astronomy programs, and industry trends.
- Produced comparative reports on products, pricing, and consumer behavior.

Skills

- **Technical:** Python, MATLAB, scientific data analysis, observational astronomy procedures
- **Laboratory:** Experimental design
- **Software:** Microsoft Office, LaTeX
- **Communication:** Scientific writing, poster presentation, tutoring, and instruction