John Bochanski, Ph.D.

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Summary

- Accomplished data scientist and engineer with over 20 years of experience architecting workflows for terabyte-scale scientific datasets.
- Deep technical expertise in Python, SQL, and cloud environments, with a specific focus on optimizing data delivery for large international collaborations.
- Proven leader capable of guiding multi-disciplinary teams, having served as Department Chair and founder of Computer Science programs at Rider University.
- Extensive background in data visualization and reporting, including the development of web dashboards to distill complex metrics for diverse stakeholders.
- Ideally suited to bridge the gap between technical engineering and complex research goals within a mission-driven organization.

Core Competencies

- **Advanced Analytics & Machine Learning:** Python, SQL, decision trees, neural networks, regression modeling, MCMC, time-series analysis, PCA
- **Data Infrastructure & Tools:** Git, Tableau, Cloud Computing, MLOps, Jira/Confluence, TB-scale data pipelines
- **Leadership & Strategy:** Department founding/management, team mentoring, budget management, stakeholder communication, project delivery
- **Diverse Communication:** 80+ peer-reviewed publications (26,000+ citations), invited conference reviews, TEDx and Talks@Google appearances, multiple media appearances. Contributing author to Sky & Telescope. Organized public outreach events serving 500+ community members

Professional Experience

Rider University | Lawrenceville, NJ

Associate Professor of Computer Science & Physics, Department Chair 2014 – 2025

- Founded and scaled Computer Science & Physics department from concept to 130+ students across 2 degree programs, establishing curriculum, hiring 6 faculty members, and building collaborative culture.
- Led cross-functional technical projects analyzing TB-scale astronomical datasets, developing scalable data pipelines and implementing ML models that directly informed high-impact research decisions.
- Mentored 10+ student researchers in data science methodologies, Python programming, and statistical modeling, resulting in multiple student presentations and successful graduate school placements.
- **Honors:** AI Faculty Fellow (2025), Research Corporation Scialog Fellow (2018, 2019)

Vera Rubin Observatory (Formerly LSST)

Co-Chair, Stars, Milky Way, and Local Volume Science Collaboration 2018 – 2022

- Elected to lead the largest science collaboration (100+ international members) for flagship $800M ground-based astronomy project, managing strategic planning, resource allocation, and cross-team coordination.
- Orchestrated regular meetings, authored technical white papers, and facilitated consensus-building among diverse stakeholders to define a multi-year research roadmap.
- Established communication protocols and documentation standards that improved collaboration efficiency and knowledge transfer across geographically distributed teams.

Haverford College | Haverford, PA
Visiting Assistant Professor of Astronomy 2012 – 2014

- Developed and delivered advanced data analysis curriculum; supervised undergraduate research projects involving statistical modeling and large dataset manipulation.

Pennsylvania State University & Massachusetts Institute of Technology
Postdoctoral Scholar 2008 – 2012

- Conducted advanced statistical analysis on largest-ever compiled databases of low mass stars (tens of millions of data points), developing novel algorithms for density estimation and classification.
- Architected and deployed facility-class image analysis software and control systems used by thousands of scientists across multiple research institutions, demonstrating end-to-end product development and stakeholder management.
- **MIT Recognition:** SPOT Award Winner (2009, 2010) for exceptional project contributions and technical innovation

Education

Ph.D. in Astronomy | University of Washington, Seattle, WA
Namesake of Asteroid 141414 Bochanski

B.S. in Astronomy & Astrophysics | Villanova University, Villanova, PA
Magna Cum Laude, Phi Beta Kappa, Sigma Pi Sigma, Phi Kappa Phi, National Goldwater Scholar

Selected Skills

- **Technical Proficiencies**: Python (NumPy, Pandas, Scikit-learn, TensorFlow), SQL, Git, Tableau, Docker, Linux, LaTeX
- **Leadership**: Organized multi-day technical symposia, led postdoctoral societies, managed academic program development and accreditation processes
- **Security Clearance**: Eligible for clearance; US-based and mission-driven