

Benjamin L. Davis, Ph.D.

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SUMMARY

My research focuses on using recent developments in artificial intelligence (AI) and machine learning (ML) to solve the most difficult and impactful problems in astrophysics. Particular interests include:

- Symbolic Regression – used to find new (higher dimensional) scaling relations and provide new insights into the astrophysical processes behind these relations.
- Causal Discovery – enables researchers to look beyond correlation and uncover the fundamental mechanisms driving complex systems.

EDUCATION

2015 Ph.D. (Space & Planetary Sciences) at the **University of Arkansas**
Thesis: [Logarithmic Spiral Arm Pitch Angle of Spiral Galaxies: Measurement and Relationship to Galactic Structure and Nuclear Supermassive Black Hole Mass](#)

2008 B.S. (Physics), B.S. (Mathematics), & Minor (Music) at **Pittsburg State University**

WORK EXPERIENCE

New York University Abu Dhabi Sep 2020 – Aug 2026
[Center for Astrophysics and Space Science – Fellow, Research Associate](#)

Swinburne University of Technology Aug 2016 – Jul 2020
[Centre for Astrophysics & Supercomputing – Postdoctoral Fellow](#)

Arkansas Tech University Aug 2015 – May 2016
[Department of Physical Sciences – Visiting Assistant Professor of Physics](#)

University of Arkansas Aug 2015 – Dec 2015
[Department of Physics – Visiting Assistant Professor of Physics](#)

PUBLICATIONS

35 peer-reviewed publications, 2,184 citations, h -index = 21, and $i10$ -index = 29.

 ORCID |  Google Scholar |  NASA ADS |  Scopus |  Web of Science |  ResearchGate

★ [Media Highlight](#) – *NASA Telescopes Capture Stellar Delivery Service for Black Hole*    

TECHNICAL PROFICIENCIES

Programming Languages

C++ • Fortran • HTML • IDL • \LaTeX • Mathematica • MATLAB (image processing, signal processing, optimization) • Python (pandas, scikit-learn, Seaborn, SciPy, NumPy, PySR) • R • Supermongo

Software

Adobe Creative Cloud • DS9 • Gimp • IRAF • Microsoft Office Suite • PC/Mac/Unix/Linux OS • Git

For my unabridged curriculum vitae, visit <https://bendavis007.github.io/PDFs/CV.pdf>.

Last updated: September 7, 2025; the current version is maintained at <https://bendavis007.github.io/PDFs/Resume.pdf>.