Pablo Marchesi

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Education

- **Afi Escuela** — Madrid, Spain
  Master in Quantitative Finance — *Sep 2024 - Jun 2025*
  Relevant Courses: *Stochastic Calculus, Derivatives, Machine Learning, Interest Rate Models, Numerical Methods, Market Risk*

- **Universidad Politécnica de Valencia** — Valencia, Spain
  Telecommunications Engineering and Business Management — *Sep 2019 - Jun 2024*
  Relevant Courses: *Calculus, PDEs, Digital Signal Processing, Random Processes, Financial Mathematics, Statistics, Econometrics*
  Average Grade: *7/10*

- **Coventry University London Campus** — London, United Kingdom
  Business Management — *Sep 2022 - Dec 2022*
  Average Grade: *8.25/10*

Experience

- **KPMG** — Madrid, Spain
  Quantitative Analyst Intern — *Oct 2024 - Apr 2025*
  - **Credit Risk Auditing**: Audit of credit risk processes for major financial institutions in alignment with IFRS 9 and the IRB framework. Performed estimation of key risk parameters (PD, LGD, EAD) and analyzed macroeconomic scenarios to incorporate forward-looking insights into risk calculations. Utilized R, SQL, and Python for data analysis and model development.

- **Management Solutions** — Madrid, Spain
  Data Science Intern — *Feb 2024 - May 2024*
  - **Big Data analysis with Python**: Management Solutions is a consulting firm specializing in the banking sector and is present in more than 40 countries. Developed a system of alerts for a large Spanish bank using SQL and Pyspark (Python). The project involved filtering, cleaning, and analyzing large amounts of data, as well as developing efficient code.

- **UPV Investment Club** — Valencia, Spain
  Member, Portfolio Manager — *Sep 2019 - June 2024*
  - **Company Analyst and Portfolio Manager**: The UPV Investment Club is a university organization dedicated to promoting finance and investing among college students. Started as a company analyst and later took on the role of portfolio manager, managing a portfolio of over $ 7,000 AUM. Conducted several lectures on topics such as quantitative finance, macroeconomics, and Bitcoin.

- **Mathematics Teacher** — Valencia, Spain
  Part-time private teacher — *Sep 2020 - Feb 2024*
  - **Mathematics and Statistics**: Experience teaching calculus, linear algebra, complex numbers, Fourier analysis, integration, vector calculus, numerical methods, ODEs, PDEs, as well as probability and statistics.

Skills

- **Programming**: Python, MATLAB, R, SQL, C++, LaTeX, Assembly
- **Soft Skills**: English (C1 Level), Teaching, Public Speaker, Time Management, Self Learning, Critical Thinking

Relevant Projects

- **Volatility Smile Analysis Through the Heston Model**: Modeling the volatility smile using the Heston model, which accounts for stochastic volatility. This includes analyzing how variations in model parameters influence both the shape of the volatility smile and the resulting probability density function of log stock prices. Link to the project
- **Stochastic Processes and its Applications to Finance**: Review of the main stochastic processes used in finance: Wiener Process, Poisson Process, Geometric Brownian Motion, and Jump-Diffusion Process. Python implementation for simulation, risk analysis (VaR models), and option pricing (Black-Scholes). Link to the project
- **Yield Curve Construction Using Short Rate Models**: This project aims to provide a straightforward and accessible introduction to modeling the yield curve, a key component in valuing interest rate derivatives. The project involves simulating one-factor short-rate models (Vasicek, CIR and Hull-White), which allow the construction of the entire yield curve by calculating the interest rate for short-term borrowing. Done in Python. Link to the project
- **Financial Signal Processing**: Stock market analysis using DSP (Digital Signal Processing) techniques. Development, implementation, and backtesting of digital filters for algorithmic trading applications and statistical analysis of their performance. Done in Python. Link to the project