Han Xuanyuan

hxuany0@gmail.com UK Citizen

Quantitative Researcher and Cambridge CS Graduate

EDUCATION

University of Cambridge, Churchill College, *Cambridge* *Oct. 2018 – Jun. 2022*

MEng in Computer Science: ***Distinction*** *(equiv. to GPA 4.0)*

- Research-based master's focusing on machine learning and statistics.
- Highlighted modules: Graph representation learning, NLP, reinforcement learning, and probabilistic ML.

BA in Computer Science: ***First class honours*** *(equiv. to GPA 4.0)*

- Highlighted modules: Computer vision, deep learning, machine learning, distributed systems, information theory, logic and proof, bioinformatics, artificial intelligence, formal models of language, computer graphics.

Gower College and Bishop Gore School, *Swansea, Wales* *Oct. 2011 – Jun. 2018*

*A-levels: 4A*s with a perfect score in Maths – top student in all subjects. GCSEs: 12A*s*

WORK EXPERIENCE

Tower Research Capital, *London* *Sep. 2025 – Present.*

Quantitative Researcher

- Researched predictive models for high frequency trading.

DRW, *London*

Quantitative Researcher *Aug. 2023 – Jul. 2025*

- Researched predictive models for high and mid frequency trading.

Software Developer *Jul. 2022 – Aug. 2023*

- Implemented automated trading systems. Provided on-call support for quants and traders, fixing production issues.
- Skills: Java, Python, Bash

Amazon Lab126, *Cambridge* *Summer 2021*

SDE Intern (computer vision and camera hardware)

- Proposed and implemented a new face liveness detection algorithm combining CNNs with shape from shading.
- Deployed solution to mobile devices and demonstrated feasibility in terms of both energy and CPU usage.

Informetis Europe, *Cambridge* *Summer 2020*

Machine learning and data science intern

- Developed an explainable deep learning model for smart-meter time series data based on Siamese networks.

PUBLICATIONS

Superposition in Graph Neural Networks

L. Pertl, **H. Xuanyuan**, and P. Liò, ***NeurIPS 2025****, UniReps, to be published in Proceedings of Machine Learning Research*

Global Concept-Based Interpretability for Graph Neural Networks via Neuron Analysis

H. Xuanyuan, P. Barbiero, D. Georgiev, L. Magister and P. Liò, ***AAAI 2023*** *(oral presentation)*

Shedding Light on Random Dropping and Oversmoothing

H. Xuanyuan, T. Zhao, D. Luo, ***NeurIPS 2023****, New Frontiers in Graph Learning Workshop*

Efficient Privacy-Preserving Inference for Convolutional Neural Networks

H. Xuanyuan, F. Vargas and S. Cummins, ***ICLR 2022****, Pair2Struct Workshop*

TALKS

The 37th AAAI Conference on Artificial Intelligence, *Washington D.C. – Concept-Based Interpretability for Graph Neural Networks via Neuron Analysis* *Feb 2023*

The First Learning on Graphs Conference, *Cambridge – Concept-Based Interpretability for Graph Neural Networks* *Dec 2022*

Department of Computer Science, *Cambridge – The Interpretability of Graph Neural Networks* *Nov 2022*

Churchill CompSci Talks, *Cambridge – Text Summarisation with TextRank (awarded Distinguished Talk)* *Feb 2020*

ACHIEVEMENTS

Churchill College Scholarship – *Awarded for high academic achievement in Part III of the Computer Science Tripos.* *2022*

Hack Cambridge – *Won an award for prototyping a drone-based technology to help detect animal poaching.* *2022*

Churchill College Scholarship – *Awarded for high academic achievement in Part II of the Computer Science Tripos.* *2021*

Netcraft Award – *Awarded for achieving a top 10 Computer Science A-level result in the country.* *2018*

Senior Team Maths Challenge – *Ranked first in Wales.* *2017*

British Maths Olympiad – *Distinction.* *2016*

SKILLS

Programming: Python, Java, JavaScript, C++

Languages: English (native), Mandarin (working)

Tools: PyTorch, Tensorflow, Pandas, Linux

Interests: Weightlifting, Cooking.