Joshua Marc Le Cornu

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## Education

**CFA Institute** – CFA Level 1: - ***Pass*** *(2023)* ; CFA Level 2: - ***Enrolling*** *(2024)*

**University of Oxford** – MPhil Economics: ***Distinction***
**Awards:** *Nuffield College studentship, ESRC DTP funded MPhil scholar*

**University of Warwick** – BSc (Hons) Economics: ***First Class Honours***
**Awards:** *Examiner's Prize - highest achieving economics student across all related degrees in the department*
*RAE Prize – best undergraduate dissertation, final mark of 88%*

## Employment history

### Decision Analyst / Business Data Scientist, Orbis Investments, London
*(2022 – Present)*

- Implementing, tuning, and evaluating machine learning models to uncover patterns in financial trading for 6 portfolio managers. Directly impacting clients through sharing personalised, behaviour influencing insights with key decision makers including the CIO & Chairman.
- Developed a series of AI model driven risk statistics across three target outcomes covering the entire MSCI World universe. Results outperformed existing heuristic-based approaches by 15% – 20% using widely accepted machine learning model evaluation metrics.
- Leading investment data research projects from inception to delivery. Supporting and managing junior data analysts throughout the project lifecycle. This included delivering several weekly 1:1 meetings and sharing actionable feedback to enhance their development.
- Profiling statistical model workflow code to gain efficiency in large scale model cross validation, training, development, and evaluation.
- Executing explainable AI tools such as SHAP / ALE plots to provide understandable insights and drive engagement with statistical analysis.
- Programming stress and signal testing across over 20 live and simulated equity portfolios. Providing scheduled output and automated notifications to portfolio managers and investment analysts with personalised settings to provide timely investment feedback.
- Built three Shiny dashboards and one adaptable web app with interactive visuals combining Python and R libraries. Enhanced scalability of team deliverables by doubling the number of potential users with access to internal data analytics.
- Enhancing NLP model architecture with data engineers and other data scientists for processing over 700 equity research documents.
- Contributing efficient, modular, and dependable code across 7 internally developed packages expanding capability across a large investment team. Managing versions and updates with Git, whilst providing complete documentation to train colleagues and assist users.
- Applied three different methodologies for automating data analytics and wrangling based upon statistical principles in information theory.
- Writing 8 holistic reports on investor behaviour to improve stock selection, mitigate biases, and enhance investment execution.
- Delivered five presentations sharing knowledge on natural language processing, investor behaviour, machine learning, performance coaching, and causal models to enhance firm knowledge on topics covering financial AI and broader support for investors and analysts.
- Meeting with investment analysts to expand automation of fundamental equity research processes.
- Mentoring "Learn How to Code" courses to expand technical knowledge across immediate team members and wider across the business.
- Initiated three cross team collaboration working groups bringing together knowledge and experience across four different internal teams.

### Economics Tutor & Research Supervisor, Freelance
*(2022 – Present)*

- Over 220 hours experience of remote and in-person 1:1 teaching/supervision with full planning and resources. Topics include university level econometric theory, applied microeconomics, microeconomic theory, problem sets, various research theses, and coding applications.

### Research Assistant, University of Oxford, Oxford
***Post 1:*** *(2021) – Research Area: Machine Learning Applications*

- Project areas: Applying neural networks algorithms to macroeconomic models to better cater for agent expectations.

***Post 2:*** *(2021 – 2022)- Research Area: Quantitative Finance*

- Project areas: Statistical analysis on stock valuation metrics, coding algorithms in Python, background research in mathematical finance.

### Junior Data Scientist, FinTech Sandpit, London
*(2021)*

- Researching the use of machine learning to create synthetic data via open-source GAN models in Python.
- Financial data engineering and research, collating reference data to aid in synthetic data generation.

### Research Analyst, Compass Lexecon, London
*(2019 – 2020)*

- Learning two coding languages: R and Python, alongside theoretical concepts in data science; model accuracy analysis, statistical learning, regressions, classification, resampling methods, unsupervised learning, k-means clustering.
- Studying competition case process and economic theory of cartel arrangements, mergers, joint ventures, abuse of dominance, market definitions, models of competition, collusion, restrictive practices, predation, foreclosure, price discrimination, tying and bundling.

## Activities & Interests

**Head boy of Victoria College:**

- Led a team of twenty-eight prefects to help organise school events and duties, ensuring smooth running and execution of any school events.

**Varied hobbies:**

- Avid reader engaged in squash, cycling and golf. Interested in learning piano and continuing Spanish. Summers spent boating and kayaking.

**Data Science and Machine Learning studies:**

- Accredited machine learning courses: "MLExpert" [AlgoExpert]. "Deep Learning" – (5 Courses) & "NLP" - (4 Courses) [DeepLearning.ai].
- Accredited coding courses: "IBM Data Science" [Coursera]; "Data Scientist with Python", "Data Scientist with R", "Data Analyst with R", and "R Programmer" [DataCamp]. "Learn SQL", "BI Dashboards with Tableau" and "BI Dashboards with Power BI" [CodeAcademy].
- Accredited data engineering courses: "Python and Machine Learning for Asset Management with Alternative Data Sets" [Courseera].
- Textbooks: "Intro to Statistical Learning with Applications in R", "Elements of Statistical Learning", "Interpretable Machine Learning"
- Current courses: "Lost Time Series Modules for Advanced Time Series Forecasting" and "5 Course R Track: Machine Learning, Web Apps and Time Series" with Matt Dancho, Business Science University.
- Current reads: "Advances in Financial Machine Learning", "Applied Predictive Modeling", "Feature Engineering and Selection"