

# Pablo Marchesi

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## EDUCATION

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

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- **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 Python, SQL, and R for data analysis, model development, and risk assessments.
- **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, Financial Director* Sep 2019 - June 2024
  - **Portfolio management:** Managed UPV Investment Club's portfolio and lead the analyst team.
  - **Lectures about macroeconomics and finance:** Gave talks about inflation, interest rates, and quant finance.
  - **Data science projects using Python:** Dashboard creation for visualizing portfolio data, automation of financial statements for extracting relevant data, numerical portfolio optimization, and more. [Link to the project](#)
- **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.

## RELEVANT PROJECTS

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- **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](#)
- **Interest Rate Sensibility: Taylor Series Analysis of Convexity and Duration in Bonds:** Analysis of interest rate fluctuations on bond prices using a second-order Taylor series approximation of the bond price equation. Incorporated fundamental factors like convexity and duration to achieve a comprehensive understanding of percentage changes in bond prices relative to varying interest rates. Created a dashboard for the project using Plotly and Dash. [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](#)

## SKILLS

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