

Experienced ML software engineer with a strong background in mathematics and probability/statistics. I excel at building performant, production grade solutions, particularly in the area of machine learning within the financial domain. I particularly enjoy taking ideas/research and realizing them as full software solutions in a greenfield environment.

## Experience

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**Machine Learning Engineer** **BlackRock** **Mar 2020 – Present**  
Vice President London, UK

- development of production machine learning solutions in the alternative investments space, with a primary focus on NLP solutions.
- Implemented novel graph based transformer networks to users which saw significant improvements over older models in production, achieving 98% precision - [arxiv.org/abs/2202.09144](https://arxiv.org/abs/2202.09144)
- Leading a team of 4 engineers, delivering a product which has created large efficiency gains with direct revenue impact.
- Responsible for the full lifecycle of the product, from idea generation/research to CICD and maintenance.
- Built product and team from 2 people to 11 and from research stage to live software deployed in BlackRock.
- Implemented containerisation (docker) and automated deployment and scaling using Kubernetes.

**Data Scientist** **The Signal Group / OilX** **Sep 2018 - Mar 2020**  
London, UK

- Built pricing and novel data ingestion systems for equities pricing data and freight derivatives as well as databasing and data reconciliation.
- Implementation of various components and algorithms of a systematic trading platform as part of a three-person team.
- Built NLP systems for information extraction from textual data used for signal generation.
- Built extensive web scraping and data extraction infrastructure from scratch for forecasting.
- Research and development for forecasting crude oil imports and exports from AIS, satellite and text data.

**Jr. Data Scientist** **Bloomberg** **Jun 2016–Aug 2018**  
London, UK

- Data ETL with Spark/Hadoop and feature engineering to facilitate machine learning applications for the task of classification of company financial documents.
- Training and optimization of neural networks for document classification, with a precision of ~99% and recall of ~80%
- Development and maintenance of production grade ML systems.
- Developed internal API's to streamline data development processes, widely used within the team.

## Education

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- **M.Sc. Financial Mathematics: Distinction**, King's College London **2015–2016**
- **B.Sc. Mathematics: 2:1**, University College London **2012–2015**
- **A-Levels: A\*A\*AA**, Barnard Castle School **2001–2012**

## Key Skills and Competencies

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- Highly proficient in Python / numpy, pandas, tensorflow etc.
- Strong mathematical background with background in probability, statistics and ML
- Highly proficient with docker / k8s and cloud deployments
- Experienced in working on greenfield projects and with large scale and enterprise codebases (Java)
- Experience working with microservice oriented architectures
- Strong understanding of financial instruments and markets
- Strong people management and stakeholder management skills