ALESSANDRO ROTA

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EDUCATION

COLUMBIA UNIVERSITY   New York, US
M.A. in Mathematics of Finance   09/2024 – 12/2025
- Relevant Coursework: Statistical Inference & Time-Series Modeling, Stochastic Processes, Machine Learning for Finance (Python), Quantitative Methods for Portfolio Management, Price Impact Models, Programming for Quantitative & Computational Finance

POLITECNICO DI MILANO   Milan, Italy
B.Sc. in Physics Engineering   09/2021 – 07/2024
- Key Courses: Probability, Statistics, Mathematical Analysis I, II and III, Linear Algebra, Computer Science (C), Experimental Physics I and II, Quantum Physics, Physical Optics & Optical Technologies, Applied Mechanics
- GPA: 3.9/4 (105/110)
- 'Best Freshmen Youth Fund' scholarship awarded to first-year students with excellent academic performances

EXPERIENCE

BAIN & COMPANY   Milan, Italy
Associate Consultant Intern   03/2024 – 05/2024
- Evaluated market opportunities for an aerospace company by creating a parameter-based ranking for over 200 potential target customers and approached top 40 prospects using the Go-To-Market strategy
- Developed a VBA program to simulate engine utilization scenarios for a defense company's fleet over a 16-year span, providing cost-reduction strategies that lowered projected contract costs by up to 84%
- Examined best Enterprise Risk Management practices and relative implemented IT tools to accelerate the restructuring of a car manufacturer's ERM section
- Conducted a 10+ competitor analysis for a Consumer Finance firm with a focus on cost reduction opportunities

PROJECTS

Quantitative Finance Projects   07/2024 – 08/2024
- *Statistical Arbitrage*: Implemented a Pairs Trading market neutral strategy in Python using a rolling Kalman-filter beta, leveraging cointegration tests to select stock pairs, and achieving 16% Drawdown and a 1.43 Sharpe ratio, with Z-score position sizing spread analysis and backtesting on historical data
- *Option Pricing*: Created a pricing model for both European and American options utilizing Black-Scholes and Binomial Tree model

Politecnico di Milano, Development of a model for English used car pricing   08/2022
- Presented a multiple linear regression model in R to predict English used car prices from a database of 24,000+ elements using quantitative and qualitative parameters, with actual prices consistently within the model's 90% confidence interval during evaluation on additional data
- Utilized descriptive statistics to graphically visualize initial data and to study relations between parameters for the regression and conducted hypothesis test to simulate real-life scenarios involving the acquisition of vehicles

SKILLS, LANGUAGES & INTERESTS

- IT: Python, C, VBA, R, MATLAB
- GMAT Total Score: 740 (97th percentile) | GMAT Quantitative Score: 51 (97th percentile)
- Languages: ITALIAN: Native | ENGLISH: Proficient (IELTS: 8.5 /9)
- Certifications: Finance Accelerator Simulation – AmplifyMe | Akuna Capital Options 101
- Volunteering: Online tutoring for middle school students facing academic and socio-economic struggles
- Interests: Travel, Golf, Alpine Skiing, Tennis, Strategic Video Games, Movies