Michele Cespa - Curriculum Vitae

Imperial College ML Master's Student
University of Cambridge Physics Graduate

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

Education:

[2025] MSc Artificial Intelligence, Imperial College (Salter's Fellowship Scholar)
[2022] BA (Hons) Natural Sciences, University of Cambridge:

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

[2015] 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, C/Obj-C/C++, Swift, Bash/Zsh, HTML/CSS

Technical Skills: PyTorch, Git, Sapling, LaTeX, Raspberry Pi, Arduino

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

Experience:

[2025] Meta Software Engineering Summer Intern

- Fullstack iOS developer working on saved content in WhatsApp

[2025] Odyssey Fellow (previously Polaris Fellowship)
[2024] Research Intern at ARIA funded lab in University of Cambridge Biochemistry Department

- Built Raspberry Pi operated bioreactors to collect organism growth data and built github repository to control the bioreactors
- 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:

[2025] Salter's Fellowship Scholarship for postgraduate studies awarded by Imperial College Department of Computing & Worshipful Company of Salters
[2025] Mary Sparke Academic Scholarship awarded by Girton College after Final Year examinations
[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