Siddartha Nath

ASPIRING DATA SCIENTIST/QUANTITATIVE TRADER · MATHEMATICS GRADUATE

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Education

Imperial College London: *BSc Mathematics with Statistics (October 2018 – July 2021)*   *South Kensington, London*

- First-Class Honours - ranked top 20% in Year 2 (75.8%) and Year 3 (78.4%)
- Modules Overview: Statistics (Probability/Modelling/Stochastic Simulation/Time Series), Pure (Real/Complex/Numerical Analysis), Mechanics, Mathematical Computation, Algebra, Calculus, Mathematical Biology, Mathematics of Business & Economics and Data Science

Tiffin School: *GCSEs and A-Levels (Sept 2010 – June 2017)*   *Kingston-Upon-Thames, London*

- A-Levels: Mathematics (A* - 98%), Further Mathematics (A* - 93%), Chemistry (A) and Economics (A)
- AS-Level: Biology (A)
- GCSEs: 11A* (English Language, Mathematics etc...) and 1 A* (with Distinction) in Further Mathematics

Accepted onto MSc Computational Statistics and Machine Learning at UCL (2022-2023).

Experience

DataSpartan (Internship): *Data Scientist (Nov. 2021 – Present)*   *Moorgate, London*
Contract: Nov. 2021 – Present (TurinTech)

- *Project 2:* Creator of the new in-house XAI (Explainable AI) library called EvoML-Explain (**MLeX**). Provides explainability models, using object-oriented programming and validation libraries, to generate data and graphic visualisations for machine learning model analysis. XAI Library includes: Classification, Regression, Forecasting and Feature Importance modules. Potential for open-source production with documentation (work-in-progress).
- *Project 1:* Co-creator of AutoML into EvoML platform (in a team of 3). Designed confluence pages on data pre-processing, model pipelines, graphs and metrics on Time Series Classification, Regression and Forecasting.

Using Python and JavaScript for coding interface (via PyCharm), GitHub for collaboration and code quality checks, and Jira for team management.

PayPal (Internship): *Data Scientist (Jun. 2021 – Nov. 2021)*   *Richmond, London*

- *Project 3:* Executed an 8-week Data Science project, focusing on multivariate analysis, to investigate the importance of specific information given by merchants via payload transactions. Analysis allowed merchants to increase their fraud detection capabilities and reduce chargebacks by 3%. Used QPull and SQL to query the data and created a XGBoost model to train on the complex dataset.
- *Project 2:* Executed a 6-week Data Science project, focusing on creating a non-linear rule optimisation algorithm, using a direct search method (Nelder-Mead). Conducted a presentation to the UK Data Team (25 attendees), demonstrating the algorithms' improvement of performance and runtime over the existing Bayesian optimiser. This led to the deployment of the algorithm in PayPal's Fraud Detection product (Iguanas - Direct Search Optimiser).
- *Project 1:* Independently designed and installed a feature generation module called Rotation Matrix. Produced a 100x decrease in runtime via Cython compared to Koalas and a 10% increase in F-1 score (when looking at a multiclass classification crime dataset). This led to the deployment of the feature in PayPal's Big Data Model Building product (Gators - Plane Rotation).

Using C and Python for coding interface (via VSCode) and GitHub for collaboration and code quality checks.

Oxford International College (Part-Time): *Academic Mentor (Aug. 2019 – Present)*   *Cowley, Oxford*

- Provided mock interview practice and one-to-one personal statement sessions and taught university admission tests preparation (STEP/MAT/TMUA/CTMUA/CSAT), whereby 6 people have managed to secure offers at Oxford, Cambridge, and Imperial.
- Acted as an EPQ supervisor and assisted 2 students with their projects (discussing Cryptocurrency and Economics) which strengthened my leadership and time management skills.
- Hosted weekly enrichment lessons on Teams with Computer Science students, focusing on: University Computational Programming (Numerical Integration/Differential Equations), Dynamic Programming, and Data Structures/Algorithms.

Skills & Interests

Programming:

- Languages: Python (Libraries: Pandas, Numpy, Pydantic, Matplotlib, Sklearn, RE, Statsmodels, Scipy, Tensorflow, Keras) | MATLAB | R | SQL | HTML5/CSS | Bash (proficient in Python, MATLAB and R, and intermediate in rest)
- IDEs: PyCharm | VSCode | Jupyter Notebook (proficient in all)
- Other: MS Office | TeX | Git (GitHub/CI/CD) (expert in all)

Hobbies:

- Dance (Bollywood/Hip-Hop) | Music (Singing/Beatboxing) | PC-Gaming | Chess | Fitness | Educational Resources (content-creator)

Other:

- Multi-lingual (English/Bengali/Hindi)