

# Matilde Dolfato

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## EDUCATION

### Bocconi University, Milan, Italy

M.Sc. Artificial Intelligence

2024 - Present

- Main Courses: Advanced Linear Algebra, Algorithms, DL and RL, Information Theory, Computer Vision, NLP, Complex Systems, Real and Fourier Analysis (audit)
- PhD Courses: Real Analysis II (Optimal Transport), Probability Theory II, Theory of Computation (audit)

B.Sc. Economic and Social Sciences

2021 - 2024

- Advised by Prof. Jérôme Adda

· Final work: “[Can Machine Learning Aid Econometrics?](#)”

· Final grade: 110/110 cum laude

### Universitat Pompeu Fabra, Barcelona, Spain

Exchange Program

2024

### Università degli Studi di Milano Statale

B.Sc. Biotechnology

2022-2023

- Single courses: General Biology, Genetics

## EXPERIENCE

### NOVA IMS, Universidade NOVA de Lisboa, Portugal

Visiting Student

Nov 2025 - Present

- Visiting Prof. Mauro Castelli

· Research area: explaining double descent phenomenon, what underlies gradient descent preference for smoothness, what is smoothness

### Bocconi Institute for Data Science and Analytics

Visiting Students Initiative

Apr 2025 - Present

- Mentor: Prof. Elia Bréu

· Research area: Ricci curvature bounds for discrete spaces, optimal transport, convergence of diffusion processes and functional inequalities in spectral theory

· Presenting [this](#) and [this](#) paper in the Stats and Maths reading group

### Bocconi Student Association for Mathematical Sciences

Founding and Board Member, Co-Head Pure Math Division

Sep 2025 - Present

- Aim: introduce Bocconi students to mathematical sciences, through conferences with professors, collaborative study and chats

### Department of Decision Sciences, Bocconi

Reading Seminars Information Geometry

2025

Research Internship Algebraic Topology

2025

### Innocenzo Gasparini Institute for Economic Research, Bocconi

Research Assistant

2023

- 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)

2025

[Adversarial Robustness Pipeline](#) (CNN adversarial training)

2025

[Wordle Guesser](#) (Entropy-based guesser)

2025

[Movie Recommendation System](#) (Web app)

2025

## SKILLS

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

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

## OTHER INTERESTS

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