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James Whitmore

Senior Quantitative Analyst

PROFESSIONAL PROFILE

A highly numerate and commercially astute quantitative analyst with over nine years of experience across investment banking, asset management, and financial technology. Proven track record of building pricing libraries for exotic derivatives, designing systematic trading strategies, and leading small cross-functional teams. Adept at translating complex mathematical models into robust, production-grade code in C++ and Python. Seeking to leverage deep quantitative and programming expertise in a front-office quant role at a leading institution.

CORE COMPETENCIES

- Derivative pricing (vanilla & exotic)
- Stochastic calculus & Monte Carlo
- Fixed income & credit modelling
- Risk analytics (VaR, ES, stress testing)
- C++17/20, Python, R, SQL
- Numerical methods & optimisation
- Systematic backtesting frameworks
- Model validation & regulatory review

PROFESSIONAL EXPERIENCE

Meridian Capital Partners — London, UK

Vice President, Quantitative Research — Mar 2022 – Present

- Lead a four-person quant team responsible for the firm's cross-asset pricing library, covering interest rate, FX, and credit derivatives across 12 billion AUM.
- Architected a next-generation Monte Carlo engine in C++20 achieving a 3.2× speedup over the legacy system through GPU offloading and Sobol quasi-random number generation.
- Designed and implemented a systematic volatility arbitrage strategy generating annualised returns of 11.4% with a Sharpe ratio of 1.7 over a three-year backtest.
- Developed an automatic CVA/PVA adjustment framework for the OTC derivatives book, reducing manual calculation time from six hours to under twenty minutes per trade.
- Collaborated with the risk management team to overhaul the firm's stress-testing methodology, introducing reverse stress tests and scenario expansion that improved regulatory capital efficiency by 8%.

Nexa Financial Technologies — London, UK

Senior Quant Developer — Jul 2019 – Feb 2022

- Built a real-time pricing and risk platform serving over 200 institutional clients, processing 40,000+ quotes per second with sub-millisecond latency.
- Implemented the SABR and SVI volatility calibration engines, enabling clients to fit smile dynamics across tenors from overnight to thirty years.
- Engineered a generic payoff description language with an accompanying parser and pricing engine, reducing time-to-market for new structured products from weeks to days.
- Mentored three junior quants through the firm's graduate rotation programme, contributing to a 100% retention rate over two intake cycles.

Vertex Asset Management Edinburgh, UK

Quantitative Analyst Sep 2016 – Jun 2019

- Developed factor-based equity models for the firm's smart-beta ETF range, which grew to £2.8 billion under management across seven funds.
- Built a backtesting engine in Python and R capable of simulating multi-asset portfolios over twenty-five years of historical data with transaction cost modelling.
- Conducted empirical research on momentum, low-volatility, and quality factors, resulting in two white papers published internally and presented at the firm's annual investment conference.
- Automated the daily performance attribution pipeline, reducing report generation time from two hours to fifteen minutes and virtually eliminating manual errors.

Meridian Investment Bank London, UK

Graduate Quant Analyst Sep 2014 – Aug 2016

- Rotated across fixed income, FX, and equity derivatives desks, supporting senior traders with pre-trade analytics and post-trade PnL explain.
- Wrote pricing tools for Bermudan swaptions and callable CMS spread notes in the structured rates team, aiding the desk in pricing over £300 million in notional across twelve transactions.
- Developed a Python-based yield curve construction toolkit that was subsequently adopted as the desk standard, replacing a legacy Excel/VBA workflow.

EDUCATION

University of Cambridge, Trinity College Cambridge, UK

MPhil in Scientific Computing, Distinction 2013 – 2014

- Dissertation: *Finite Element Methods for Stochastic Partial Differential Equations in Option Pricing* — supervised by Prof. Elena Voss.
- Relevant modules: Numerical linear algebra, computational fluid dynamics, high-performance computing with MPI and OpenMP, Bayesian inference.

University of Warwick Coventry, UK

BSc Mathematics & Statistics, First Class Honours 2010 – 2013

- Awarded the Departmental Prize for highest aggregate mark in the third-year cohort.
- Final-year project: *Calibration and Hedging of the Heston Stochastic Volatility Model* — implemented in C++ with QuantLib integration.
- Relevant modules: Stochastic processes, measure theory, statistical machine learning, time series analysis, partial differential equations.

TECHNICAL PROFICIENCY

Languages:
C++ (including C++17/20, STL, Boost, Eigen, QuantLib), Python (NumPy, SciPy, pandas, TensorFlow), R, SQL, MATLAB

Tools & Systems:
Linux/Unix, Git, Docker, Jenkins, Bloomberg Terminal, Reuters Eikon, Visual Studio, Jupyter, Confluence

Mathematical Methods:
Stochastic calculus, Monte Carlo methods, finite difference schemes, optimisation (gradient-based & evolutionary), Bayesian statistics

Domains:
Interest rate derivatives, FX options, equity-linked structured products, credit default swaps, fixed income ETFs, XVA adjustments

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- CFA Charterholder — awarded September 2018.

- Certificate in Quantitative Finance (CQF) — completed March 2017.
- Bloomberg Market Concepts (BMC) certified, November 2016.
- Presenter at QuantMinds International 2023: *GPU Acceleration in Exotic Derivative Pricing*.

LANGUAGES & INTERESTS

Languages:
English (native), French (professional working proficiency), German (basic)

Interests:
Long-distance running (London Marathon 2022, 2024), competitive chess (ECF 175), amateur astronomy