

BHARGAV KUMAR NATH

Data Scientist · MSc Data Science & Analytics, University of Leeds

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EDUCATION

MSc Data Science and Analytics · Merit (2:1) · University of Leeds, UK Sep 2024 -- Dec 2025

BTech Computer Science and Engineering · First Class Honours · Assam Don Bosco University, India Jan 2020 -- Sep 2024

TECHNICAL SKILLS

Core Data Science: Scikit-learn, XGBoost, LightGBM, PyTorch, TensorFlow/Keras, Pandas, NumPy, Polars, DuckDB, Matplotlib, Seaborn, Tableau, NLP

Engineering & MLOps: Docker, CI/CD (GitHub Actions), FastAPI, Streamlit, MLflow, Optuna, Apache Spark, FAISS, Parquet, ETL, Git

Languages & Cloud: Python, SQL, R, JavaScript, AWS, GCP, PostgreSQL, MySQL

PROFESSIONAL EXPERIENCE

Data Analyst Intern · Airports Authority of India, NER Regional HQ Jul 2023 -- Aug 2023

- Cleaned and validated **19,000+ employee records** across 8 departments for SAP migration and analysed **1,053 IT assets** to surface failure patterns and reduce unplanned downtime across 137 airport units.
- Benchmarked **GeM digital procurement** workflows against legacy processes, identifying a **15–20% reduction** in administrative overhead and feeding findings into a vendor selection strategy.

Software Development Intern · Indian Institute of Technology, Guwahati Jul 2022 -- Aug 2022

- Wrote a **scheduling engine** that flagged conflicts across **500+ weekly constraints**, taking a big chunk of the manual timetabling work off faculty coordinators.
- Gathered and analysed **50+ teacher survey responses**, looked at **4 competitor platforms**, and turned the findings into a prioritised backlog the dev team actually used.

Junior Data Analyst · M/S Sanjog Trading, India Jul 2020 -- Nov 2021

- Built **Python pipelines** to automate sales data collection, cleaning, and transformation, cutting manual errors by **40%**; developed **forecasting models** for daily and monthly sales feeding into inventory and supply-chain planning.
- Built **interactive dashboards** tracking daily sales KPIs and performed EDA on large datasets to uncover **seasonal demand patterns** that informed executive procurement and pricing decisions.

TECHNICAL PROJECTS

Causal Uplift Modelling & Marketing Optimisation · Python, Polars, X-Learner, LightGBM, [\[GitHub\]](#) [\[Live\]](#)
Contextual Bandits

- Uncovered true incremental value over vanity metrics by designing a Causal Inference pipeline (X-Learners) and Thompson Sampling on 14M records, gated by strict SRM/SMD checks. Distilled the ensemble into a fast Decision Tree, turning **-\$0.05 to +\$0.09 profit/user** and **cutting ad spend by 80%**.

Customer Intelligence Platform - 109M Event Analytics · Python, DuckDB, Polars, LightGBM, [\[GitHub\]](#) [\[Live\]](#)
Market Basket Analysis

- Built an end to end local analytical engine using DuckDB and Polars to process **109.9M event logs** on commodity hardware (compressing data to 1.9GB), trained a **LightGBM propensity classifier** to predict purchase probabilities, ultimately driving a **4.5x conversion lift** among highly persuadable user segments.

MALLORN - Rare Astronomical Event Detection (Kaggle) · Python, LightGBM, tsfresh, Op- [\[GitHub\]](#) [\[Live\]](#)
tuna, PyTorch GRU/Attention

- Replaced brittle neural networks with **automated statistical feature extraction** (using tsfresh) to overcome extreme data sparsity in multi-band optical signals. Distilled complex inputs into 198 predictors to train an **Optuna-tuned LightGBM champion model**, improving **CV F1 score from 0.4281 to 0.5225**.

PUBLICATIONS

'The Evolution of AI' · 'Beyond the Hill: Global Optimisation' · 'ESG in the Age of AI' - Leeds Financial Insights