

Mohamed DIAGNE

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Final-year MSc student in Finance Technology & Data at Université Paris 1, specializing in quantitative finance, AI, and data science. Currently investment risk data scientist intern at Amundi. Interested in quant roles.

EDUCATION

2023-2025	UNIVERSITY PARIS 1 PANTHEON-SORBONNE Msc. in <i>Finance Technology & Data – M1 & M2</i> <i>Relevant coursework</i> Machine Learning, Deep Learning, Econometrics, Derivatives, Quantitative Finance, Mathematics Thesis: Real-Time Credit Risk Prediction of Amundi's Portfolio Holdings Using News Sentiment Analysis and NLP	Paris, France
2020-2023	UNIVERSITY PARIS 1 PANTHEON-SORBONNE <i>BSc. in Economics</i>	Paris, France
2020	INSTITUTION SAINTE JEANNE D'ARC <i>Baccalauréat, Economic & Social, with Honors</i>	Dakar, Senegal

KEY PROJECTS [\(More available on GitHub\)](#)

PORTFOLIO OPTIMIZATION, RISK MODELING & MACROECONOMIC STRESS TESTING

- Modeled portfolio risk using Markowitz allocation and VaR/CVaR (Historical, Student-t, Monte Carlo), benchmarked to the CAC 40.
- Performed Kupiec backtesting and macro stress tests to assess portfolio sensitivity and support risk reporting.

MARKET REGIME FORECASTING – DYNAMIC PROBIT & MACHINE LEARNING

- Predicted market regimes using dynamic autoregressive probit models with lagged states and predicted probabilities.
- Benchmarked against Extra Trees classifier using macro and market data (VIX, credit spreads, long-term yields).

OPTION PRICING & HEDGING – BLACK-SCHOLES, MONTE CARLO, GREEKS

- Priced European and American options using Black-Scholes, binomial trees, Monte Carlo, and local volatility surfaces.
- Built and tested Delta, Gamma, Vega, and Theta-neutral strategies under various market conditions.

PROFESSIONAL EXPERIENCE

Sep 24-Jul 25	AMUNDI ASSET MANAGEMENT <i>Investment Risk Data Scientist, Risk Oversight</i>	Paris, France
<ul style="list-style-type: none">• Built an AI-driven NLP system to monitor real-time credit risk from news, alerts, and sentiment sources, enhancing early risk detection.• Developed a vector-based chatbot to answer risk-related queries on high-exposure holdings, improving analyst responsiveness.• Delivered end-to-end data pipelines (API, ETL, reporting) to automate integration and power interactive dashboards for risk teams.		
Jul 22-Aug 22	INVICTUS CAPITAL & FINANCE SA – ASSET MANAGEMENT <i>Financial Analyst, Trading Department</i>	Dakar, Senegal
<ul style="list-style-type: none">• Collected and structured financial data on listed companies to support equity monitoring and internal reports.• Assisted in analyzing daily market movements to identify sectoral trends and investment signals.		

LANGUAGES

French (Native), English (Fluent), German (Intermediate)

TECHNICAL SKILLS

Programming & Analytics: Python, SQL, R, VBA, LaTeX, Git

Tools: Power BI (DAX, SSAS Tabular), Report Builder, Bloomberg, Postman, Jira, Microsoft Office Suite

ACTIVITIES & INTERESTS

- **Finalist (Top 5/80) – Cybersecurity Challenge, Sorbonne & Ministry of Interior:** Built an AI model to detect malware via control flow graph (CFG) analysis.
- **ESG Chatbot Developer – VO2 Group:** Developed GreenSightAI, a RAG-based ESG assistant using FAISS indexing, prompt tuning, reranking, and RAGAS evaluation across multi-firm reports.
- **Class Representative – M2 Finance Technology & Data:** Represented the program externally and managed social media communication.
- **Other Interests:** Golf (1 year), Tai Chi (1 year), Cinema, Painting.