Alexander Navarre

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Professional Summary

Data scientist with a PhD in astrophysics, with a strong foundation in data analysis, data visualization, and statistical modeling. Proven ability to present complex results to both technical and non-technical audiences. Strong problem-solving and critical thinking skills utilized to extract actionable insights from data to drive business objectives.

Skills

- Python Programming
- Research methodologies
- Physics & Astronomy
- Linux Operating System
- Machine Learning Algorithms
- Mathematics & Statistics
- Advanced Data Analysis
- Scientific Writing
- Cloud Computing Solutions
- Data Visualization
- Data Handling
- Python Programming

Work History

Postdoctoral Researcher, 05/2024 to 08/2024
University of Cincinnati – Cincinnati, OH

- Developed advanced Python code to model distorted astronomical objects.
- Conducted quality assurance by testing code output across 5 distinct astronomical fields.
- Identified and documented critical limitations of code for specific data quality.
- Created installation and user guides for research software programs for current and future collaboration members.
- Mentored junior researchers, enhancing their skills and supporting their career development.

Graduate Research Assistant, 10/2019 to 05/2024
University of Cincinnati – Cincinnati, OH

- Utilized advanced statistical software to analyze large datasets, uncovering key insights for informed decision making.
- Participated in regular meetings with project supervisor, providing progress updates and discussing potential challenges or areas for improvement.
- Authored over 6000 lines of custom Python code for spectral and image analysis.
- Published a first-author research paper in The Astrophysical Journal.
- Presented research findings at conferences and workshops, fostering professional growth and collaboration within the academic community.

Graduate Teaching Assistant, 08/2018 to 01/2020
University of Cincinnati – Cincinnati, OH

- Led discussion sections for 20+ students 3x per week to enhance understanding of class material and promote group problem-solving.
- Conducted laboratory classes for 30+ students on classical mechanics with physical demonstrations to teach proper scientific practices.
- Assisted lecturers by providing one-on-one student support during class.
- Checked assignments, proctored tests and provided grades according to university standards.
- Developed strong rapport with students through open communication channels, fostering an inclusive learning environment.

Undergraduate Research Assistant, 01/2015 to 05/2018
University of Illinois at Urbana-Champaign – Champaign, IL

- Developed skills in various research methodologies, ensuring high-quality work across diverse projects.
- Designed and fabricated jigs for construction and testing of balloon-borne telescope on SPIDER 2 project.
- Conducted physical monitoring of telescopes during cryogenic tests to ensure optimal performance.
- Analyzed over 100 astronomical fields for evidence of newly discovered gravitationally lensed quasars.
- Recorded data and maintained source documentation following good documentation practices.

Education

Ph.D.: Physics, 05/2024
University of Cincinnati - Cincinnati, OH

- Subfield: Astrophysics
- 3.8 GPA
- Professional Development: 6th Indo-French Astronomy School: Treasures in the Voxels
- Dissertation: Clumpy vs. Extended Lyman Alpha Emitters at High Redshift

Bachelor of Science: Physics, 05/2018
University of Illinois At Urbana-Champaign - Champaign, IL

- Minor in Astronomy
- 3.4 GPA

CERTIFICATIONS

Data Science Professional Certificate, IBM Data Science via Coursera, 2024-01-01 Certificate ID: FL25WZXTQ58N

Publications

Resolving Clumpy vs. Extended Lyα In Strongly-Lensed, High-Redshift Lyα Emitters
Published in: The Astrophysical Journal
Alexander Navarre et al 2024 ApJ **962** 175