MAC WALKER

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https://macaswalker.github.io/

WORK EXPERIENCE

Milner Therapeutics Institute, Computational Drug Discovery **| Student Researcher |** Oct 2024 - Jun 2025
- Conducted an in-depth review of Transformer models and their applications in drug discovery, currently under review.
- Fine-tuned Transformer models across diverse biological data modalities to investigate survival time prediction and other critical applications.
- Applied advanced computational techniques to analyze large-scale biological datasets, including RNA-seq, multi-omics data, clinical notes, and additional modalities.

Wood Mackenzie, Environmental Data Consultancy **| Product Development |** June 2024 - September 2024
- Worked within the Agile team to support product operations, learning the fundamentals of Agile methodology for modern software development, assisting project management operations
- Developed expertise in product analysis and optimising operational efficiency within software teams

Opteran Technologies, A.I, Autonomous Machines | **Research Engineer |** June 2023 - August 2023
- Developed an information theory based technique for evaluating the parameters of spatial filters
- Created a spiking neural network model for image replication, using the resulting images with a neuroscience-inspired elementary motion detector to estimate global optical flow

EDUCATION

University of Cambridge, Magdalene College **|** *MPhil Biotechnology* **|** 2024 -2025
- MARS Research Program, investigating induction head transplantation in GPT models
- Member of various clubs, including CuAI, AI Safety Hub (Committee Member), Magdalene Men's Association Football Team

Relevant courses: Biotechnology, Computational Neuroscience, Machine Learning for Materials and Molecules, Control and Computation in Biological Systems, Biosensors and Bioelectronics, Management of IP, International Business.

University of Edinburgh | *BSc Mathematics* **|** 2020 - 2024
- Awarded high first class honours. Average: 78%, Average over Maths courses: 80%
- Final Year Project Title: Convolutional Gaussian Processes for Machine Learning
- Active member and player for Edinburgh University Men's Football Team, II's

Relevant courses: Machine Learning in Python, Numerical Linear Algebra, Statistical Methodology, Linear Programming, Planning for a Start-Up, Applied Statistics, Applications of Digital Signal Processing & Fourier Theory

Nanyang Technological University, Singapore | *Year of Study abroad* | 2022 - 2023
- 3.6 Grade-Point Average (GPA): Eramus+ Grant for Academic Excellence (2022)
- Invited into the undergraduate research program, producing research focusing on Reinforcement Learning Education and literacy

Relevant courses: Algorithms for the Real World, Statistical Learning and Data Mining, Stochastic Processes, Mathematics of Deep Learning, Ordinary Differential Equations, Complex Analysis, Real Analysis, Abstract Algebra

LEADERSHIP EXPERIENCE

The Student Lens, Online Newspaper - Founder | May 2020 - September 2021
- Founded an online newspaper which contained articles written by students in four different continents
- Produced a targeted social media plan to increase engagement, resulting in a readership in the thousands
- Organised teams of writers, editors and social media manager to quickly release news and opinion piece

Youth/Student Officer for large political party in Edinburgh Central | Mar 2021 - Sep 2021
- Organised the mobilisation and canvassing of students during the Scottish Parliamentary elections
- Optimised strategy for outreach and impact of political message across key student and youth groups