

KONSTANTINOS MITSIDES

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Education

MSc Artificial Intelligence, Imperial College London

10/2023 - Present

Spring Courses: Deep Learning, Natural Language Processing, Deep-Graph Based Learning, AI Ethics & Explanation

Fall Courses: Machine Learning, Reinforcement Learning, Computer Vision, Symbolic AI, Python Programming

BSc Mathematics, University College London (UCL)

09/2020 - 09/2023

Final Grade: First Class Honours

Scholarships: Academic Excellence Scholarship - Scholarship Foundation of the Cyprus Government

Relevant Courses: Probability & Statistics, Stochastic Processes, Algebra, Mathematical Methods, Analysis, Graph Theory

The English School Nicosia, Cyprus

09/2012 - 06/2019

A-Levels: Further Mathematics (A*), Mathematics (A*), Physics (A*), Greek (A)

Awards: Highest Mark in Europe and Highest Mark in Cyprus in A-Level further Maths and Maths respectively

Projects

10/2023 - Present

Deep Learning

- Created a neural network library for building and training multi-layered neural network models.
- Developed a ResNet-50 based pipeline for a 20-class ImageNet subset, achieving 91.30% accuracy on the test set.
- Engineered pipelines using VAE for MNIST and DCGAN for CIFAR-10 image generation.

Reinforcement Learning

- Implemented a Monte Carlo and Q-learning algorithm variant, achieving successful navigation in a maze environment.
- Tuned a DQN algorithm variant and employed visualisation techniques to assess policy efficacy in the Cart Pole environment.

Deep Graph-Based Learning

- Developed a unique generative GNN-based pipeline for brain graph super-resolution, accurately predicting high-resolution brain connectivity from low-resolution inputs.

Search & Planning

- Implemented adversarial search for the Nim game using Minimax and α - β pruning, focusing on strategy optimisation and performance evaluation.

Work Experience / Competitions

The Data Open Competition Europe 2021 – Citadel

11/2021 - 11/2021

- Performed sentiment analysis on over 150k headlines using the NRC World-Emotion Lexicon, uncovering a trend of higher popularity for headlines with negatively charged emotional content.

Ready Trader Go Competition – Optiver

10/2021 - 11/2021

- Developed a profitable trading bot to enhance liquidity in a trading book, leveraging historical data analysis.

Staff Sergeant - National Guard of Cyprus

07/2019 - 09/2020

- Led a team of 30 soldiers from diverse backgrounds, planning their daily army service schedules and days off.
- Dealt with unexpected circumstances and made quick decisions to develop workarounds.
- Attended weekly meetings with military officers to share ideas on improving the camp's operations.

Chief Engineer – F1 in Schools World Finals

09/2017 - 09/2028

- Designed and produced a miniature car via Solidworks CAD, advancing to World Finals as Cyprus' second-fastest.
- Constructed an engineering portfolio, detailing the technical process with scientific explanations.

Additional Information

Python Packages: PyTorch, Tensorflow, Keras, Scikit-learn, NumPy, Pandas, Matplotlib

Online Courses: Machine Learning Specialisation - Stanford Online, Data Structures & Algorithms - Udemy

Math Competitions: Top 3 Places in National Math Olympiads & Kangaroo Math Competitions

Sports / Music: Multiple prizes, medals and national records in swimming / Grade 8 in Piano and Theory of Music

Languages: English (fluent), Greek (native)