

# Matilde Dolfato

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## EDUCATION

<b>Bocconi University, Milan, Italy</b>	
M.Sc. Artificial Intelligence	Sep 2024–Present
· Courses: Linear Algebra, Algorithms for Opt and Inference, Software Eng, Deep and Reinforcement Learning, NLP, Computer Vision, Infomation Thoery, Real and Fourier Analysis (audit)	
B.Sc. Economic and Social Sciences	2021–2024
· Advised by Prof. Jérôme Adda	
· Final work: <i>Can Machine Learning Aid Econometrics?</i>	
<b>Universitat Pompeu Fabra, Barcelona, Spain</b>	
Exchange Program	2024
<b>Università degli Studi di Milano Statale</b>	
B.Sc. Biotechnology, Single Courses	2022–2023

## EXPERIENCE

Research fellow	Nov 2025–Present
<i>NOVA Information Management School, Lisbon</i>	
· Supervisor: Prof. Mauro Castelli	
· Research area: explaining <i>double descent</i> phenomenon, what underlies stochastic gradient descent preference for smoothness, what is smoothness	
Visiting Student	Apr 2025–Nov 2025
<i>Bocconi Institute for Data Science and Analytics (BIDSA)</i>	
· 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 ( <a href="#">1</a> , <a href="#">2</a> ) to the Stats and Maths reading group within BIDSA	
Founding and Board Member, Co-Head Pure Math Division	Sep 2025–Present
<i>Bocconi Student Association for Mathematical Sciences</i>	
· 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
<i>Department of Decision Sciences, Bocconi</i>	
Research Assistant	Jun 2023–Dec 2023
<i>Innocenzo Gasparini Institute for Economic Research, Bocconi</i>	
· 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

<a href="#">saLM-1: Self-Aware Language Model Ensemble</a> (LLM ensemble architecture)	2025
<a href="#">Adversarial Robustness Pipeline</a> (CNN adversarial training)	2025
<a href="#">Wordle Guess</a> (Entropy-based guesser)	2025
<a href="#">Movie Recommendation System</a> (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