

Emma Prévot

Born in Crema, IT on 23/03/2000

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Education

- 2023 – 2027, **University of Oxford**, *DPhil in Statistics*.
Oxford, UK Fully-funded and stipended by EPSRC Centres for Doctoral Training (CDT) in Health Data Science.
- Working on predictive and generative **Statistical Machine Learning** models for the study of Multiple Sclerosis, supervised by Prof Chris Holmes, Prof Thomas Nichols, Dr Habib Ganjgahi.
 - Attended several courses among which Statistical Methods, Bayesian Machine Learning, Deep Learning, Biomedical Time Series Analysis, Research Methods, Ethics
- 2022 – 2023, **University of Cambridge**, *MPhil Machine Learning and Machine Intelligence*.
Cambridge, UK Graduated with **76% average and special commendation**
- Core Modules: **Advanced Machine Learning**, **Probabilistic Machine Learning**, Speech Recognition, Deep Learning and Sequence Data, Reinforcement Learning, Computational Neuroscience.
- 2019–2022 **University College London (UCL)**, *BSc Physics with Medical Physics*.
London, UK Classification: **First Class Honours** (overall grade above 85%). Won several awards.
- Relevant Modules: Physics, Mathematics, Programming (Python, MATLAB), Data Analysis, Statistics, Machine Learning, Biophysics, Neural Computation.

Honors and Awards

SuperNova, *Italy Nova 111 Student List 2025*.

The SuperNova is awarded to the best of the Nova 111 Student List, which every year includes the most promising students across Italy, the future leaders you'll want to keep an eye on. [Link here](#).

Premio Italia Giovane.

A highly prestigious award granted to only 10 Italians under 35 nationwide, recognizing their excellence and serving as an inspiration for future generations.

Letter of Commendation, *University of Cambridge, Department of Engineering*.

Recognition of excellent performance and very high level of academic achievement.

Sidney Russ Award, *UCL Department of Medical Physics and Biomedical Engineering*.

Award received as best performing finalist undergraduate student. Was also added to the Dean's List.

Jackson Lewis Scholarship, *UCL Faculty of Engineering Sciences*.

A very prestigious award, given to only one recipient per Faculty each year, on the basis of academic excellence and out-standing performance. [Link to the article written about me](#).

John Clifton Prize, *UCL Department of Medical Physics and Biomedical Engineering*.

Award received as best performing non-finalist undergraduate student.

Publications

- In Progress **A hierarchical modelling approach for Bayesian Causal Forest on longitudinal data: A Case Study in Multiple Sclerosis**.
Prevot et. al. - Accepted as **poster at Bayes Comp 2025** and for **oral presentation at ISCB 2025**; targeting the Journal of the American Statistical Association (JASA)
- In Progress **BARTTharm: Non-Linear Harmonization of MRI Data Using Image Quality Metrics**.
Prevot et. al. - Accepted for **poster presentation** at the Organization for Human Brain Mapping (OHBM) 2025 and targeting Imaging Neuroscience Journal
- Pre-print **Annealed variational mixtures for disease subtyping and biomarker discovery**.
Prevot et. al. - Accepted at **NeurIPS 2024 WiML Affinity Workshop** and received [G-Research Grant](#) as well as WiML Travel Grant. [Link to pre-print](#), [link to poster](#), and under review at Statistical Applications in Genetics and Molecular Biology
- Pre-print **How reproducible are data-driven subtypes of Alzheimer's disease atrophy?**.
Prevot et. al. - [Link to pre-print](#) and under review at BRAIN Communication.

Research Experience

- Ongoing **Doctoral Research Student**, *University of Oxford, Department of Statistics*.
Supervised by Prof Chris Holmes, Prof Thomas Nichols, Dr Habib Ganjgahi.
- Working on Bayesian non-parametric methods, as well as Generative models within causal inference settings for applications to the study of Multiple Sclerosis.
- Apr - Aug 2023 **Postgraduate Research student**, *University of Cambridge, MRC Biostatistics Unit*.
Dissertation grade: 79% – Supervised by Dr Filippo Pagani and Dr Paul D. W. Kirk.
- Developed a **scalable Bayesian mixture model** using **Variational Inference** for simultaneous clustering and variable selection in high-dimensional data. Enhanced inference robustness by incorporating variational **annealing to overcome local-optima trap**.
- 2023-2024 **Research Supervisor**, *United Italian Societies (UIS) Research Centre*.
Supervising 3 students on a short-term research project to implement **SEIR and SEIRS compartmental models** and machine learning to investigate potential correlations between hospital geographic locations, mortality and vaccination rates in Italy during the COVID-19 pandemic.
- Jan - Apr 2023 **Research assistant**, *Cambridge AI Safety Lab*.
Worked on Scalable Interpretability to automate interpretation of "black-box" architectures with deep-learning-based methods.
- Jan - May 2022 **Undergraduate Research student**, *UCL POND group, Department of Computer Science*.
Dissertation grade: 87% – Supervised by Dr Neil Oxtoby and Dr Cameron Shand.
- Applied the SuStaln algorithm, an unsupervised machine-learning technique, across cohorts of brain MRI scans to subtype and stage individuals into distinct Alzheimer's disease (AD) pathways.

Work Experience

- Ongoing **Venture Capital Student Partner**, *Giant Ventures, Oxford, UK*.
- Working as a Partner to identify **scientific entrepreneurial talent and investment opportunities** that are aligned to Giant's investment themes across climate, health, and inclusive capitalism.
- Summer 2021 & 2022 **Software Engineer Intern**, *J.P. Morgan Chase & Co., London, UK*.
- Worked in the Global Energy Technology team (Summer 2022) and the Futures & Options Trade Processing team (Summer 2021) within Corporate Investment Banking Technology.
- Deployed advanced technical skills, specifically in **Python and JavaScript**, working on concrete, business related full-stack projects. Proved **quick-learning and problem-solving** by completing all assigned tasks.
- Was offered a returning offer to the firm after both internship.

Extra Curricular Activities

- Ongoing **Academic Tutor**, *Oxford Science Studies*.
Tutoring Physics, Mathematics, Computer Science, and Italian for GCSE, IGCSE, A-Level and IB.
- Academic Session Lead/Expert**.
Organised, prepared, and delivered different introductory lectures on Artificial Intelligence for high-school students, highlighting how it is revolutionising our everyday lives and its incredible potential in various fields such as healthcare, finance, sustainability.
- Ongoing **Head of Technology and Talent**, *Nucleate Italy*.
- Collaborating in a free student-run program facilitating the formation of early-stage BioTech companies.
- I organised and moderated the insightful event "Promoting Biotech Companies in Italy" sponsored by the Italian Consulate and the Italian Cultural Institute in London.

Skills

- Languages** Italian (Native) ▪ French (Native) ▪ English (Advanced) ▪ Spanish (Beginner)
- Programming** Python ▪ PyTorch ▪ Tensorflow ▪ R ▪ MATLAB ▪ JavaScript ▪ Java ▪ React