Emilio Ferrante

Rome, Italy

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Work Experience

PwC Italy *Rome, Italy*
Quantitative Analyst *Jun 2023 - Present*

- Collaborated on the **Capital Modelling** under the Solvency II framework for major insurance companies, conducting model replication, methodological and statistical validation and implementing sensitivity analysis in Python and MATLAB.
- Implemented **stochastic financial models** in MATLAB, covering all steps of model development, simulation and validation, both under the **risk-neutral** and **real-world** probability measures.
- Collaborated on the development of an **Economic Scenario Generator** library for risk management and pricing. Implemented key features such as joint simulations using **copulas**.
- Been responsible for the construction and maintenance of **Graphical User Interfaces** (GUIs) in MATLAB.

Sapienza University of Rome *Rome, Italy*
Teaching Assistant *Dec 2019 - May 2021*

- Helped undergraduate students with difficulties in several subjects, such as Programming Language, Statistics, Mathematics and Probability, explaining them unclear parts of the theory and carrying out practical exercises.
- Cooperated with Stefania Gubbiotti, professor of Statistics at Sapienza University.

Education

Sapienza University of Rome *Rome, Italy*
MSc in Quantitative Finance - Department of Statistics *Sep 2021 - Oct 2023*

- Awarded with the title of **Excellent Graduated Student**.
- **Final grade**: 110/110 cum laude.
- **GPA**: 29.5/30.
- **Main courses**: Actuarial Mathematics, Asset Pricing, Financial Econometrics, Financial Risk Management, Machine Learning, Mathematical Models for Finance, Monte Carlo Methods, Stochastic Calculus.
- **First thesis**: ”Markov Switching Nonparanormal Graphical Models”. Supervisor Professor: Giacomo Morelli.
- Enrolled in **Superior School for Advanced Studies**, where I graduated with the final mark of 70/70 cum laude and a GPA of 30/30.
- **Second thesis**: ”Estimation of an undirected graph for Multivariate Time Series using HMMs and HSMMs with copula distribution”.

ENSAE (Institut Polytechnique de Paris) - Financial Engineering *Paris, France*
European Union Program (Erasmus) *Jan 2022 - Jun 2022*

- Had the opportunity to attend very stimulating and **advanced Financial Engineering courses** in one of the most prestigious Grandes Écoles of Paris. Took half of the exams in French and half in English.
- **Courses**: Algorithmic Trading, Credit Risk, GARCH and Stochastic Volatility Models, Interest Rate Curve Models, Numerical Methods in Financial Engineering, Portfolio Management.

Sapienza University of Rome *Rome, Italy*
BSc in Statistics *Sep 2018 - Jul 2021*

- Enrolled in **Honours Programme**.
- **Final grade**: 110/110 cum laude.

Skills

Programming	MATLAB, Office, Python, R, SAS, SQL, VBA.
Soft Skills	Communication, Flexibility, Leadership, Problem-solving, Resistance to stress, Teamwork, Time Management.
Languages	Italian (Native), English, French.

Certificates

- **ARPM** (Advanced Risk and Portfolio Management) - Asset Pricing.
- **ARPM** (Advanced Risk and Portfolio Management) - Quant Bootcamp.
- **IELTS** (International English Language Testing System).

Publications

Merlo, L., **Ferrante, E.**, Foroni, B. & Petrella, L. (2025), ”Estimation of Undirected Graphs for Multivariate Time Series Using Hidden Semi-Markov Models”, *Scientific Meeting of the Italian Statistical Society*, 36–41.