

# Benjamin Bassett

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## Education

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**Hillsdale College**, BS in Physics and Mathematics, Minor in Computer Science 2023 — Present

- Currently enrolled as a full-time undergraduate student at [Hillsdale College](#).
- Pursuing well-rounded education in the liberal arts and sciences, while making lifelong friends and memories.
- Developing skills in advanced mathematics, physics, programming, research, and scientific computing.

**Classical Conversations**, High School 2011 — 2023

- Graduate of [Classical Conversations](#), a rigorous homeschool program built on the classical education model.
- Studied the liberal arts and sciences like debate, literature, philosophy, and mathematics ([Transcript](#)).
- Completed comprehensive curriculum and participated in Mock Trial, Science Fair, and [Senior Thesis](#).

## Research Experience

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**Summer Researcher**, Hillsdale College – Remote Summer 2024

- Conducted pulsar data research through Hillsdale's [LAUREATES](#) program, developing [processing software](#).
- Presented research at [NANOGrav](#)'s Fall 2024 Meeting to collaboration members.
- Developed and refined a novel analysis GUI based on feedback from astrophysicists.

**Research Assistant**, Hillsdale College – Hillsdale, MI Feb 2024 – June 2024

- Novel analysis of MyOne Dynabead movement using a [custom Python application](#).
- Calculation of magnetic moment through bulk processing of microscope recordings.
- Learned Matlab and Mathematica analysis, OpenCV, graphing, automation, and troubleshooting.

**Research Assistant**, NANOSTars – Hillsdale, MI 2023 — Present

- Reviewed, classified, and analyzed hundreds of reprocessed pulsar candidates from GBT and Parkes.
- Participated in the [D-LITE](#) radio telescope construction and solar eclipse observations.
- Attended inter-university [NANOSTars](#) telecons, discussing relevant physics and astronomy topics.

## Teaching Experience

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**Teaching Assistant**, Hillsdale College Summer 2024

- Assisted with physics lab setup and instruction at Hillsdale College's [Summer Science Camp](#).
- Conducted evening recitations, preparing materials to review content and addressing student questions.
- Served as a resident assistant, supporting students throughout the summer camp experience.

**Private Mathematics Tutor**, Hillsdale College August 2024 — Present

- Mathematics tutor for Calculus I and II, helping students understand and apply advanced concepts.

## Publications

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**Constraining solar emission radius at 42 MHz during the 2024 Total Solar Eclipse using a student-commissioned radio telescope** 2024

Olivia Young, Timothy Dolch, ..., *Benjamin Bassett*, et. al.  
Hillsdale College

**[Automating Pulsar Bowshock Discovery](#)** October 2024

*Benjamin Bassett*, Timothy Dolch  
Hillsdale College

## Presentations

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### [Automating Pulsar Bowshock Discovery](#)

October 2024

Fall 2024 NANOGrav Conference

Presented novel research on automating the discovery of pulsar bowshocks as part of student presentations in front of the members of the NANOGrav collaboration at the Fall 2024 Conference.

## Coursework

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**Physics:** PHY-201 (Classical Mechanics), PHY-202 (Electricity and Magnetism, Thermodynamics), PHY-303 (Waves and Oscillations, Optics, Relativity), Saxon Physics (Intro to Physics)

**Mathematics:** MTH-120 (Calculus I), MTH-220 (Calculus II), MTH-320 (Multivariable Calculus), Saxon Math (Algebra, Geometry, Trigonometry, Pre-Calculus, Calculus)

## Skills

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**Languages:** English (Native), Latin (Intermediate), Spanish (Beginner)

**Other:** Technical Writing, Public Speaking, Podcasting, Video Editing, Media Coordination, A/V Operations

## Awards

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**Hillsdale College Dean's List:** 2023-Present

**National Latin Exam:** Maxima Cum Laude

**National Merit Scholar:** Commended

**Lower Michigan Mathematics Competition:** [3rd Place](#) (2 person team)

## Clubs and Organizations

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**Hillsdale College:** Society of Physics Students, Math Competition Team, Swing Dance Club, C. S. Lewis Society, Shakespeare Club, Tower Players, NANOSTars, Chess Club