

Experienced data scientist, with a proven history of solving large problems in the public sector and academia. Extensive experience in data modelling and addressing real world problems with an analytical mindset. Expertise in creating pipelines, AI, machine learning, and time-series analysis. Created nationally showcased public outreach initiatives, receiving awards for outstanding contributions to science communication. Passionate about improving the accessibility of science and using data for public good.

PROFESSIONAL EXPERIENCE

2024– Present

Data Scientist

[The Office for Local Government](#), London

- Managed the design and build of scalable machine learning techniques using SKLEARN to monitor and classify financial risk in the local authority sector, resulting in the identification and redistribution of resources to monitor ten at-risk authorities.
- Designed and deployed reproducible analytical pipelines to extract, analyse and standardise highly unstructured data from multiple databases to produce a novel metric to track authority performance.
- Developed and implemented a novel Natural Language Processing (NLP) approach for thematic and sentiment analysis using SPACY, working with cross disciplinary teams to achieve maximal value.
- Scoped, evaluated, and delivered a web-scraping based pipeline to increase efficiency of data collection of a performance metric by over 300%.
- Upskilled members of the Data Science team by leading workshops on advanced techniques, such as regression, web scraping, and natural language processing.
- Instituted data science standards in a nascent team that fostered efficient collaboration and best practices.
- Received awards for Exceptional Performance, and for Novel Approaches to Data.

2023

Postdoctoral Researcher

[University of Warwick](#), Coventry

- Designed and developed public end-to-end pipelines for data extraction, analysis, and visualisation of irregularities in low quality time series data, streamlining existing approaches and enabling novel insights into existing datasets.
- Procured multiple grants to enable international collaboration on complex research projects, fostering relationships with interdisciplinary colleagues.
- Devised and deployed a large scale statistical model and performed hypothesis testing, communicating results using accessible visuals to non-technical audiences at public-facing talks and community events.
- Facilitated technical workshops improving interdisciplinary communication.

2017– Present

Science Communication and Public Engagement

[Freelance](#), UK

- Scoped, designed and deployed public engagement initiatives, engaging over 8000 individuals through innovative art-based science communication activities, working in collaboration with *STEM Connections* and as a foundational fellow of the *Warwick Institute of Engagement*.
- Procured and managed an external grant to create and exhibit an embroidery-based coding outreach to national science festivals and conferences, delivered to audiences of over 3000 students.
- Awarded the *Warwick Wows and Wonders Award* and the *Warwick Award for Public and Community Engagement*

EDUCATION

2018 – 2022

Ph.D in Astrophysics

University of Warwick, Coventry

- Thesis title: *"Analysing Solar Quasi-Oscillatory Signals; searching for the quasi-biennial oscillation in Solar and Stellar data"*
- Developed and deployed novel analysis methods to evaluate and classify high-noise complex datasets solar data from the [Solar and Heliospheric Observatory](#) from [ESA/NASA](#) using EMD, PYTHON, IDL.
- Oversaw the procurement of multiple grants to enable international collaboration on complex research projects, fostering relationships with interdisciplinary colleagues.
- Lead-authored several publications, collaborating with international teams in peer-reviewed journals
- Data cleaning, handling low signal-to-noise, time series analysis (FFT, WAVELET), forecasting.

2017 – 2018

MSc by Research in Physics (Distinction)

University of Warwick, Coventry

2014 – 2017

BSc (Hons.) in Physics and Mathematics (2:1)

University of St. Andrews, Fife

AWARDS & GRANTS

- 2024 *Exceptional Performance Award* from the Office for Local Government for outstanding work at pace on multiple projects
- 2024 *Outstanding Novel Approaches to Data* from the Office for Local Government for work on piloting and deploying Natural Language Processing as an analysis technique
- 2023 *Warwick Wows and Wonders Award* for five years of organising and presenting the Warwick Christmas Lecture series
- 2022 *Warwick Award for Public and Community Engagement* for outstanding contributions to public engagement
- 2022 *EPSRC in New and Sustainable Photovoltaics Grant* awarded to fund the design and exhibition of an embroidery-based scientific outreach activity to pupil premium funded schools in the Highlands, Scotland
- 2019 *Mobility of Young Researchers Grant* awarded by the [SOLARNET](#) network for a 6-week research stay at the National Solar Observatory, Colorado.

KEY SKILLS

- Python; (NUMPY, PANDAS, BEAUTIFULSOUP, STATSMODELS, KERAS, SKLEARN, GENSIM), SQL, R, SHELL, IDL
- Git, PowerBI, Jupyter, MS Office, Vim, Terminal, Linux, Amazon WorkSpaces
- Time series analysis, statistical modelling, experiment design, hypothesis testing, machine learning, natural language processing, data visualisation, simulations, data engineering (for pipeline creation and data processing), data wrangling and cleaning
- Project management, public speaking, prioritisation, end-to-end development, professional science communication