

Edoardo Lombardo

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Ph.D. in Applied Mathematics · Quant Researcher

EDUCATION

École des Ponts ParisTech & University of Roma Tor Vergata

Paris, France / Rome, Italy

Ph.D. in Applied Mathematics

2020 – 2025

- **Thesis:** [Approximation and regularity results for the Heston model and related processes](#).
- Developed high-order approximation schemes for Log-Heston processes in C++ and integrated into [Premia](#) platform. Application to Heston, Double Heston, Bates and more general SVJ models. Improved simulation speed.

École des Ponts ParisTech

Paris, France

M.Sc. in Mathematics for Finance and Data

2018 – 2019

- [Bezout Scholarship holder](#); Mention: “Honorable”.

University of Roma Tor Vergata

Rome, Italy

M.Sc. in Pure and Applied Mathematics

2015 – 2018

- Final Grade: **110/110 cum laude**.
- **Thesis:** “An efficient tree method for the discretization of the CEV model”: Pricing of American and European options. Implemented in C in [Premia](#) platform.

TECHNICAL SKILLS

- **Programming:** C++ (STL, Eigen, Boost, OpenMP), C, Python (NumPy, pandas, SciPy), MATLAB, Julia, SQL.
- **Quant Finance:** Stochastic Calculus, Volatility Modeling (SVJ, Rough Volatility), Derivatives Pricing: Fourier Techniques, Monte Carlo (High-order schemes, Richardson Extrapolations, Random Grids, Variance Reduction, MLMC and ML2R), Numerical PDEs (HJB).
- **Certifications:** [Deep Learning Specialization](#) (DeepLearning.AI, Coursera).
- **Languages:** Italian (Native), English (Professional), French (Fluent).

EXPERIENCE

University of Roma Tor Vergata

Rome, Italy

Research Fellow (PRIN Project)

Jun 2024 – Present

- Conducting research on stochastic control and information theory in financial and insurance markets.
- Developing numerical methods for solving PDEs and PIDEs (HJB framework) arising in pricing and hedging problems.

Enel Global Trading

Rome, Italy

Quantitative Analyst

Apr 2020 – Oct 2020

- Implemented pricing models for vanilla and complex commodity derivatives using MATLAB.
- Engineered analytical tools for risk assessment, allowing the Front Office to value optionality premiums.
- Maintained and optimized the proprietary pricing library, ensuring stability.

AXA (Group Risk Management)

Paris, France

Risk Analyst Intern

May 2019 – Oct 2019

- Developed an ALM (Asset Liability Management) model (in Python) to forecast profitability of new retirement contracts. Quantified sensitivity to interest rates and longevity risk, directly impacting Solvency Capital Requirement (SCR) strategy.

Academic Teaching Experience

Rome, Italy / Paris, France

Lecturer & Teaching Assistant

2021 – 2025

- **LUISS Guido Carli (2024-2025):** Teaching Assistant for “Quantitative Models for Data Science”.
- **École des Ponts (2021-2023):** Lecturer for “Probability and Monte Carlo Methods”.

SELECTED PUBLICATIONS AND RESEARCH

- **Lombardo E., et al.** “[Design and hedging of unit linked life insurance with environmental factors](#)” (2025 AMASES Best Paper Award).
- **Lombardo E., et al.** “[High order approximations and simulation schemes for the log-Heston process](#),” *SIFIN*.
- **Lombardo E., et al.** “[High order approximations of the Cox-Ingersoll-Ross process semigroup using random grids](#)”, *IMAJNA*.

INTERESTS

Sports: Rugby (competed in Italian National League “Serie B”), Tennis (competitive level) · **Other:** Chess (recreational).