

SAMUEL GARCIA

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Data Scientist & ML Engineer

Data Scientist and financial professional with 7 years of domain experience in P&L reconciliation, risk analysis, and process automation. Proven track record of automating complex financial workflows, complemented by building and deploying production-grade ML forecasting systems on AWS.

TECHNICAL SKILLS

Languages: Portuguese (native), English (fluent), French (basic)

ML & Data Science: Python, SQL, XGBoost, PyTorch, Scikit-learn, Pandas, NumPy, Statsmodels

Data Engineering: Knime (ETL), SAP BI4 Web Intelligence, Power Query, Excel

MLOps & Tools: Docker, Git, MLflow, Streamlit, AWS (EC2, S3), GitHub Actions

Domain Expertise: P&L Reconciliation, Econometrics, Derivatives, Risk Analysis, Time-Series Forecasting

SELECTED PROJECTS

Macro-Alpha Engine: Market Forecasting System | [Live](#) | [GitHub](#)

- Built production ML pipeline predicting S&P 500 directional movement using ensemble of **XGBoost** (macro fundamentals) + **PyTorch LSTM** (price momentum) with unsupervised **HMM regime detection**.
- Engineered 40+ features from live APIs (Yahoo Finance, FRED): yield curve spreads, Fed Funds rate lags, RSI, MACD, rolling volatility, stationarity-tested transformations.
- Deployed interactive **Streamlit dashboard** with **SHAP explainability** on AWS; containerized with **Docker**, automated daily inference via **GitHub Actions**.
- Implemented walk-forward time-series validation preventing look-ahead bias; tracked 50+ hyperparameter experiments in **MLflow**.
- Tech:** Python, XGBoost, PyTorch, HMMlearn, SHAP, MLflow, Docker, AWS EC2, Streamlit, Pandas, NumPy, Statsmodels.

Fed-Watcher AI & Economic Forecasting | [GitHub](#)

- Engineered a fully deployed **NLP** system to analyze Federal Reserve communications and macroeconomic fundamentals to predict interest rate shifts.
- Utilized **Large Language Models (LLMs)** and sentiment analysis to quantify “hawkish/dovish” text into actionable time-series features.
- Built automated data extraction pipelines and deployed the final application using **Streamlit**, **Docker**, and **AWS**.

PROFESSIONAL EXPERIENCE

BNP Paribas

Lisbon, PT

P&L Reconciliation Specialist

Jan 2023 – Present

- Reconcile EUR 500M+ monthly P&L across 100+ portfolios (Derivatives, Forex, Bonds, Equities, Commodities) between Accounting and Economic systems with 99.5% accuracy.
- Build complex **SAP BI4 Web Intelligence** queries to extract financial data from multiple source systems, ensuring data reliability for Capital Markets reporting.
- Automated ETL pipelines using **Knime** and developed **Power Query**-based reconciliation frameworks improve data processing and analysis, significantly reducing manual reconciliation time by 50%.

Banco Atlântico Europa

Lisbon, PT

Trade Finance Assistant

July 2019 – Jan 2023

- Processed EUR 450K daily payment volume ensuring strict AML/KYC compliance.
- Automated manual tracking workflows using **Excel VBA**, reducing processing time by 40%.
- Analyzed transaction patterns to identify operational errors, escalating potential fraud cases.

EDUCATION

ISCTE - Instituto Universitário de Lisboa

Lisbon, PT

MSc, Monetary & Financial Economics (16/20)

2020 – 2022

- **Master's Thesis:** “Cryptocurrency Impact on Eurozone Economy”
- Web scraping, data cleaning and EDA using **Python** (BeautifulSoup, Pandas).
- Applied **autoregressive models (AR, ARMA, ARIMA)** and **Vector Autoregression (VAR)** using **EViews**.
- Tested for Granger causality, cointegration, and volatility transmission between crypto and FX markets.
- **Relevant Coursework:** Econometrics, Time-Series Analysis, Monetary Policy, Financial Markets, Derivatives Pricing.

ISCAL - Instituto Superior de Contabilidade e Administração

Lisbon, PT

BSc, Corporate Finance (16/20)

2016 – 2019

- **Award:** Best Final Project (Investment valuation model using DCF and Real Options analysis).
- **Relevant Coursework:** Investment Analysis, Statistics, Financial Modeling, Accounting, Audit.

CONTINUOUS LEARNING & LEADERSHIP

Self-Directed ML Education: Independent study of Stanford CS229 (Machine Learning); completed *Python for Data Science and Machine Learning* (Udemy); active participant in Kaggle competitions.

Volunteer Tech Lead: ICMAV Community Center; led tech teams of 20+ for solidarity events.