

# HARRY COPPOCK

PhD and PGCert candidate, MSc and MEng graduate

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🌐 <https://github.com/harrycoppock> 👤 <https://harrycoppock.com> 🎓 Google Scholar



## 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 Quantised Representation Learning and Audio Processing using Deep Learning. I am also studying part time for a PGCert in higher education teaching.

### Artificial Intelligence (MSc)

Imperial College London

📅 Sept 2019 – Sept 2020 📍 London, UK

- **Distinction (82%)** with **Distinguished Individual Project**
- 2019 course content: Reinforcement learning, Introduction to Machine Learning, Mathematics for Machine learning (e.g. PCA, SVM, regression), Symbolic AI and Python programming.
- 2020 course content: Natural Language Processing, Deep Learning, Machine Learning for Imaging, AI Ethics and Privacy, 3 month Software engineering group project and a 6 month 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
- A2 8A\*s 1A 1B

## TEACHING

### Deep Learning - 70010

Course Support Lead

📅 2020-present

### Intro to Machine Learning - 70050

Course Support Lead

📅 2020-present

### Python Programming - 70053

Course Support Lead

📅 2020-present

### Ethics, Privacy, AI in Society - 70052

Teaching Assistant

📅 2021-present

please refer to my website for more detail on teaching methods and materials

## AWARDS

- 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 undergraduate 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" - a national award, screened through performance and chosen through interview 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 2014
- Commendation for high performance at GCSE 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 through 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 acted as link between students and supervisors, working to improve the course and the wider community. In this role I was happy to be nominated for The University of Manchester's "Student Representative of the Year"

### Elected Head Boy at QEH School 📅 2013-2014

Represented all the students, giving regular addresses to the school and the wider community and helped organise a range of events.

### Pack Leader of the 1<sup>st</sup> XV 📅 2021-present

This was an opportunity to lead, motivate and be part of a winning team.

## PUBLICATIONS

### Unleashing the COVID-19 Identification ResNet (CIder) on the INTER-SPEECH COVID-19 from Audio Challenges

Harry Coppock, Alican Akman, Alexander Gaskell, Panagiotis Tzirakis, Lyn Jones, Björn W Schuller

📄 submitted to INTERSPEECH 📅 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 📅 2020

### Vector Quantised-Variational Autoencoders (VQ-VAEs) for Representation learning

Harry Coppock, Georgios Rizos, Björn W Schuller

📄 Imperial Master's Thesis 📅 2020

## COMPUTER SCIENCE SKILLS

Python  
Pytorch  
TensorFlow  
L<sup>A</sup>T<sub>E</sub>X



## WORK EXPERIENCE AND VOLUNTEERING

- **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 farm. 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 following training 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 and spearfishing.