Zakaria Magdoul

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Education

Ecole Polytechnique (l'X) *Expected 2025*
Master 2 - DEA El Karoui: Probability and Finance

- Coursework: Statistics for HFT, ML for Stochastic Optimal Control, Asset Allocation, Multi-Asset Arbitrage, ML and Optimal Trading

Sorbonne University (Jussieu) *2024*
Master 1 & Bachelor's in Applied Mathematics *GPA: 4.0/4.0*

- Advanced Probability, Advanced Statistics, Stochastic Calculus, Control Theory, PDE Approximations

Ecole des Mines Nancy *2023*
Engineering Degree

- Probability, Machine Learning, PDEs, Optimization (Local/Global), Macro Economics, Data Analysis

Experience

BNP Paribas – Quantitative Researcher, London *Apr 2025 – Sep 2025*

- Researching high-dimensional pricing methods; applied AAD for sensitivity approximation
- Fully restructuring BNP's Portfolio Analytics Library (PAL) to become Machine and Deep Learning Friendly
- Leveraged knowledge : C#, Monte Carlo, Hedging, Deep Learning, Bloomberg, Git, Visual Studio Professional

Addactis – Quant Capital Modeling Analyst, Paris *Jun 2024 – Aug 2024*

- Modeled asset/liability exposure under scenarios; led interest curve extrapolation (EIOPA 2020)
- Leveraged knowledge: Pascal (Delphi), Python, Asset Allocation, Git, Internal Libraries

BMCE Capital – Quantitative Analyst *Jun 2023 – Aug 2023*

- Calibrated volatility models with Bloomberg data; built ETF arbitrage strategies
- Back-tested market-neutral strategies, calculated Desk Traders Adjusted Sharp Ratio
- Leveraged knowledge: Python, C++, Bloomberg API, order book dynamics, latency optimization

Lorraine University Lab – ML Data Scientist, Nancy *May 2022 – Sep 2022*

- Built document classification pipeline for City Hall; optimized Random Forest for ID/passport sorting

Projects

- **Market-Neutral Equity Strategy:** Cointegration-based long/short strategy design and backtest on the CAC40 (Github Repo)
- **Deep RL for Stochastic Control:** Hamiltonian system solved via DL + SMP (Github Repo)
- **Live Trading Bot:** Executes real-time trades via Yahoo API (Live Demo) *may take a minute to wake up*
- **Vol Surface Plotter:** Live implied volatility modeling (Live Demo) *may take a minute to wake up*

Skills

Languages/Tools: Python (SciPy, TensorFlow, Keras), C++, C#, Pascal, Git, VBA, Bloomberg API

Awards & Interests

Awards: PGSM Excellence Scholarship (2024), Bézout SFRI (2022), OCP Excellence (2022)
Interests: Tennis (Campus Champion 2018), Swimming, Competitive Programming (Codeforces, Kaggle)