

# 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 and Reinforcement Learning, NLP, Computer Vision, Information Theory

B.Sc. Economic and Social Sciences

2021–2024

· Advised by Prof. Jérôme Adda

· Final work: *Can Machine Learning Aid Econometrics?*

### 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  
· Two presentations (1,2) to the Stats and Maths reading group within BIDSA

Founding and Board Member, Co-Head Pure Math Division

Sep 2025–Present

*Bocconi Student Association for Mathematical Sciences*

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

Reading Seminars Information Geometry

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-professional); mountain hiking and skiing; piano; theater and cinema