Michele Cespa - Curriculum Vitae

3rd Year Student,
Girton College,
University of Cambridge

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https://github.com/m-cespa
https://m-cespa.github.io/

Education:

MSc Artificial Intelligence & Machine Learning, Imperial College (start in October 2025)

BA (Hons) Natural Sciences, University of Cambridge (Academic Scholar):

3rd Year:	Natural Science Tripos Part II: Physics 1st Class, ranking 14th in 129
	Modules (all 1st Class): General Relativity, Statistical Physics, Advanced Quantum Physics, Optics & Electrodynamics, Soft Condensed Matter Physics, Quantum Condensed Matter Physics, Particle & Nuclear Physics
	Courseworks (all 1st Class): Phase-Locked Loops, Dynamics in Complex Fluids, Physics-Informed Neural Networks
2nd Year:	Natural Science Tripos Part IB (all 1st Class): Physics A, Physics B, Mathematics
1st Year:	Natural Science Tripos Part IA (all 1st Class): Physics, Chemistry, Mathematics, Materials Science

City of London School (Academic Scholar):

A Levels:	A* Grades in: Physics (top of the year), Chemistry, Mathematics, Further Mathematics
GCSEs:	9 Grades (on 1-9 GCSE scale): Mathematics, Physics, Chemistry, Biology, English Language & Literature, French, Spanish, Religious Studies, Classical Greek, Latin

Programming Languages: Python, SQL, C++, Bash/Zsh (mac & linux), HTML/CSS

Technical Skills: PyTorch, Jupyter, Git, LaTeX, Raspberry Pi, Arduino, Excel

Languages: *Native:* English, Italian; *Intermediate:* Spanish, French

Experience:

[2025] Meta Software Engineering Summer Intern

[2025] Odyssey Fellow (previously Polaris Fellowship)

[2024] Research Intern at ARIA funded lab in University of Cambridge Biochemistry Department

- Worked on data driven models of biological systems and developed an MLP to learn non-linear dynamics of feedback Peltier heater system
- Built Raspberry Pi operated reactors to collect growth data with custom circuitry and a github repository outlining software
- Learned about Koopman operator theory, Dynamic Mode Decomposition and other algorithmic methods

[2024] Cambridge AI Safety Hub (CAISH) Fellow

[2024] Zero Gravity (charity) Volunteer

[2024] Punting Chauffeur for the Trinity College May Ball

[2022] Athena Tuition Tutor

- 3 months of Physics, Chemistry & Mathematics tutoring for students aged 11-16 including Oxbridge and competitive independent school applicants

[2022] Private GCSE Physics Tutor

[2021] Colet Volunteer Mentor

- Provided remote Mathematics tutoring to a variety of students up to and including GCSE level

[2020] eBay Trading Cards Shop

- Independently ran a trading cards business on eBay earning over £3000 over the course of 2 years

Academic Achievements:

[2024] Alice Violet Jenkinson Academic Scholarship awarded by Girton College after 2nd Year examinations

[2023] Angela Dunn Gardner Academic Scholarship awarded by Girton College after 1st Year examinations

[2022] City of London School Scholar's Prize in A-Levels

[2021] Cambridge Chemistry Challenge, Gold

[2021] Royal Society of Chemistry Olympiad, Bronze

[2020] City of London School Scholar's Prize in GCSEs

[2015] Academic Scholarship for duration of studies (7 years) at City of London School

Recent Coding Projects:

[2025] Pure Python (with Numba support) Automatic Differentiation engine for Physics-Informed Neural Network

[2025] DDM (Differential Dynamic Microscopy) Codebase

[2025] Random Forest built from scratch using only python numpy & pandas (tested with titanic data)

[2024] General Relativity Helper web-app for symbolic tensor algebra

[2024] Neural Network built from scratch using only python numpy

[2024] RPi Bioreactor github repository

[2024] Hankel (delay embed) DMD Algorithm for data driven discrete time series evolution (for presumed Markovian processes)

Hobbies: Olympic Weightlifting, Electric Guitar, Trading/Strategy Card Games