

Piетро Rodrigues

Quantitative Researcher | Data Scientist

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EDUCATION

Master's in AI & Quantum Computing Applied to Financial Markets

October 2025 - February 2027

Instituto BME (Bolsas y Mercados Españoles) – Madrid, Spain

Statistics & Econometrics (ARIMA, GARCH), Portfolio & Risk, Derivatives, Backtesting; Machine Learning & Neural Networks (CNN, RNN/LSTM, Transformers), Reinforcement Learning; Cloud (AWS, SageMaker, Docker); Quantum Computing (Qiskit, QAOA).

Bachelor's Degree in Economics

August 2019 - December 2023

IBMEC-SP – São Paulo, Brazil

Coursework: Calculus, Linear Algebra, Probability & Statistical Inference, Stochastic Processes, Optimization, Econometrics (incl. Financial), Investment & Risk Management.

CERTIFICATIONS

Financial Advisor Certification (MIAX) – Instituto BME (BME Group); accredited by the CNMV under MIFID II (Apr 2026).

TECHNICAL SKILLS

Programming: Python, SQL, Java

Quantitative Finance: Time-Series Forecasting (ARIMA/GARCH), Backtesting, Risk & Portfolio Mgmt, Derivatives, Monte Carlo

ML & Statistics: Scikit-Learn, TensorFlow, PyTorch, Statsmodels; Regression, Classification, Clustering, PCA, Neural Networks, Cross-Validation

Data & Infrastructure: PostgreSQL, BigQuery, Apache Airflow, Spark, AWS, Docker, Git; Power BI, Matplotlib, Plotly

QUANTITATIVE PROJECTS

High-Frequency Cross-Venue Arbitrage – Spanish Equities (BME + MTFs)

Python, NumPy, Pandas, Market Microstructure

- Built an **end-to-end HFT research system** detecting cross-venue arbitrage across 4 venues (BME, CBOE, Turquoise, Aquis), processing **~1M microsecond order-book snapshots over 195 ISINs** via vectorized NumPy/Pandas (**merge_asof**).
- Reconstructed a time-aligned **consolidated tape** and modeled real execution latency (0 μ s–100 ms) across 14 scenarios, quantifying **€3,611 of theoretical edge decaying to €1,373 (38% retention)**.

Modular Quantitative Finance & Monte Carlo Toolkit

Python, Monte Carlo, Design Patterns, Docker

- Engineered a **modular financial-analysis toolkit** unifying 5 market/macro data APIs into standardized time series, with a **configurable Monte Carlo engine** for portfolio risk/return modeling and drawdown/scenario reporting.

PROFESSIONAL EXPERIENCE

Business Analyst

March 2026 - Present

Analyticae – Madrid, Spain

- Co-developed an internal **algorithmic investment strategy** trading daily on momentum assets from **market-sentiment signals**; ran **backtesting and Monte Carlo simulations** and helped deploy the model into **production**.
- Built a **Medallion (Bronze/Silver/Gold) architecture** on BigQuery to industrialize large-scale customer data, **reducing data consumption by 90%** and cutting recurring cloud-compute costs.
- Built **production SQL pipelines and self-service dashboards** for customer segmentation so non-technical teams could self-serve, **eliminating repetitive ad-hoc SQL requests**.

Sales Operations Analyst

May 2024 - February 2026

NTT Data Inc – São Paulo, Brazil

- Owned end-to-end a sales-forecasting application** (Python), improving forecast **granularity, calculation logic and accuracy by 20%** for financial planning.
- Developed **ML models** for product classification and data standardization, **eliminating 65% of manual effort** and generating **US\$ 300K/year** in savings.
- Ran **EDA and statistical modeling** (Python, SQL) to surface churn, expansion, and revenue-leakage patterns, protecting **US\$ 250K+/year**.
- Performed **trend and time-series analysis** for quota and regional planning, **shortening planning cycles 80%** and mitigating **US\$ 400K/year** in financial risk.

Associate Sales Operations Analyst

September 2022 - April 2024

NTT Ltd – São Paulo, Brazil

- Structured **historical databases** and ran trend analysis, **increasing forecast accuracy 15–20%** for commercial and financial planning.
- Built **automation apps** (Power Apps, Power Automate) and ETL routines, **reducing TTR by 45%** and delivering **US\$ 150K/year** in savings.

LANGUAGES

Portuguese: Native | English: Advanced (C1) | Spanish: Advanced (C1)