

# Matilde Dolfato

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## EDUCATION

### Bocconi University, Milan, Italy

M.Sc. Artificial Intelligence

Sep 2024–Present

- Courses: Linear Algebra, Algorithms for Opt and Inference, Software Eng, Deep Learning, Computer Vision, Information Theory, Real and Fourier Analysis (audit)
- GPA: 29/30

B.Sc. Economic and Social Sciences

2021–2024

- Advisor: Prof. Jérôme Adda
- Final work: *Can Machine Learning Aid Econometrics?*, grade: 110/110 *cum laude*

### Universitat Pompeu Fabra, Barcelona, Spain

Exchange Program

2024

### Università degli Studi di Milano Statale

B.Sc. Biotechnology, Single Courses

2022–2023

## EXPERIENCE

### Research fellow

Nov 2025–Present

NOVA Information Management School, Lisbon

- Supervisor: Prof. Mauro Castelli
- Research area: explaining *double descent* phenomenon, what underlies stochastic gradient descent preference for smoothness, what is smoothness

### Visiting Student

Apr 2025–Nov 2025

Bocconi Institute for Data Science and Analytics (BIDSA)

- Mentor: Prof. Elia Brué
- Research area: Ricci curvature bounds for discrete spaces, optimal transport, convergence of diffusion processes and functional inequalities in spectral theory
- *Technical notes* and two presentations (1,2)

### Founding and Board Member

Sep 2025–Present

Bocconi Student Association for Mathematical Sciences

- Gave a *lecture on optimal transport*

Reading Seminars Information Geometry (*Technical notes*)

Spring 2025

Research Internship Algebraic Topology

Spring 2025

Department of Decision Sciences, Bocconi

### Research Assistant

Jun 2023–Dec 2023

Innocenzo Gasparini Institute for Economic Research, Bocconi

- Mentor: Prof. Massimo Marinacci
- Research area: re-interpretation and adaptation of the first quantitative analysis in social sciences by Cesare Beccaria (with tools of probability and decision theory)

## SELECTED PROJECTS

*saLM-1: Self-Aware Language Model Ensemble* (LLM ensemble architecture)

*Adversarial Robustness Pipeline* (CNN adversarial training)

*Wordle Guesser* (Entropy-based guesser)

*Movie Recommendation System* (Web app)

## SKILLS

Programming: Python (proficient), R, STATA (advanced), C, C++ (beginner)

Languages: Italian (native), English (proficient), Spanish (advanced)

## OTHER INTERESTS

Sailing, surfing, windsurfing; volleyball (ex-agonistica); mountain hiking and skiing; piano; theater and cinema