

Andrea Amato

PHD STUDENT IN MATHEMATICS

Profile

I was born in Bologna on May 3, 1998. Since November 1, 2023, I am a PhD student in mathematics at the University of Bologna. My research focuses on probability theory, particularly the study of stochastic differential equations, including those of the McKean-Vlasov type, and their numerical resolution. I am also exploring singular stochastic optimal control motivated by optimal goal-based investment and the application of machine learning.

Education

2023–Now	Alma Mater Studiorum University of Bologna PHD in Mathematics
2020–2023	Alma Mater Studiorum University of Bologna Master's Degree in Mathematics Thesis: <i>Numerical Resolution of McKean-Vlasov Stochastic Differential Equations by Stochastic Gradient Descent Method</i> Advisor: Stefano Pagliarani
2017–2020	Alma Mater Studiorum University of Bologna Bachelor's Degree in Mathematics Thesis: <i>Stochastic Gradient Descent Method</i> Advisors: Andrea Pascucci and Stefano Pagliarani
2012–2017	Niccolò Copernico Scientific High School High School Diploma Option: Applied Sciences

Tutoring Experience

2024	Alma Mater Studiorum University of Bologna Course: PROBABILISTIC METHODS FOR MACHINE LEARNING [cod. 96791]
2023	Professors: Stefano Pagliarani and Giovanni Paolini Alma Mater Studiorum University of Bologna Course: CALCOLO DELLE PROBABILITA' E STATISTICA [cod. 04642] Professors: Elena Bandini and Stefano Pagliarani

Publications

2023	Journal paper in review <i>Numerical approximation of McKean-Vlasov SDEs via stochastic gradient descent</i> (Agarwal Ankush, Amato Andrea, Pagliarani Stefano, dos Reis Gonçalo)
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Attended Events	2024	Conference <i>4th Italian Meeting on Probability and Mathematical Statistics , University building of San Pietro in Vincoli (Rome, 10th - 14th June 2024)</i> Participant
Experience	2022	Universidad Complutense de Madrid (Madrid, Spain) Erasmus+
	2021	Multitraccia S.C. (Reggio Emilia, Italy) internship
Languages	Italian	Native
	English	Fluent
	Spanish	Intermediate
Computer Skills	Microsoft Office (Word, Excel, etc.) Python (Numpy, Sklearn, Pytorch, etc.) MATLAB LaTeX Jupyter Notebook GitHub Google Colab	