Ivan Majić

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EDUCATION

University College London London, UK

PhD Applied Mathematics Oct 2024-Present

- Stochastic Optimal Control and Reinforcement Learning.

University College London London, UK

MSc Mathematical Modelling **(Distinction)** Sep 2023-Sep 2024

- Relevant modules: Quantitative and Computational Finance, Operational Research and its Applications, Frontiers in Mathematical Modelling and Advanced Modelling Mathematical Techniques.

University College London London, UK

BSc Mathematics **(First Class Hons)** Sep 2020-Jul 2023

- Relevant modules: Machine Learning for Domain Specialists, Programming in Python, Probability & Statistics, Applied Stochastic Methods.

Oswestry School Oswestry, UK

A-levels Sep 2018-Aug 2020

- Mathematics (A*), Further Mathematics (A*), Physics (A*).
- Selected for the prestigious HMC Scholarship out of thousands of students in 14 countries in Eastern Europe.

EXPERIENCE

University College London London, UK

Teaching Assistant Oct 2024-Present

- Taught a weekly problem class in Financial Mathematics to a group of 100 students, fostering engagement through interactive activities like competitions and group challenges.
- Taught a problem class and assisted in 3 Master's level courses in Quantitative Finance, Market Risk and Portfolio Theory, covering Black-Scholes, Risk measures, and Optimisation.

Lead Department Representative Oct 2020 - Present

- Elected by my peers to take on a leadership role in the development and enhancement of the programmes in our Department during my MSc, and now again during my PhD.
- Represented the student body at departmental and faculty meetings, communicating student feedback to senior leadership and keeping peers informed of key developments.

PROJECTS

University College London London, UK

Reinforcement Learning Project Jul 2025 - Present

- Created a framework to solve Stochastic Optimal Control problems using both discrete and Deep Reinforcement Learning, leveraging Markov Decision Processes and Deep Neural Networks.

University College London London, UK

MSc Project May 2024-Sep 2024

- Utilised an interlinked Reinforcement Learning agent approach to the optimal control of batteries in a domestic setting, demonstrating that the approach can reduce costs by intelligently managing the batteries.
- Discovered ways of training multiple different agents in the same session, using the TF-agents library outside of its intended purpose.

SKILLS

Programming: Python, Matlab

Languages: Serbian - Native; English, Croatian - Fluent; German - Basic

Competencies: Git, Linux, LaTeX