GEORGIOS CHRISTOU

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EDUCATION

PhD Particle Physics, The University of Edinburgh, Edinburgh, Scotland — Sept 2024 - Present

MSc Particle and Nuclear Physics, The University of Edinburgh, Edinburgh, Scotland — Sept 2023 - Aug 2024
Graduated with A3 Distinction, 1^{st} in class, GPA: 75/100

BSc Physics, University of Cyprus, Nicosia, Cyprus — Sept 2019 - Jun 2023
Graduated with Excellence, 1^{st} in class, GPA: 8.66/10

RESEARCH EXPERIENCE

PhD Project, The University of Edinburgh, United Kingdom — Sept 2024 - Present

- Developed machine learning regressors to improve separation of signal from background in hypothesis testing searches.
- Applied advanced optimization techniques to boost search sensitivity, achieving up to 25% improvement.
- Integrated ML pipelines into high-energy physics workflows, demonstrating scalable impact on large datasets.

MSc Thesis, The University of Edinburgh, United Kingdom — Nov 2023 - Aug 2024

- Built and compared machine learning models to improve detection of subtle patterns in complex scientific data.
- Combined model outputs with statistical analysis techniques to set upper limits on key parameters with enhanced precision.
- Achieved results on par with cutting-edge benchmarks, showcasing the potential of ML in high-impact data analysis.

CERN Summer Student Programme 2023, Switzerland — Jun 2023 - Aug 2023

- Designed and implemented a C++ based statistical re-weighting algorithm to enhance the precision of asymmetry measurements.
- Benchmarked performance against previous methods, demonstrating measurable improvements in accuracy and reliability.

BSc Thesis and Undergaduate Internship, University of Cyprus, Cyprus — May 2022 - May 2023

- Applied advanced statistical techniques (multi-state fits, model averaging) to analyze lattice QCD data and extract baryon masses at the physical pion mass.
- Devised and implemented novel fitting strategies, achieving results in strong agreement with experimental and theoretical benchmarks.
- Published findings in Physical Review D, marking the first calculation at the physical point for this spectrum.

AWARDS & ACHIEVEMENTS

Class Medal Award for MSc in Particle and Nuclear Physics, The University of Edinburgh — Nov 2024
Awarded for the excellent performance in the MSc in Particle and Nuclear Physics

Valedictorian in the Department of Physics, University of Cyprus — Jun 2023
Awarded to the student with the highest GPA of the department

SKILLS

- **Programming**: Python, C++, Bash/Shell, Fortran, Mathematica
- **Languages**: Greek (Native), English (IELTS Score: 8, Level: C1), French (Beginner)
- **Technical**: Git, LaTeX, Linux, Unix, Machine Learning (scikit-learn, TensorFlow, PyTorch), Data Analysis (NumPy, Pandas), Publication-grade Data Visualization (MatPlotLib, Seaborn), Database Knowledge (HDF5)