Aavash Subedi

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Education:

University of Manchester   Manchester, UK
MPhys (Integrated Masters): Physics   2020 – 2024
- Expected first-class with an 85.1 cumulative GPA.
- Awarded the Richard Davis Prize for highest performing student in the second-year laboratory.
- Selected to represent the University within the Global Graduate Programme.

Work Experience:

Computational Statistics & Machine Learning Group, University of Oxford   Oxford, UK
UNIQ+ DeepMind Intern   July 2022 – September 2022
- Visiting student, supervised by Prof. Yee Whye Teh, working to advance the start of the art in protein/ligand binding affinity predictions for early-stage drug discovery screening.
- Implemented, trained and iterated over roto-translation equivariant E(3) architectures using JAX/Haiku.
- Designed and implemented a robust data processing pipeline to extract and featurise atomic locations and spatial variances to produce a voxelized electron density map from complexes found on the PDBInd dataset.
- Presented findings to academics and industry representatives.
- Summarised and published motivations, experimental results and ablation studies 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 find the magnetic field around a 2D shape quickly.

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.

Projects:

ClimateHack.AI 2022   London, UK
Hackathon: https://github.com/BuburuzanAlexandru/climatehack   January 2022 - March 2022
- Experimented and iterated over machine learning 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.

Airport Waiting Times   Manchester, UK
Hackathon: https://github.com/aavashsubedi/MachineLearningGUH2021   November 2021
- Trained ML models to predict the waiting times for customers as 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.

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

Technical Skills: Python, Git, TensorFlow, JAX, Haiku, SQL (BigQuery), R, Google Cloud Services, Tableau
Certifications: DeepLearning.AI – TensorFlow Developer Professional Certificate, Google Data Analytics Certificate