LOUIS SAYER

Master of Physics Durham Graduate

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EDUCATION

Master of Physics
Durham University (2018-2022)

- First Class
- Durham Physics Award for Outstanding achievement in second year
- Consistently received top marks in projects for my project organisation, verbal and written communication

Biophysics Machine Learning Master's Project
Durham University (June 2021 - April 2022)

- Quantified for the research group which parameters (including the latent space dimension) improved the efficacy of the network
- Edited a bespoke generative CNN in Pytorch to improve the reproduction of protein conformations
- Received an 80 % mark from my supervisor for my project dedication (learning lots of material quickly) and collaboration with the team

WORK EXPERIENCE

Waiter and Barista
Boulangerie Jade (current)

- Preparing coffees and serving customers, which has helped improve my customer service skills and time management

Developing Interactive Python Physics teaching resources
Durham University (Sept 2020)

- Created some of the only interactive content on Jupyter notebooks for younger year groups to revise complex physics topics

Particle Physics Summer Programme
Polish Institute of Nuclear Physics (July 2020)

- Learnt C++ to analyse and perform cuts on the data to produce distributions of XeXe particle collisions, which we presented to the group

LANGUAGES

- English   Fluent
- French, Spanish   Conversational
- Brazilian Portuguese, Thai   Basic

EXTRACURRICULAR

- Rock climbing, touch rugby and cooking
- Recently returned from a gap year, trekking the Manaslu circuit in Nepal, rock climbing in Thailand and travel in SE Asia/Europe

RELEVANT PROJECTS

Machine Learning and Data Science Course
Udemy (Dec 2023 - Present)

- Completing 45hr extensive machine learning course with Scikit-learn and Tensorflow
- Gained experience in the workflows of diverse machine learning projects from data retrieval to evaluation of models

Computational Physics Project on He Atom
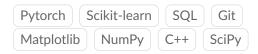**Durham University (Oct 2020 - April 2021)**

- Used iterative methods in Python to solve for He atom energies with an accuracy of up to 0.001 %

Statistical analysis on the dimming of Betelgeuse star
Durham University (Feb - March 2020)

- Supported claims that dust grains were responsible for the dimming by taking images in different colour bands
- Implemented χ^2 minimisation to find optimal model parameters

CODING

Pytorch   Scikit-learn   SQL   Git   Matplotlib   NumPy   C++   SciPy

VOLUNTEERING

Junior Rugby Coach
Old Colfeians Rugby Club (current)

- Helping to coach my local rugby club's U15 team. Has been very rewarding to give back to the club which was a big part of my childhood

Touch Rugby Club Volunteer
Durham University (2020-2022)

- Held two positions at the university including club co-captain and O2 touch officer
- Led the team through stressful conditions during the year and liaised with O2 for the club's sponsorship

Durham University Volunteer
Durham University Charity Committee (2019)

- Taught school children maths and English and working in a wildlife sanctuary, both in Peru