Cristian Cioriia

Junior Quantitative Analyst / Quantitative Finance Analyst

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QUANTITATIVE PROJECTS (2025 – Present)

Black-Scholes Vanilla Options & Hedging (Python)

- Implemented analytical pricing, Greeks calculation, and delta-hedging; analyzed discrete rebalancing error.

Recombination Trees | American Options (Python)

- Built recombining trees with early-exercise; achieved convergence to BSM within 0.1%.

Exotic Options (Asian/Barrier) (Python)

- Priced path-dependent options via portfolio replication and Monte Carlo methods; studied variance and convergence.

Interest-Rate Derivatives (Python)

- Priced Caplet, Swaptions analytically as well as LIBOR-in-arrears with adjustments.

LIBOR Market Model (BGM) (Python)

- Implemented pricing engine for caplet/swaption and exotic interest rate derivatives.

Funding Rate Arbitrage Bot (Python)

- Built a delta-neutral arbitrage system exploiting funding rate dislocations across DEX perpetuals

EDUCATION

MSc (Laurea Magistrale) in Theoretical Physics

The University of Bologna

09/2021 – 04/2023 Bologna, Italy

- Thesis: A Monte Carlo approach to fractional Brownian motion (First class equivalent grade)
- Researched Fractional Brownian Motion and **rough volatility models** in financial mathematics, applying **Monte Carlo** methods to assess the efficiency of the Euler discretization scheme for the **Rough Heston** model. Compared Euler implementation with moment matching schemes for **option pricing**, evaluating its convergence and practical usability in rough volatility modeling

MSc Theoretical Physics

The University of Edinburgh

09/2020 – 09/2021 Edinburgh, Scotland

- Thesis: Scattering Amplitudes & Black Holes (First class)

BSc Physics with Theoretical Physics

Imperial College London

09/2015 – 06/2018 London, United Kingdom

- Awarded First class

SUMMARY

MSc-educated quant with expertise in stochastic calculus, Monte Carlo simulations, derivatives pricing, and rough volatility modeling. Proficient in Python implementations of equity and interest-rate models, hedging, and risk analysis. Seeking entry-level quantitative role in pricing, risk, or quantitative research.

WORK EXPERIENCE

Entrepreneur | **Costi & Sons Ltd**

05/2023 – 01/2026 London, UK

- Launched & managed transport business: optimized pricing, budgeting, and operations for profitability.

Data Scientist | **Buhler UK Ltd**

01/2019 – 09/2020 London, UK

- Produced **Deep Learning** classification models for Quality Control applications
- Developed Python statistical tools for data-driven decisions

SKILLS

Quantitative Skills

Derivatives pricing
Interest Rate Models
Portfolio Optimization
Volatility modelling

Statistical Skills

Stochastic calculus
Time series analysis
Numerical Methods
Probability theory

Programming Languages

Python
NoSQL & SQL
Git Bash

Software Skills

Docker
Jupyter
VS Code

AI & ML Frameworks

Sklearn
Keras
Tensorflow

Data Visualization

Pandas
Seaborn
Matplotlib
Plotly