OTHMANE MACHROUH

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EXPERIENCE

Paradigm.co - Remote July 2022 - December 2022
Quantitative Strategist

- Member of a 3 person quantitative research responsible for building a prototype library for a sophisticated decentralized derivatives and spot clearing and settlement protocol.
- Monitoring and assessing market liquidity risk, insolvency risk, and other relevant protocol risks.
- Implementation of a market simulator and backtesting tools to optimize the existing methodology.

Melanion Capital - Paris, France June 2021 - June 2022
Quantitative Researcher

- Backtesting and developing statistical investment strategies, as well as monitoring risk.
- Contributing to the writing of research notes and papers on both digital asset markets as well as equity markets.
- Building Trading and Operational Tools and day-to-day management of the Melanion BTC Equities Universe UCITS ETF.

National Center for Scientific Research (CNRS) - Paris, France June 2020 - September 2020
Statistician, Internship

- Checking the consistency between internal and external data.
- Statistical data analysis and engineering.
- Automating statistical processes and data mining/scrapping.

EDUCATION

Pierre and Marie Curie University - Paris, France *January 2021*
Bachelor's degree in Mathematics
Linear Algebra, Topology, Probability theory, Statistics, Partial and ordinary differential equations, Markov Chains, Measure theory, Group Theory and Abstract Algebra, Python, Stochastic Calculus, Algorithms
Activities : Tutoring for freshmen and sophomores. Active member of KryptoSphere, a student association specialized in the blockchain technology & crypto-assets (meetups, trainings).

PROJECTS

Research Project: ***Options Pricing using Deep Learning Methods***

Under the supervision of Professor Eduardo Abi Jaber at Paris 1 University. Surveying the different deep and machine learning methods to price derivatives as well as training a deep learning model to reproduce the Black-Scholes formula for options pricing.

Automated Trading Bot

Creation of an automated trading bot that if given a strategy can do the trading for you (using real or paper money). The bot can also connect to different exchanges (Binance, Kraken, Coinbase...) via their APIs and and return price differences for the same asset between different venues (arbitrage opportunities).

Backtesting Tool

Creation of a tool that can backtest trading strategies using either a dataset or directly through an exchange API (in the case of cryptocurrencies only, using the Binance API). The backtester returns metrics such as cumulative returns, volatily, Sharpe ratio, Sortino ratio, maximum drawdown etc.

SKILLS

Computer Languages	Python, R, Pandas, SQL/NoSQL, TensorFlow, PyTorch
Skills	Data Analysis, Web3, Machine Learning, Quantitative Research, Statistical Analysis, Git
Languages	French (fluent), English (fluent), Arabic (native)