Dr. Ben Davis

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Ambitious leader, innovator, communicator, and tactical thinker; gifted in strategic planning, complex problem solving, and scientific rigor. A highly-driven, scholar who approaches problems in industry with a novel "out-of-the-box" approach.

1. 14 years of leadership and international collaboration in academia; experience involving team development, project management, data analysis, interpretation, and communication.

2. A lifetime of training and experience in violin performance, developing skills in abstract thinking, communication, independent discipline, work ethic, teamwork, leadership, and performing effectively under pressure.

3. 16 years combined experience as a classroom educator, mentor, and supervisor of astronomy students, as well as private violin instruction.

Technical Proficiencies

1. **Programming Languages:** `C++` • `Fortran` • `HTML` • `IDL` • LaTeX • `Mathematica` • `MATLAB` • `Python` • `R` • `Supermongo`
2. **Software:** `Adobe Creative Cloud` • `DS9` • `Gimp` • `Google Analytics` • `Google Ads` • `Google Lighthouse` • `Google Search Console` • `IRAF` • `Microsoft Office Suite` • `PC/Mac/Unix/Linux OS` • `SEMrush` • `SpyFu`
3. **Typing Proficiency:** 67 WPM (285 CPM) with 100% accuracy
4. **Certifications:** `SEMrush` Keyword Research Exam

Academic Vitæ

Education

1. **University of Arkansas** — **Fayetteville, AR, USA**
   Space & Planetary Sciences (Ph.D.), — *2008–2015*
2. **Pittsburg State University** — **Pittsburg, KS, USA**
   Physics (B.S.), Mathematics (B.S.), & Music (Minor); Magna Cum Laude, — *2003–2008*
3. **Riverton High School** — **Riverton, KS, USA**
   Valedictorian & Senior Class President, — *1999–2003*

Affiliations

1. **Cosmic Explorer Consortium** *Member*
   Planning for a U.S. next-generation gravitational-wave observatory.
2. **Laser Interferometer Space Antenna Consortium** *Member*
   Co-author of the mission's white paper: "Astrophysics with the Laser Interferometer Space Antenna."
3. **ARC Centre of Excellence for Gravitational Wave Discovery (OzGrav)** *Affiliate*
   Galaxy structure; logarithmic spiral arm pitch angle; black hole mass scaling relations.
4. **Arkansas Galaxy Evolution Survey (AGES)** *Postdoc & Graduate Research Assistant*
   Astrophysics; extragalactic astronomy; structure & dynamics of disk galaxies.
5. **Arkansas Center for Space and Planetary Sciences** *Graduate Student*
   Martian surface chemistry and exoplanet demographics.
6. **NASA's Jet Propulsion Laboratory** *Visiting Student Research Program Intern*
   Cluster Lensing and Supernova Survey with Hubble (CLASH).

Publications

1. **Google Scholar Profile**
2. **Unabridged Academic Curriculum Vitæ**

Employment

1. **Your Digital Co-Pilot, LLC** **Irving, TX, USA**
   Marketing Analyst *April 2021–*

   I analyze the digital footprint of our clients and craft bespoke search engine optimization (SEO) strategies to improve their online visibility. *Case Example*: Within the first six months of working with Montes Law Group, I helped them achieve:

   (a) 520% increase in SEO traffic value
   (b) 124% increase in online impressions
   (c) 69% increase in clicks to website
   (d) #1 ranking in search engine visibility in their zip code (Irving, TX 75063)
   (e) Their competitors would have to pay over $25,000/month to achieve the same traffic that Montes Law Group is receiving through our strategically-designed SEO.

2. **New York University Abu Dhabi** **Abu Dhabi, UAE**
   Center for Astro, Particle, & Planetary Physics – Fellow/Research Associate *September 2020–*

   My research involves studying the structure of spiral galaxies. To do this, I examine the geometry of spiral arms using a suite of custom software I helped design. I also perform multi-component decompositional analysis of the galaxies to separate them into their constituent components (i.e., bulge, disk, bar, spiral arms, nucleus, etc.). With this detailed knowledge of the galaxy composition and geometry, I can then construct accurate black hole mass scaling relations that can be used to predict the mass of the central massive black hole in galaxies. By conducting a census of black hole demography in galaxies, future studies can better understand the intimate relationship between central black holes and their host galaxies and garner information about their coevolution.

3. **Swinburne University of Technology** **Hawthorn, VIC, Australia**
Centre for Astrophysics & Planetary Physics – Postdoctoral Fellow *August 2016–July 2020*

Reducing and analyzing galaxy images via bulge/bar/disc decompositions. I was responsible for modeling the radial distribution of optical and/or near-infrared stellar light in nearby ($<$200 Mpc) galaxies with an emphasis on discoveries and publications related to the (central black hole)–(host bulge) connection and/or compact massive spheroids and/or galaxies with partially depleted cores or additional nuclear components.

4. **Arkansas Tech University** **Russellville, AR, USA**
Visiting Assistant Professor of Physics *August 2015–May 2016*

I taught lectures and labs in the Department of Physical Sciences.

5. **University of Arkansas** **Fayetteville, AR, USA**
Visiting Assistant Professor of Physics *August 2015–December 2015*

I taught the University Physics I lecture (280 students) and supervised the laboratory sections.

6. **Litigation Resource Group, LLC** **Fort Smith, AR, USA**
Videographer/Accident Reconstruction Consultant *July 2012–February 2013*

I recorded video of legal depositions and assisted attorney clients in the physics associated with automobile accident reconstruction.

Freelance Musician

1. Arkansas Philharmonic Orchestra
2. National Broadway Tours: *South Pacific* & *West Side Story*
3. North Arkansas Symphony Orchestra
4. Southeast Kansas Symphony Orchestra
5. *Ad hoc* string quartets for weddings and events