ABISHEK RAGAV J

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Profile Summary

- An enthusiastic AI and Data Science student with a deep passion for exploring data and uncovering meaningful insights that can make impactful decisions.
- Contributed my skills in the field of AI and Data science in various freelancing projects as well as an Intern in multiple organizations.

Education

St. Joseph's Institute of Technology, OMR, Chennai *Nov 2022 – May 2026*
Bachelor of Technology in Artificial Intelligence and Data Science
Cumulative GPA: 8.06 / 10.0

Experience

Machine Learning Engineer, TAFE – Chennai, Tamil Nadu March 2025 – April 2025

- Built a predictive maintenance dashboard using Streamlit, allowing engineers to input telemetry data and visualize Remaining Useful Life (RUL) predictions.
- Trained and deployed an XGBoost model with sensor and operational settings to provide accurate failure cycle forecasts.
- Integrated SHAP for feature importance and FLAN-T5 to generate natural language explanations, enhancing accessibility for non-technical users.
- Enabled interactive what-if analysis to simulate delayed maintenance scenarios, supporting data-driven decisions and reducing unplanned downtime.

AI and Data Science Intern, TATA BLUESCOPE – Chennai, Tamil Nadu June 2025 – July 2025

- Analyzed Trimdek machine logs to identify misclassified downtime events, exposing inaccuracies in OEE availability tracking.
- Implemented rule-based logic with configurable thresholds to classify Scheduled vs. Unscheduled downtime, improving availability accuracy by 20%.
- Automated cross-day log splitting and minor loss detection (Less than 3 mins) to refine daily performance reporting and support root cause analysis.
- Developed a real-time dashboard to visualize key OEE metrics Availability, Performance, and Quality reducing manual reporting effort by 60%.

Projects

Intelligent Epileptic Seizure Detection via EEG Analysis GitHub/EEG-SYSTEM

- **Goal:** Develop an intelligent system capable of accurately predicting epileptic seizures using EEG signals, enabling early intervention and improving patient quality of life.
- **Approach:** Designed and implemented two models a Support Vector Machine (SVM) and a custom ChronoNet deep learning architecture integrating Conv1D layers, inception modules,densely connected GRU layers. Preprocessed EEG data using wavelet transforms for noise reduction, applied PCA for dimensionality reduction, and performed feature scaling to standardize inputs. Trained and evaluated models using PyTorch, TensorFlow, and scikit-learn.
- **Result:** Achieved 98.28% accuracy with the SVM model and 96.7% accuracy with the ChronoNet model. Demonstrated strong generalization across patient datasets and validated potential for real-world clinical use in seizure monitoring systems.

Skills

Programming Languages: Python, C, Java
Core AI/ML: PyTorch, TensorFlow, Scikit-learn, Flask, LLM
Data Processing and Storage: Pandas, NumPy, SQL
Data Visualization: Matplotlib, Seaborn, Tableau, Power BI