Aditya Shirodkar

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EXPERIENCE

Data Engineer (Sep. 2021 – June 2023) **Culture Shift** | Manchester, UK

Culture Shift is a SaaS startup whose main product is an incident reporting app with an in-built analytics engine.

- Built and maintained several ETL pipelines synchronising the product (single-page React app) and its database (Postgres) with various vendor tools like Mixpanel, HubSpot, Google Drive, etc. These pipelines ran nightly, or as custom runs triggered by an in-product self-service system. Subjects of analysis included client site performance and product feature usage, as well as Culture Shift's own KPIs. Analysis results were output as plots (images) stored to Google Drive, Google Spreadsheets, Mixpanel Dashboards, interactive Google Colab notebooks, HubSpot properties/reports, and Slack-based alerts for anomaly detection.
- R&D project using ML techniques to audit the structures of the incident reporting forms and to estimate the optimal form structure to attain higher form completion rates.
- Test-driven development, comprehensive dev. database, type-annotation and linter use, detailed code review, Agile workflow.
- Tools: Python, TypeScript (node.js), AWS Lambda/S3/EC2, Gitlab, Docker, SQLAlchemy, Poetry

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Data Scientist Intern (June 2021 – Sep. 2021) **University Hospitals of Morecambe Bay (NHS)** | Morecambe, UK

Placement project with **Lancaster University** to predict in-patient mortality generalisable for trust data on a per-patient level (in contrast with restricted cases such as for ICU wards or for particular diseases as was the norm in previous literature).

- Utilised undersampling techniques to offset the size (millions of rows) and highly imbalanced nature of the dataset, and achieved high recall results at the cost of precision, considered acceptable as one is "better safe than sorry."
- Tools: Python, R

Wind Resource Analyst Intern (July 2017 – Dec. 2017) **National Institute of Wind Energy** | Chennai, India

"Practice school" project with **BITS Goa.** Part of the Wind Resource Assessment team at NIWE.

- Identified potential sites for wind farms using GIS data in the state of Tamil Nadu, meeting government energy policy criteria and NIWE client requirements. Outputs presented as GIS maps; also simulated windflow at said sites.
- Tools: MATLAB, ArcGIS, OpenFOAM (C++ based programmatic CFD software), Solidworks, AutoCAD

Data Analyst Intern (Jan. 2017 - June 2017) **HDFC Bank Head Office** | Mumbai, India

"Practice school" project with **BITS Goa**. Part of the X-sell team of the Credit Risk Analytics division at HDFC Bank.

- Introduced parameters to account for the urbanity of business loan customers, for better X-selling in rural areas with fewer spending pressures. This improved the accuracy of existing models to calculate the risk of default for business loan customers.
- Mined data from textual point-of-sale transaction details to create labels for company use.
- Tools: Python, R, SAS

EDUCATION

MSc Data Science (Sep. 2020 – Sep. 2021) **Lancaster University** | Lancaster, UK

Award: Distinction

- **Specialism in Computing** (emphasis on programming and AI research)
- Project: Estimated property prices in England and Wales for **GBG.** Achieved street-level accuracy in estimates.
- AI project: "Solvers for the infinitely-many armed bandit problem." Expanded upon eleven existing algorithms for the traditional finitely-armed case.
- NLP project: Categorised words and sentences as English, Czech, or Igbo with 99.9%+ accuracy.
- Created a distributed file sharing network (Hadoop-based) to handle billions of rows of Google server data in real time using on-campus Linux terminals.
- Thesis project: "Predicting in-patient mortality" with **NHS UHMB.**

MSc Renewable and Sustainable Energy Technologies (Jan. 2019 – Sep. 2020) **Northumbria University** | Newcastle, UK

Award: Distinction

- Project: Modelled sizing, power flow, penetration, reliability, and LCOE of a hybrid renewable energy system.
- Thesis project: "Thermal analysis of a substrate embedded with two different microencapsulated phase change materials." Utilised Salome-meca/Code_Aster (Python-based simulation software/FEA solver) to show that embedding two types of microencapsulated PCMs of different latent heats into a substrate can provide better thermal storage properties than using either one when distributed in the right proportion.

BE Mechanical & MSc Biological Sciences (Aug. 2012 – Feb. 2018) **Birla Institute of Technology and Science** | Goa, India

Award: First class with honours

- **Dual degree programme** (independent and self-sufficient degrees)
- **Minor in Philosophy, Economics, and Politics**