RICARDO AGAR

PROFILE

Algorithm Engineer and Portfolio Manager with full control of portfolio risk and deployment, managing £800,000 in systematic strategies. Applied mathematics, probability and calculus to quantitative modelling, signal research and robust backtesting across gold and crypto markets. Experienced with market microstructure, L2/L3 data, transaction costs, slippage, regimes and drawdowns. Investigated live-vs-test discrepancies. Built research and execution tools in Python, Rust, C#, MQL4 and MQL5.

KEY SKILLS

- **Programming**: Experience with Python, Rust, C#, MQL4, MQL5, Linux, Docker, PostgreSQL, AWS
- **Quant Research**: Mathematical modelling, statistics, calculus, backtesting, signals forward testing, time-series and robustness
- **Markets**: Microstructure, L2/L3 data, execution, slippage, latency, costs
- **Systems & Tools**: MT4/MT5, VPS/VDS, Linux monitoring, distributed deployment, PostgreSQL
- **Risk & Testing**: Drawdown and regimes, live-vs-test discrepancies, robustness
- **Data Analysis**: Alternative data, market feeds, broker comparison and performance monitoring

PROJECTS

- **XAUUSD Trading Systems**: Developed and tested live strategies using quantitative modelling, backtesting, execution analysis and market data
- **Low-Latency Crypto Systems**: Built Rust-based execution tools, wallet monitoring and distributed server systems

EDUCATION

BEng (Hons) Mechanical Engineering with Management

University of Manchester 2025

Quantitative & Computational Study:

- Probability, Statistics, Hypothesis Testing, Confidence Intervals, and Least-Squares Methods
- Linear Algebra, Eigenvalues and Eigenvectors, Numerical Methods, and Differential Equations
- MATLAB/Python Computational Modeling, Data Acquisition and Control Systems

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A-Level Maths, Physics, Business

Loreto Sixth Form College 2019

PORTFOLIO

EXPERIENCE

Algorithm Engineer & Portfolio Manager

XAU Capital Group 2026

- Served as the sole Algorithm Engineer within a quantitative trading operation managing a fund that grew to approximately £800,000, responsible for developing, testing, and deploying proprietary trading and machine learning systems and tradfing strategies.
- Developed XAUUSD quantitative strategies using mathematical modelling, statistical analysis and market microstructure research, supported by L2, L3, and alternative data.
- Built proprietary software and research tools using C#, Python, Rust, MQL4, MQL5, spanning data analysis, modelling, backtesting, and automated execution.
- Engineered and maintained MT4/MT5/cTrader trading infrastructure across distributed VPS/VDS environments running Ubuntu 24.04 and Windows Server 2022, including deployments, monitoring, and real-time performance dashboards.
- Conducted quantitative backtesting and forward testing to evaluate performance, drawdowns, robustness and failure modes, refining strategies prior to deployment.

Founder & Algorithm Engineer

AZC 2026

- Founded an algorithmic trading venture developing low-latency systems for crypto-currency markets, including newly launched tokens on Pump.fun and BTCUSDC perpetual futures on Hyperliquid.
- Developed trading infrastructure in Rust, engineered infrastructure using internationally distributed VPS/VDS servers, creator-wallet monitoring and transaction nonce management to minimise execution latency around token issuance.
- Developed quantitative BTCUSDC strategies using mathematical modelling, statistical analysis, and systematic backtesting.

Founder & Software Engineer

Zelara 2025-2026

- Founded and developed an AI-driven dental practice management platform focused on reducing empty chair time through automated appointment management, patient analytics and intelligent outreach.
- Built a full-stack platform using Python, React, and AWS, incorporating patient management, calendars, records, analytics, and financial workflows.
- Developed AI voice/chat agents and machine-learning systems for automated call handling, triage, appointment booking, and targeted patient outreach, with API integrations for third-party platforms.

Engineering Work Experience

National Nuclear Laboratory 2018