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Education

MEng Electrical & Electronic Engineering with Management | Imperial College London — Oct 2016 – Jun 2020
- Module focus on machine learning, mathematics, statistics, and software engineering.
- Self-proposed final year thesis – risk aware reinforcement learning agents for trading.

A-Levels | Abbey College Cambridge — Sep 2014 – Jun 2016
- Further Mathematics – A*
- Mathematics – A*
- Physics – A*

Experience

Quantitative Developer | ClearMacro | Full-time Role — May 2020 – Present
- Developed and maintained an internal distributed API for file-based storage of financial time series using FastAPI.
- Developed an anomaly detection framework which let clients get a sense of integrity of the market data.
- Built serverless ETL pipelines for multiple data vendors such as Refinitiv and IHS.
- Setup and maintained multiple PostgreSQL databases as well as containerized databases for developer testing.
- Refactored multiple parts of the codebase from F# to C# with a focus in improving flexibility and structure.

Quantitative Analyst | Hartree Partners | Full-time Role — Apr 2019 – Oct 2019
- Built reinforcement learning algorithms for predictive asset optimization which boosted profits by up to 10%.
- Utilised Bayesian probabilistic methods to develop an electricity spot price prediction model for traders.
- Built forecasting models for various parts of the energy markets such as BSUoS and solar generation.
- In a team developed an internal Python library for common data processing tasks in the energy sector.
- Extensively used Pandas, Numpy, Plotly, Scikit Learn, Scipy and TensorFlow for day-to-day tasks.

Annual Trading Competition - Winner | Brevan Howard | Individual Competition — Jul 2019 – Oct 2019
- The winner of the £10000 grand prize of trading competition organised by Brevan Howard.
- Competed against hundreds of undergraduate and postgraduate students at Imperial for 3 months.
- Built simulations and reinforcement learning agents that exploited the seasonal nature of the markets.
- Applied various reinforcement learning libraries such as stable-baselines and Ray RLlib to speed up prototyping.
- Used Docker to containerise agents for marking and testing of the solutions on remote servers.

Imperial Annual AI Hack - Winners | Shell | Group Competition — Feb 2020 – Feb 2020
- Led a team of four and competed against over a hundred students from universities all over the UK.
- Built a variational autoencoder for data generation and anomaly identification using latent representations.
- Project managed the team, split tasks, and determined requirements for front-end team members.

Tutor | Fire Tech Camp | Part-time Role — Dec 2018 – Jan 2019
- Teaching Python, high quality coding practices and computing skills to students of all ages.
- Leading groups of children through their first complete coding projects.

Blackrock Annual Algothon - Runners Up | Blackrock | Group Competition — Nov 2019 – Nov 2019
- Third place in a 24-hour Algothon focused on alternative data for alpha and beta generation in the markets.
- Built custom market backtests, market simulations and reinforcement learning agents under time pressure.

Other Experience

Equipment Manager | Imperial Music Tech | Volunteering — Aug 2019 – Mar 2020
- Managed and maintained an £8000 sound system and other sound engineering equipment.

DJ and Must Producer | Freelance | Hobby — Oct 2017 – Present
- Self-taught DJ and music producer, performing at over 25 events in UK as well as internationally to date.

Production Teacher | Imperial Music Tech | Volunteering — Aug 2018 – Aug 2019
- Planned and taught a 3 month long electronic music course to undergraduate and postgraduate students.

Relevant Skills

Technologies: Python | C# | F# | C++ | Docker | FastAPI | PostgreSQL | MongoDB | .NET | ASP.NET
Cloud Computing: Azure
Spoken Languages: English | Russian