HARRY COPPOCK (HE/HIM)

PhD candidate, HEA Fellow, PGCert, MSc and MEng graduate

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EDUCATION

Artificial Intelligence (PhD)
Imperial College London

📅 Oct 2020 – Present ⚲ London, UK

Currently studying as a PhD Candidate in the field of Artificial Intelligence under the supervision of Prof. Björn Schuller. My current lines of research are self-supervised learning for auditory inference and bioacoustic analysis.

Postgraduate Certificate in Higher Education (PGCert)
Imperial College London

📅 2021 – 2022 ⚲ London, UK

Artificial Intelligence (MSc)
Imperial College London

📅 Sept 2019 – Sept 2020 ⚲ London, UK

- **Distinction** (82%) with **Distinguished** Individual Project
- Course content: Reinforcement learning, Introduction to Machine Learning, Mathematics for Machine learning, Symbolic AI, Python programming, Natural Language Processing, Deep Learning, Machine Learning for Imaging, AI Ethics and Privacy, Software Engineering group project and an Individual Research project.

Materials Science and Engineering (MEng)
The University of Manchester

📅 2015 – 2019 ⚲ Manchester, UK

- **1st** (84%) finishing **top of the year** every year throughout 4 year course
- Specialised in nanotechnology (energy storage devices), solid state physics (solar cells and computer transistors) and composite + nanocomposite mechanics.

Artificial Intelligence
The University of Stanford in partnership with deeplearning.ai

📅 2018 – 2019 ⚲ Online

Neural Networks and Deep Learning (grade: 97.2%), Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (97.6%), Structuring Machine Learning Projects (87.5%)

Secondary School
Queen Elizabeth's Hospital School, Bristol

📅 2007 – 2014 ⚲ Bristol, UK

- **A2** A*A*A
- **GCSE** 8A*'s 1A 1B

TEACHING

Deep Learning - 70010
Course Support Lead 📅 2020-present

Intro to Machine Learning - 70050
Course Support Lead 📅 2020-2023

Python Programming - 70053
Course Support Lead 📅 2020-present

Ethics, Privacy, AI in Society - 70052
Teaching Assistant 📅 2021-2022

AWARDS

- Nominated for **Imperial College London's Award for Outstanding Achievement**. For my work with the UK Government on combating COVID-19 and for my positive impact on the Department's working environment through my actions as EDC rep and Departmental Events Organiser. 2022
- **AIHACK 2022 challenge winners**. Our solution of Generative Hamiltonian Neural Networks for Microfluid Dynamics Modelling came top. 2022
- **Best Student Paper** award at IEEE CBMS for our work on COVID-19 detection
- Imperial College London's **Distinguished Individual Project Prize** for work on Vector Quantised Variational Autoencoders for representation learning 2020
- The University of Manchester's **Outstanding Academic Achievement** award - awarded to 0.5% of the graduating cohort for students who have demonstrated exceptional achievement in their academic career 2019
- The Engineering "Faculties Prize(s) for **Highest Performance** in {First, Second, Third, Fourth} Year" 201{6,7,8,9}
- "The Tin Plate and Rolls Royce Prize" for top performance in Third year 2018
- "The Robert Warner Scholarship" for academic excellence 2017
- "The British Steel Prize" for performance in metallurgy 2016
- The School of Materials Prize for **Outstanding Home and Overseas Application** 2015
- The Captain's Prize for my service as Head Boy at QEH school 2014
- Commendation for high performance at A level and GCSE 2014, 2012

ROLES OF RESPONSIBILITY

The PhD Equality, Diversity and Culture Representative 📅 2021-present
In this role I represent all PhD students in the Department of Computing. I act as an Ally, working to ensure that all voices are heard, and campaign for a more diverse future for the department.

Teaching Scholar 📅 2020-present
Along with my PhD studies I teach undergraduate and postgraduate students, delivering course related topics through lectures, tutorials and workshops, creating and marking course work and tutorial materials and aid the lecturers in managing the modules.

Year Representative 📅 2016-2019
For my 2nd, 3rd and 4th years at Manchester I was elected year representative. In this role I was happy to be nominated for The University of Manchester's "Student Representative of the Year" in 2019.

Elected Head Boy at QEH School 📅 2013-2014
Represented all the students, gave regular addresses to the school and the wider community, represented the school and helped organise a range of events.

Pack Leader of the 1st XV 📅 2012-2014
This was an opportunity to lead, motivate and be part of a winning team.

SELECTED PUBLICATIONS

Audio-based AI classifiers show no evidence of improved COVID-19 screening over simple symptoms checkers
Harry Coppock et al.

📓 Nature Machine Intelligence   📅 2022   🕐 in sub

Audio Barlow Twins: Self-Supervised Audio Representation Learning
Jonah Anton, **Harry Coppock**, Pancham Shukla, Björn W Schuller

📓 ICASSP 2023   📅 2022   🕐 in sub

COVID-19 detection from audio: seven grains of salt
Harry Coppock, Lyn Jones, Ivan Kiskin, Björn W Schuller

📓 The Lancet Digital Health   📅 2021

End-2-End convolutional neural network enables COVID-19 Detection from Breath & Cough Audio: a pilot study
Harry Coppock, Alexander Gaskell, Panagiotis Tzirakis, Alice Baird, Lyn Jones, Björn W Schuller

📓 BMJ innovations   📅 2021

Detecting COVID-19 from Breathing and Coughing Sounds using Deep Neural Networks
Mina Nessiem, Mostafa M. Mohamed, Alexander Gaskell, **Harry Coppock**, Björn W Schuller

📓 IEEE CBMS   📅 2021   ⭐ Best Student Paper

Vector Quantised-Variational Autoencoders (VQ-VAEs) for Representation learning
Harry Coppock, Georgios Rizos, Björn W Schuller

📓 Imperial Master's Thesis   📅 2020   ⭐ Distinguished Project

WORK EXPERIENCE AND VOLUNTEERING

The Alan Turing Institute + The UK Government Health Security Agency (UKHSA)
40% secondment, evaluating the potential of bioacoustic analysis for a digital mass test for COVID-19 📅 2021-present

Shepherd
Spent my summer months herding and milking sheep, making cheese, topping the fields for hay, helping with sheep care such as vaccination and carrying out manual labour such as tilling fields and assisting with the general up keep of the family farm. 📅 2014-2020

Client Support Agent at Hargreaves Lansdown
During my undergraduate university holidays, I assisted clients, topped up their accounts, placed deals in shares, funds and ETFs and trained several new employees. 📅 2014-2016

Volunteered weekly at Southmead Hospital, Bristol
Assisted cardiac and respiratory patients and, once trained, performed more complex tasks including ECGs and feeding patients. 📅 2012-2014

NHS Organ Donation Campaigner
Organised a series of talks (by myself and a Transplant Surgeon) at sixth-forms across Bristol, enabling students to sign up to the NHS Organ Donor Register. 📅 2012-2014

Independent travel to Arizona at age 15
Four weeks volunteering at a nature reserve, we were on call to remove venomous snakes from private property and return them safely to the wild. I also assisted undergraduates in the collection of scientific data, including the collection of Gila monster venom for medical applications. 📅 2012

EXTRA-CURRICULAR ACTIVITIES

I love independent travel and exploring the unknown. Amongst other adventures, one of my favourite trips was motor biking across the Himalayas on a 1940s Royal Enfield motorcycle: Driving over the Khardung La Pass, the world's highest motorable road. Along with exploration I enjoy playing rugby and football, climbing and walking with friends and have recently taken up gardening, climbing and spearfishing.