

PHILIPPE MIRANTHIS

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EDUCATION

University College London (UCL) (2024 - Present)

MSc Integrated Machine Learning Systems – (*Expected Distinction*)

- Expertise in classical ML, deep learning, reinforcement learning, NLP, and computer vision.
- Courses in cloud computing and data centres, security and privacy, and IP networks.
- Strong coding focus: Data processing and Acquisition (SQL, web scraping etc), ML pipelines, software development, git versioning.
- Dissertation to be completed on improving attention layer of transformers using Test-Time Training.

University of Bath (2018 - 2023)

MEng Integrated Mechanical & Electrical Engineering – First Class Honours

- Top grades: Mathematics 1 (95%), Mathematics 2 (94%), Signal Processing (98%), Electromagnetics (94%).
- Hands-on experience with embedded systems (C++, Verilog), electronics design, PCB design, control systems, physical modelling, mechanical design, computer architecture and system design (OS, compiler etc.)
- Strong foundation in MATLAB, Python, C++ and simulation/ modelling.

KEY COMPLETED PROJECTS

Machine Learning for Automated Exercise Monitoring (Final Year Project, University of Bath)

- Developed a wearable IMU-based system to classify exercises, count reps, and assess lifting technique.
- Applied convolutional neural networks for time series classification using novel methods.
- Developed skills in full ML pipelines from data-collection, model training to deployment using real-world data.

Autonomous Race Car Control System (Formula Student AI, University of Bath)

- Led control team for Team Bath Racing's autonomous race car, securing 1st place in the 2022 UK Formula Student Automated Driving event.
- Designed a master controller using sensor fusion data for track navigation (YOLO and SLAM).
- Implemented Model Predictive Controller and simulation using MatLab and deployed on car in C++ .

School Aged Children Chat Bot (Deep Learning and Natural Language Processing, UCL)

- Fine-tuned a 7B parameter LLM to give it more age-appropriate response to children from kindergarten to 12th grade using state of the art techniques.
- Created dataset for preference modelling using teacher annotated data and evaluated the results using insight from teachers. Fine-tuning was successful and produce responses deemed suitable across the age range.

S&P 500 Index Tracker (Data Processing Systems Course Project, UCL)

- Developed an ML model to predict general movement of the S&P 500 two months into the future.
- Collected data from a variety of sources including job market data and news headlines that was processed using NLP to find trends in sentiment of specific industries.

WORK EXPERIENCE

Robotics & Electrical Engineering Intern (RACE-UK Atomic Energy Authority, Oxford) (Aug 2020 – Aug 2021)

- Assisted in robotic system development for the JET Fusion Reactor alongside AI experts and PhD researchers.

SKILLS & OTHER

Programming: Python (*Pytorch, Tensorflow, HuggingFace*), C++, MATLAB, SystemVerilog, SQL

Key Strengths: Machine Learning, Data Processing, Simulation & Modelling, Research, Teamwork and Leadership