Rhys Green

Cardiff University

Research area: Gravitational Physics

Project title:

Applying Machine Learning to Improve Gravitational Wave Data Analysis.

Science/research area:

My broad research goal is to try and improve the efficiency of gravitational wave data analysis, thereby making more science possible with the available resources.This includes both domain knowledge driven analytic methods and also data-driven methods such as machine learning.

More specifically I am currently working on improving the efficiency of our bayesian inference pipelines and developing a simple description of gravitational wave precession.

About me:

Prior to starting my PhD I completed a BSc in Mathematics and Economics at Newcastle University before then going to Cardiff University to study an MSc in Physics.

Currently I'm studying at the Centre for Doctoral Training (CDT) in data intensive science at Cardiff, specialising in the use of machine learning for Gravitational Wave data analysis.

Outside of the office I play rugby for my local village (Taffs Well), regularly attend meetups such as Pydata Cardiff and eat out as much as the PhD stipend will allow for !

Data Intensive Research Skills and Interests etc.
Relevant skills:
- Core Python
- Deep learning: PyTorch, and Tensorflow,
- Machine Learning: scikit-learn,
- Probabilistic Programming: Pyro ,PyMC3, Tensorflow probability
- Data Visualisation: Seaborn Tableau
- LaTeX

Relevant interests:
- Artificial Intelligence
- Probabiity theory
- Methods for Bayesian Inference
- Dimensional reduction techniques

Other Interests:
- Rugby, Cooking and food.
- Behavioural Economics and evolutionary psychology