

Matthew Whitaker

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RESEARCH INTERESTS

Binaries, Globular Clusters, Machine Learning

EDUCATION

University of Utah, Salt Lake City, Utah Ongoing
Bachelor of Science: Physics (Astrophysics)
Bachelor of Science: Data Science
Advisor: Prof. Anil C. Seth

ACADEMIC EXPERIENCE

Undergraduate Research Assistant University of Utah 2023 — Present
Astrophysics Intern Cosm/Evans & Sutherland 2023
Teaching Assistant University of Utah 2023

SELECTED COURSES

Bachelor's Courses

- ASTR 4070 - Extragalactic Astrophysics
- ASTR 4060 - Observational Astronomy
- ASTR 4090 - Stellar Astrophysics
- ASTR 3070 - Foundations of Astronomy
- CS 5350 - Machine Learning
- CS 5530 - Databases
- DS 3190 - Foundations of Analysis

PUBLICATIONS

Co-Author Publications

Häberle, M., Neumayer, N., Seth, A. et al. (2024). Fast-moving stars around an intermediate-mass black hole in ω Centauri. *Nature* **631**, 285-288. <https://doi.org/10.1038/s41586-024-07511-z>.

OBSERVING PROPOSALS

co-I on successful proposal for time on JWST.

HONORS and AWARDS

Summer Undergraduate Research Fellowship 2024
University of Utah
Paul Gilbert Outstanding Undergraduate Research Award in Astronomy and Astrophysics 2024
University of Utah

OUTREACH

Public Talks

- “Finding An Intermediate-mass Black Hole in Omega Centauri” *Astro on Tap, SLC*. ~50 people March 2024
- “3C-273 and an Introduction to SDSS Quasars” *Cosm Experience Center*. ~50 people August 2023

SKILLS

- **Programming:** Python, C++, SQL (including PostgreSQL), Web Development (HTML, JS, CSS, PHP), Android/iOS Mobile App Development (Java, Kotlin, Dart), R, Matlab, Maple
- **Machine Learning:** Kolmogorov-Arnold Networks, Multi-Layer Perceptron, Decision Trees/Forests, Ensemble Methods, Symbolic and Numeric Regression