

# Aavash Subedi

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## Education:

### University of Manchester

Manchester, UK

MPhys (Integrated Masters): Physics

2020 - 2024

- Expected first-class with a 85.2 cumulative GPA.
- Relevant Modules: Programming, Statistics, Linear Algebra and Data Science.

## Projects:

### Climate Hack

London, UK

Hackathon: <https://github.com/BuburuzanAlexandru/climatehack>

January 2022 - March 2022

- Experimented with and iterated over ML model architectures to advance the state of art in satellite imagery nowcasting.
- Presented a high-ranking submission representing the University of Manchester in front of an international audience.
- Performed hyperparameter optimisation and tested custom loss functions to boost MS-SSIM score of models.
- Worked effectively as a team of 3 to finish 6th internationally and 3rd within the UK.

### Decay Width Calculator

Manchester, UK

Coursework: [https://github.com/aavashsubedi/decay\\_width\\_calculator](https://github.com/aavashsubedi/decay_width_calculator)

November 2021 - December 2021

- Produced an Object Oriented python script to calculate the mass and decay width from experimental results scoring 97.5%
- Cleaned and analysed the data using statistical methods and NumPy to make informed model selection.

### Airport Waiting Times

Manchester, UK

Hackathon: <https://github.com/aavashsubedi/MachineLearningGUH2021>

November 2021

- Trained ML models to predict the waiting times for customers as an individual submissions for a university Hackathon.
- Cleaned and analysed the dataset using NumPy, Pandas, and Seaborn to improve model accuracy.
- Achieved an accuracy of 98% using TensorFlow and Keras using a feed-forward neural network.

## Work Experience:

### Computational Statistics & Machine Learning Group, University of Oxford

Oxford, UK

UNIQ+ DeepMind Intern

July 2022 – September 2022

- Part of the Computational Statistics & Machine Learning group working to design and implement a data processing pipeline to extract and featurise atomic locations and spatial variances from the PDBind benchmark
- Implemented and trained a roto-translation equivariant CNN to compare its performance against state of the art models.
- Summarised motivations and experimental results in a technical report.

### Electrical Engineering Department, University of Manchester

Manchester, UK

Student Experience Intern: <https://github.com/aavashsubedi/MagfieldCalcu>

June 2021 – August 2021

- Part of the Electromagnetic Sensing Group working towards creating a smart metal detector for more accurate, efficient, and cost-effective security screening.
- Designed, developed, and published a Python package, allowing users to quickly find the magnetic field around a 2D shape.

### Barclays Bank

Reading, UK

Essential Banker

November 2019 – July 2020

- Essential Banker within the branch network providing support and solutions to customers.
- Guided customers with the uptake of Barclays' products, improving efficiency and the branch's Net Promoter score.

## Voluntary Experience:

### Students Union, Junior Common Room Association (JCR)

Manchester, UK

Treasurer

June 2021 - April 2022

- Maintaining and monitoring the financial records of the JCR; supervising all income and expenditures.
- Signatory for the JCR's funds at the Students' Union, ensuring that expenditures are in accordance with financial regulations.

## Skills/Certifications

- Python, Tensorflow, Version Control (Git), Excel/Google Sheet, SQL (BigQuery), Google Cloud Services, Tableau
- Google Data Analytics Certificate, Jovian - Data Structures and Algorithms in Python
- DeepLearning.AI – TensorFlow Developer Professional Certificate
- Fluent in English & Nepalese