

Sebastian Turner, Ph.D.

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PhD in astrophysics, with focus on machine learning and statistics. Over two years experience delivering impactful analysis and technical solutions in the higher education sector. Expert in handling and analysing large, complex datasets. Keen problem solver and effective communicator.

Experience

- **Senior Analyst** | Research England, UK Research and Innovation | Bristol, United Kingdom 2022-present
 - Shared product ownership of major system transition project, with key responsibilities including:
 - assembly of analytical platform on AWS,
 - ETL and taxonomy of data from SAS database to SQL database,
 - leading on development of reproducible analytical pipeline,
 - leading on definition of new quality assurance and version control framework,
 - leading on design and functionality of sector-facing data-sharing portal,
 - rewrite (from SAS to R) and refactor of entire codebase,
 - procurement of training (R, SQL, Tableau) for team.
 - Processing of data and programming of models for £2B of funding for 2023-24 grant allocations.
 - Authoring of detailed technical documentation for both internal and external use.
 - Line management of an analyst.
- **Visiting Research Fellow** | Tartu Observatory, University of Tartu | Tartu, Estonia 2022
 - Leading research grant application, contribution to two publications as co-author, delivery of departmental seminar, presentation at international conference, leading exploratory dimensionality reduction analyses.
- **Senior Analyst** | Research England, UK Research and Innovation | Bristol, United Kingdom 2021 - 2022
 - Processing of data and programming of models for £2B of funding for 2021-22 grant allocations.
 - Production of dashboards, reports, and visualisations for policy, leadership, and external stakeholders.

Skills

- Coding: Python (incl. numpy, scipy, pandas, matplotlib, scikit-learn, tensorflow/keras), R (incl. tidyverse, shiny), SQL, SAS, MATLAB
- Tools: Tableau, AWS, Apache Spark (via Python), LaTeX, Git, Atlassian systems (Bitbucket, Jira, Confluence, Trello), Microsoft (Office) 365
- Analysis: machine learning (clustering, dimensionality reduction, feature extraction/selection, neural networks, decision trees and random forests), statistics, data visualisation
- Projects: technical writing, communication at varying levels of expertise, line management, time management, collaboration, working independently, planning

Education

- **Ph.D. Astrophysics** | Liverpool John Moores University | Liverpool, United Kingdom 2016 - 2020
 - Thesis: "Extragalactic Machine Learning: in Theory and in Practice" – used prototype- and model-based unsupervised machine learning techniques and novel cluster evaluation approaches to partition and analyse large, multi-dimensional samples of galaxies and derive fresh insights into galaxy evolution.
 - Awards: Best Poster (National Astronomy Meeting 2019)
Best Oral Presentation (LJMU Research Week 2019)
- **M.Phys. Astrophysics (1st)** | University of Liverpool | Liverpool, United Kingdom 2012 - 2016
 - Dissertation: "Radial Star Formation Distributions of Galaxies from a Cosmological Simulation" – compared star formation in simulated galaxies with that of real, observed galaxies using statistical tests.
 - Awards: Isaac Roberts Award for Best Astrophysicist

Academic Publications, Conferences, and Events (2016-2022)

- 5x presentation at international conferences
- 3x presentation at UK national conferences
- 8x presentation at local/other events
- 4x research visits to other departments