

Education

University of Strathclyde

2017 – 2023 | Glasgow, UK

- MPhys Physics, First Class Honours
- Awarded a place on the Dean's list for high achievement in exams.
- Awarded a scholarship by the Carnegie Trust for the Universities of Scotland.
- Relevant modules & grades: Machine Learning for Data Analytics (93%), Computational Physics (97%), Mathematical Physics (88%), Thermodynamics/Statistical Physics (95%).

Experience

University of Strathclyde – Master's Thesis

September 2022 – February 2023 | Glasgow, UK

- Computational modelling (using Python) of homodyne-mediated feedback schemes that were applied to two-level non-Markovian open quantum systems.
- Investigated whether quantum state purification was possible in these types of systems.
- Presented findings and defended thesis in front of multiple academic staff.

Carnegie Trust for the Universities of Scotland – Research Intern

June 2022 – September 2022 | Glasgow, UK

- Developed (using Python) gradient based optimization methods (gradient descent, ADAM, AdaGrad, RmsProp and more).
- Used these optimization methods in neural networks to determine key properties of many-body quantum systems.
- Compared performance of optimisers using principal component analysis.
- Collaborated with members of the CNQO group and attended an academic conference as part of the group.
- Created scientific poster to present findings.

University of Strathclyde – Honour's Project

September 2021 – February 2022 | Glasgow, UK

- Developed (using Python) algorithms to simulate 2-level quantum systems that were weakly coupled to an external environment. Algorithms included statistical modelling techniques such as Monte Carlo Wavefunction methods and Lindblad master equation solvers.
- Investigated the effects of applying quantum feedback to the systems, and whether quantum state purification was possible.
- Presented findings and defended thesis in front of multiple academic staff.

Curious Minds Science Ltd – Online Operations Assistant

September 2015 – August 2023 | Helensburgh, UK

- Worked as part of the team to manage product databases and customer databases.
- Worked as part of the team managing website content and SEO optimization for new products.
- Wrote science themed blogs for the company website, to improve customer outreach.

Skills, Qualifications and Hobbies

- **Skills:** Python, Statistics, Tensorflow, Keras, Sci-kit Learn, pandas, NumPy, Data Analysis, Machine Learning, Git, SQL.
- **Certifications:**
 - JPMorgan Chase & Co. – “Software Engineering Virtual Experience Program”.
 - Udemy – “Machine Learning A-Z”.
 - IBM – “Databases and SQL for Data Science with Python”.
- **About Me:**
 - I am a very active person, I spend most of my spare time bouldering (casually and in competitions) or in the gym.
 - Aside from physical activities, I am passionate about music and I love going to concerts with my friends.
 - Volunteered with the team at *Hear to Listen* to provide help to students who were struggling with mental health during term time at the University of Strathclyde.