

Matthew Shannon

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Summary

I am an astrophysicist and postdoctoral fellow at NASA with 8 years experience analyzing and interpreting scientific datasets, communicating key results to audiences, and collaborating with international teams. I program primarily in Python, utilizing statistical and machine learning methods, with additional skills in IDL, R, LaTeX, BASH and SQL. I am looking to transition into a more practical data-driven role, wherein I can utilize my love for learning and problem solving for real-world applications.

Education

Ph.D. Astronomy

WESTERN UNIVERSITY

Ontario, Canada

2012 - 2016

Awards: (x4) Queen Elizabeth II Graduate Scholarship in Science and Technology (\$60000 total), Graduate Student Teaching Award

M.Sc. Astronomy

WESTERN UNIVERSITY

Ontario, Canada

2011 - 2012

Awards: Queen Elizabeth II Graduate Scholarship in Science and Technology

B.Sc. Honours Physics and Astronomy

UNIVERSITY OF VICTORIA

British Columbia, Canada

2007 - 2011

Awards: Miranda Ward Physics Scholarship, Don Ingham Memorial Scholarship, Physics and Astronomy Co-op Student of the Year

Work Experience

NASA/Universities Space Research Association

NASA POSTDOCTORAL PROGRAM FELLOW

Moffett Field, CA

2017 - PRESENT

- Part of a 12-person team supported by a 3-year \$4.6 million grant for laboratory astrophysics.
- Published two peer-reviewed scientific articles based on analyzing astronomical observations, utilizing Python data analysis and visualization tools.
- Co-developer (one of two) of the NASA Ames PAH IR Spectroscopic Database (PAHdb), the world's foremost collection of polycyclic aromatic hydrocarbon spectra.
- In the process of translating the full (objected-oriented) IDL-language suite of PAHdb software into Python.
- Co-developed and completed a streamlined Python tool (pyPAHdb), in preparation for the full Python suite, which was presented at the Scipy 2018 international conference.

Western University

GRADUATE STUDENT & POSTGRADUATE RESEARCH ASSISTANT

Ontario, Canada

2011 - 2017

- Presented my scientific research at five international conferences (three talks, four posters), and presented general astronomy concepts to the public at five outreach events.
- Assisted hundreds of undergraduate students as a teaching assistant (nine classes over five years).
- Published three first-author scientific articles in peer-reviewed journals.

Skills

Data analysis	Quantitative/statistical analysis of multidimensional datasets, fitting/decomposition, visualization, problem solving
Programming	Python (Numpy, Scipy, Pandas, Matplotlib, Jupyter Notebook, TensorFlow, Keras, scikit-learn, iPython, Seaborn), IDL, LaTeX, BASH, R, SQL
Software	Linux, OS X, Windows, Anaconda, Git/GitHub, MS Office, Doctr, Continuous integration, Virtual environments
Writing	Authored (5) and refereed (1) publications in peer-reviewed scientific journals.
Management	Proficient at planning, prioritizing work; emphasis on breaking down long-term goals into tractable tasks; able to work on unsupervised projects through personal initiative, and as part of a team.
Communication	Capable of deconstructing complex concepts; presenting ideas, methodologies, results and my interpretations to varied audiences.

Interests

- Building PCs, CPU/GPU overclocking
- Macro and landscape photography
- Cycling, motorcycling