INDHRA KIRANU N A

Whitefield, Bengaluru, India | P: +91 8332832027 | indhrakiranu39@gmail.com | LinkedIn | GitHub | Kaggle

SUMMARY

Cloud-focused Data Scientist with 5+ years of experience specializing in building and deploying scalable battery analytics solutions. Proven expertise in creating and orchestrating automated data pipelines in Azure for high-volume vehicle and battery telemetry. Adept at integrating machine learning models into customer-facing frameworks and translating complex technical requirements into robust, product-oriented solutions. Passionate about leveraging data science in the automotive and energy sectors to deliver actionable insights and tangible business value.

EXPERIENCE

Daimler Trucks Innovation Center (Mercedes Benz Research & Development) – Bengaluru, India

Senior Data Scientist   *Aug 2024 – Present*

- Instrumental in establishing the **core battery cell analytics** infrastructure for **Mercedes Electric Truck** development in Stuttgart, managing high-volume data from over **500 cells** and **100 global cyclers**. I designed and maintained the automated data ingestion pipeline using Azure Data Factory (**ADF**) to centralize sensor telemetry into Azure Data Lake Storage (**ADLS**), standardizing all raw data into a structured Delta Table format. I developed and operationalized proprietary analytical scripts to calculate mission-critical Key Performance Indicators (KPIs)—including **DCIR, State of Health (SOH)**, and **RPT** estimation—and translated these complex results into dynamic Power BI dashboards & creating a customer-specific **framework** for R&D engineers to evaluate battery performance, lifetime, and safety. My forward-looking mandate includes defining new KPI requirements and planning the implementation of **time-based anomaly detection** to optimize testing parameters and efficiency.

- Led the migration of **5 years of vehicle data** (100M+ records) to Azure, building robust ADF pipelines that **cut ETL time by 80%,** ensuring data quality, integrity, and accessibility for modeling and analysis. Utilized **Git** for version control on **Databricks** scripts and developed Power BI dashboards to deliver real-time insights, boosting decision-making efficiency through data visualization tools like Plotly, or matplotlib/seaborn.

- Developed and deployed machine learning models and AI solutions for business-critical problems, including an early detection and **forecasting** of **electric Axle failure** by training an Auto Associative Neural Network (**AANN**) model using TensorFlow, resulting in a one-week early warning on the vehicle downtime; adhered to ethical AI and data governance standards throughout the development lifecycle.

- **Mentored** a cross-functional team of **2+ junior's** in developing vehicle testing cases using an **RAG**-based open-source **LLM**, championing Python and ML best practices to drive collaboration and project success, while guiding best practices in **feature engineering**, model tuning, and **validation**.

Data Scientist   *Nov 2020 – Jul 2024*
- Designed a machine learning (ML)-driven Python application that **finds** important **safety flaws** in vehicles, **90% quicker** than with humans; employed a user-friendly, reusable package of unsupervised clustering methods on multi-variate time series data from Trucks, allowing early failure identification and avoiding expensive recalls, while adhering to ethical AI and data governance standards.

- Uncovered deeper system features and performance insights by using limited data and domain expertise to close the knowledge gap between analytics and research, offering data-driven solutions in all necessary domains through **advanced analytics - Affinity** analysis, including **statistical methods**, machine learning algorithms, and data mining techniques.

Upwork – Freelance, Remote

Machine Learning Engineer   *May 2020 – Nov 2020*
- Analyzed data from retailers across 6 countries and used outputs to **increase** book **sales** by **4.2%** by forecasting sales using an **ensemble of models** using Keras, despite turbulent data; translated business problems into data science solutions for strategic decision-making and AI initiatives.

EDUCATION

Vellore Institute of Technology (VIT) UNIVERSITY – Vellore, India   April 2020
- M.Tech - Master of Technology in Controls & Automation; Cumulative GPA: 8.5/10.0
  - *Specialization*: **Machine Learning, Advanced Statistical Analysis**
  - Master Thesis: Applications of **Reinforcement Learning** for Predictive Maintenance, Collaborative Robotics & **Quantum Machine Learning** for Telecom applications.

Bapatla Engineering College – A.P, India
- B.Tech – Bachelor of Technology Electronics & Instrumentation Engineering : 7.64/10   April 2018
  - *Specialization*: Industrial Sensors & Instrumentation

SKILLS

Programming & Query Languages: Python · R · SQL

Machine Learning & AI Frameworks: scikit-learn · TensorFlow · PyTorch · Keras · XGBoost · Fast.AI

Modeling Techniques & Algorithms: Linear Regression · Logistic Regression · Naïve Bayes · K-Means Clustering · Decision Trees · Ensemble Models · ARIMA · Neural Networks · Auto-Associative Models

Data Manipulation & Statistical Libraries: Pandas · NumPy · SciPy · Statsmodels · Asammdf

Data Engineering & Big Data Platforms: PySpark · Apache Spark · Databricks · Azure Data Factory (ADF)

Cloud Environments: Microsoft Azure · AWS · GCP

Visualization & BI Tools: Power BI · Tableau · matplotlib · Seaborn · Plotly

Data Science Practices: Exploratory Data Analysis · Data Mining · Statistics · Time Series Analysis · A/B Testing · Hypothesis Testing

DevOps & Collaboration: Git · Excel · Strong communication & stakeholder management skills

CERTIFICATIONS & ACHIEVEMENTS

- *Microsoft Certified:* Azure Data Scientist Associate
- *Microsoft Certified:* Azure Fundamentals
- Kaggle Competition Winner and Kaggle X attendee
- Big data & Cloud-based analytics using Apache Spark & Python Pyspark – Udemy
- Deep Learning with TensorFlow 2.0 - Udemy
- Departmental Bronze award for successfully diagnosing and root-cause analysis of vehicle issues using Machine Learning workflows.