

## Education and Academics

2023 – Current

### Trinity College, University of Cambridge

PhD in Computer Science Candidate, supervised by Prof. Pietro Liò and Prof. Amanda Prorok

- Working on making **trustworthy GNNs for multi-agent systems**, focusing on robustness and explainability – working on certified robustness, causal explainability and multi-agent pathfinding
- Exploring **better communication graphs/paradigms for Multi-Agent Pathfinding**
- Supervised 3 **MPhil projects**, TA for **Geometric Deep Learning Course** – GNNs and more, supervised students for **Programming in C/C++, Prolog and Logic and Proof** courses

2019 – 2023

### Trinity College, University of Cambridge

BA Honours + Master's in Computer Science

- Got **First Class Honours** in Undergraduate, **Distinction** in Master's
- Theory of Deep Learning, Representational Learning & GNNs, ML & Physical World, AI, ML & Bayesian Inference, Machine Visual Perception, Advanced topics in ML

## Work Experience

June 2023 –  
September 2023

### Research Engineer Intern at Google DeepMind, London

Worked on Lie Detection within LLMs – involved unsupervised and semi-supervised learning to explore the intermediate representations of LLMs to analyse conscious lying by LLMs

June 2022 –  
September 2022

### Siri Intern at Apple, Cambridge

Worked on ASR confusion and disambiguation

December 2020 –  
April 2022

### (ML) Part-Time Undergraduate Employee at ARM, Cambridge

Added support for ARM® Ethos™-U (microNPU) in **Apache TVM** - An End to End Deep Learning Compiler Stack

July 2020 –  
September 2020

### ML Intern at ARM, Cambridge

Added support for **TFLite operators** in **Apache TVM**

## Projects

December 2022 –  
May 2023

Master's thesis: "**Neural Priority Queues for Graph Neural Networks**" under Prof. Pietro Liò and Dr Petar Veličković (Google DeepMind)

Worked on improving algorithmic reasoning using memory modules with GNNs. Featured in the **KLR ICML 2023** workshop and the **Deep Learning on Graphs at KDD 2023**. Received the **best paper** award at the KLR ICML 2023 and was in **spotlight** at the DLG KDD workshop.

January 2023 –  
March 2023

Worked on "**Automatic Concept Embedding Models**" as a concept based XAI model, which generates the concepts automatically, featured in the IJCAI 2023 Workshop on XAI.

October 2021 –  
May 2022

Undergraduate thesis: "**Explaining NLP using Logic Explained Networks**" under Prof. Pietro Liò

Published in the **2022 Conference on Empirical Methods in NLP (EMNLP)**

January 2021 –  
April 2021

### Group Project for Royal Society for the Protection of Birds (RSPB)

**Bird Audio Diarization** (Segmentation + Clustering) Project involving unsupervised learning

## Honours and Awards

2022, 2023  
2022

Awarded **Examination Prize** by the College Council of **Trinity College, Cambridge**

Elected to a **Senior Scholar** of **Trinity College, Cambridge** as a result of academic performance

2017, 18 & 19

**KVPY Fellow** (awarded to 800/100,000 applicants), **NTSE Scholar** (1000/900,000 applicants)

## Skills and Activities

- **Technical Skills:** C, C++, Python, Java, Prolog, OCaml, Tensorflow, PyTorch, Keras, JAX, Git

July 2020 –  
January 2022

**Mentor** with **Zero Gravity** – a Social Enterprise to help state school students – and with **Y12 Mentoring Scheme** organized by **Trinity College, Cambridge**

2021 – 2022

**Secretary** of University of Cambridge Competitive Programming Society (**UCCPS**)