Rhys Shaw

PhD Student in Astrophysics

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Summary

Experienced Software Engineer specializing in artificial intelligence, machine learning, and robotics. Proficient in C++, Python, and Java, with a knack for developing sentient AI systems capable of complex decision-making. Passionate about ethical AI development and eager to contribute to groundbreaking projects in dynamic environments.

Education

PhD in Astrophysics *2026*

University of Bristol, Bristol, England

Master of Science in Data Intensive Astrophysics *2021*

Cardiff University, Cardiff, Wales

Bachelor of Science in Physics with Astrophysics *2020*

University of Bristol, Bristol, England

Experience

Data Science Intern *2024-09-01*

Aleph Insights, London, England

- Worked on building a internal LLM client tool. This interacted with any LLM API, stored all data locally and allowed for attaching relevant documents from local the network.

Postgraduate Teaching Assistant *2022-06-01*

University of Bristol, Bristol, England

- Lab demonstration, assisting 2nd year undergraduates in completing their research projects. This required a detailed working knowledge of a number of physics experiements projects. I then accesed them through conducting interviews and marking formal reports.

Publications

Collaboration, E., Zatarain, T. M., Fotopoulou, S., Ricci, F., Bolzonella, M., Franca, F. L., Viitanen, A., Zamorani, G., Taylor, M. B., Mezcua, M., Laloux, B., Bongiorno, A., Jahnke, K., Stevens, G., Shaw, R. A., Bisigello, L., Roster, W., Fu, Y., Margalef-Bentabol, B., … Soubrie, E. (2025, March). *Euclid Quick Data Release (Q1). The active galaxies of Euclid.* arXiv. https://doi.org/10.48550/arXiv.2503.15320

Shaw, R. A., Fotopoulou, S., Birkinshaw, M., Maddox, N., & Stewart, H. (2025). DRUID: source detection and deblending in astronomical images with persistent homology. *RAS Techniques and Instruments*, *4*, rzaf6. https://doi.org/10.1093/rasti/rzaf006

Skills

Programming languages

Python JavaScript LaTex Fortran C++ Rust Typst

AI/ML

Pytorch TensorFlow HuggingFace Transformers

Tools

Linux Git Docker HPC MongoDB HTMX FastAPI