

SAMUELE D'ELIA

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EDUCATION

MSc in Mathematical Engineering - Quantitative Finance

Politecnico di Milano, Milan

GPA: 27/30

Enroll: Sept 2022 — Present

- Core activity concerns applications of quantitative methods to asset management, valuation of derivatives, financial engineering, risk management and trading of financial instruments.
- **Main courses:** Real and Functional Analysis, Stochastic Differential Equation, Financial engineering, Computational Finance, Algorithms and Parallel computing.

COST FinAI Summer School 2023 - Data Science For Sustainable Finance And Economics

HTW Berlin - University of Applied Sciences, Berlin

Enrolled: August 2023

- Participated in an intensive summer school focused on quantitative techniques applied to sustainable finance. In collaboration with industrial partners we developed a project on Carbon Credit and Green Bond Pricing.

BSc in Mechanical Engineering

Politecnico di Milano, Milan

Enrolled: Sept 2019 — Sept 2022

- Organized Lecture notes, exercises and sum-ups for various engineering courses. [[Link](#)]
- Additional courses on top of Bachelor exams: Mathematical analysis III, Probability theory, Statistical inference.

EXPERIENCE

Liceo Classico Statale “Arnaldo”

Maths and Physics Professor

Brescia, Italy

Jan 2023 - Feb 2023

- Taught mathematics/Calculus and Physics to five high school classes.
- Evaluated students through written and oral exams.

PROJECTS

Exotic Options Pricing Library with Python

Project Link: [Code](#)

In Progress

- Developing a high-speed quantitative finance library in Python using jax library, specialized in pricing exotic options with advanced financial techniques.

Advanced Programming for Scientific Computing challenges

Project Link: [Code 1](#) - [Code 2](#)

Milan, Italy

Feb 2024 - June 2024

- Implemented C++ programs to tackle mathematical/engineering problems as part of the Advanced Programming for Scientific Computing course.

Energy Finance project

Project Link: [Report](#)

Milan, Italy

December 2023

- Developed and calibrated a Heath-Jarrow-Morton (HJM) model for German power swaps in Q4 2024, optimizing parameters to align model-derived prices with market option prices.

Portfolio optimization project

Project Link: [Report](#)

Milan, Italy

November 2023

- Constructed diverse portfolios using various allocation strategies, evaluated performance with a focus on *S&P100* index constituents. Proposed performance analyses including backtesting with rebalancing, and compared results with a real *S&P100* ETF.
- Awarded top project in the Computational Finance class.

Recovery Risk - Final project of the Financial Engineering Course

Project Link: [\[Code/Report-Video\]](#)

Milan, Italy

May 2023 - June 2023

- Implemented Monte Carlo simulation scenarios in the case of stochastic recovery rate through the Credit Capital Model with the aim of analyze the risks associated with a financial institution's credit portfolio considering recovery risk on top of default and migration risk.
- Held a pitch and presented a video in front of an assessment committee.

SKILLS

- **Language:** Italian - native, English - Fluent.
- **Programming:** Python, MATLAB, C++, C, Git, LaTeX, Bash.
- **Libraries:** Numpy, Pandas, Matplotlib, scikit-learn, Keras and MPI for parallel computing.
- **Hobbies:** Personal Finance/passive investing, Gym enthusiast, politics.



Ministero della Giustizia

Sistema Informativo del Casellario Certificato del Casellario Giudiziale (ART. 24 D.P.R. 14/11/2002 N.313)

CERTIFICATO NUMERO: 23160/2024/R

Al nome di:

Cognome **D'ELIA**
Nome **SAMUELE**
Data di nascita **16/06/2000**
Luogo di Nascita **CHIARI (BS) - ITALIA**
Sesso **M**



sulla richiesta di: **INTERESSATO**
per uso: **AMMINISTRATIVO (ART. 24 D.P.R. 14/11/2002 N.313)**

Si attesta che nella Banca dati del Casellario giudiziale risulta:

NULLA

ESTRATTO DA: CASELLARIO GIUDIZIALE - PROCURA DELLA REPUBBLICA PRESSO IL TRIBUNALE DI BRESCIA

BRESCIA, 06/05/2024 13:45

IL RESPONSABILE DEL SERVIZIO CERTIFICATIVO
(SCHILLACI MARCELLA)



Il presente certificato non può essere prodotto agli organi della pubblica amministrazione o ai privati gestori di pubblici servizi della Repubblica Italiana (art. 40 D.P.R. 28 dicembre 2000, n. 445), fatta salva l'ipotesi in cui sia prodotto nei procedimenti disciplinati dalle norme sull'immigrazione (d.lgs. 25 luglio 1998, n. 286). Il certificato è valido se presentato alle autorità amministrative straniere.

**** AVVERTENZA ****

Certificato del casellario giudiziale - (ART. 24 D.P.R. 14/11/2002 N.313) - al nome di:

Cognome	Nome	Luogo di Nascita	Data di nascita	Sesso	Paternità	Codice Fiscale
D'ELIA	SAMUELE	CHIARI	16/06/2000	M		DLESML00H16C618P

Si attesta che nella Banca dati del Casellario Europeo NULLA risulta.