Cameron Grove

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Education

Durham University — Durham, UK
Doctor of Philosophy, Computational Astrophysics — *Sep. 2018 – Present*

University of Cambridge — Cambridge, UK
Master of Science, Physics, First Class Honours — *Aug. 2014 – June 2018*

Experience

My PhD programme gives me the opportunity to undertake projects with external partners

Department for Education, Data Science Lab — Jan. 2020 – Apr. 2020
London, UK

- Developed projection models in R for pupil attainment, investigating the effects of characteristics and disadvantage on pupils' academic performance between ages 11-16
- Produced a dashboard to allow for easy exploration of the models by non-expert stakeholders
- Gained experience in working with multiple large databases containing sensitive information
- Worked in a dynamic, cutting edge, environment where I had to develop my own research questions and share my findings with a wide audience
- Considered important ethical questions in my research to ensure that the results were fair and non-discriminatory

Northumbrian Water — May 2019 – July 2019
Washington, UK

- Produced a machine learning anomaly detection system for wastewater flow in sewage treatment works, outperforming existing labour intensive methods
- Used a wide variety of time series analysis methods including LSTM neural networks and SARIMA.
- Worked effectively to deadlines in a team and presented results in a professional environment

Earlier Projects

Cardiff University, Gravitational Waves Summer Student — July 2017 – Sep. 2017

- Investigated improving the efficiency of gravitational wave detection from eccentric binary sources
- Used container based coding environments with Docker and PyCBC
- Applied my existing knowledge and transferable skills to a domain of physics which was new to me

YCCSA Summer School — July 2016 – Sep. 2016

- Performed a multi-disciplinary project with the Archaeology and Chemistry departments at the University of York
- Used image analysis techniques to investigate the origin of parchment used in medieval Czech manuscripts
- Developed multiple algorithms in MATLAB to fit parchment pages into the shape of the original animal skins from which they were made, similar to a jigsaw puzzle
- Gained familiarity with the skills necessary to perform independently driven research projects

Technical Skills

Languages:Python, C/C++, R
Developer Tools: Git, Docker, Jupyter, RStudio, RShiny
Expertise: Machine Learning, High Performance Computing, Data Visualisation

Other Skills

Experienced at public speaking. I have given multiple conference and seminar talks to present my research to a large audience
Capable of working in large international collaborations such as the Dark Energy Spectroscopic Instrument project
Proficient in online working environments such as Slack, Teams, and Zoom