RAJGURU MATHIYALAGAN

Entry-Level Data Scientist | Machine Learning | Analytics

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PROFESSIONAL SUMMARY

Entry-Level Data Scientist with hands-on experience building and deploying end-to-end machine learning systems. Developed a UAV performance prediction platform processing 1.6 million records using Physics-Informed ML, XGBoost, and ensemble methods. Built full-stack ML applications with Flask and React.js, and communicated actionable insights through interactive Tableau dashboards to stakeholders. Currently pursuing a B.Sc. in Information Technology (CGPA: 8.60/10) and seeking opportunities as a Data Science intern or junior analyst.

TECHNICAL SKILLS

Languages: Python, SQL

Libraries & Frameworks: Pandas, NumPy, Scikit-learn, XGBoost, Matplotlib, Seaborn, Flask

Machine Learning: Supervised Learning, Unsupervised Learning, Predictive Modeling, Ensemble Learning, Gradient Boosting, Random Forest, Logistic Regression, K-Means Clustering, SMOTE, Cross-Validation, Hyperparameter Tuning, Model Evaluation

Data Skills: Exploratory Data Analysis (EDA), Data Wrangling, Data Preprocessing, Feature Engineering, Data Visualization, Statistical Analysis, Hypothesis Testing, Data Cleaning, Communication of Insights

Tools & Platforms: Jupyter Notebook, Git, GitHub, Tableau, Google Colab, VS Code, Microsoft Excel

Deployment & APIs: Flask, React.js, REST API, PostgreSQL

PROJECTS

PropVision | Full-Stack UAV Performance Prediction Platform GitHub | Live Demo

End-to-End ML | Large-Scale Data | Full-Stack Deployment

- **1.6M-Record ML Pipeline:** Engineered an end-to-end machine learning system to predict UAV propeller thrust, power, and efficiency across 1.6 million experimental records.
- **Physics-Informed Feature Engineering:** Applied numerical integration for data preprocessing and data wrangling to derive aerodynamic features (Blade Area, Solidity), improving model generalization.
- **Advanced Modeling (90% Accuracy):** Achieved high-precision forecasts using supervised learning techniques (XGBoost, Gradient Boosting, Ensemble Learning) with Cross-Validation and hyperparameter tuning.
- **Production Deployment via REST API:** Built a React.js frontend and Flask REST API backend with PostgreSQL, plus a Tableau dashboard and Drone Type Recommender for data visualization and actionable insights.

Employee Turnover Analysis | HR Attrition Prediction GitHub

HR Analytics | Classification | Class Imbalance Handling

- **90% Accuracy / 0.90 ROC-AUC:** Built a classification system using supervised learning (Random Forest, Logistic Regression) with Cross-Validation to identify key drivers of employee attrition.
- **Data Wrangling & Class Imbalance:** Applied data wrangling, preprocessing, and SMOTE oversampling on HR datasets to ensure reliable minority class (churned employee) prediction.
- **Actionable Insights for Stakeholders:** Conducted Exploratory Data Analysis (EDA), unsupervised learning (K-Means Clustering), and data visualization to deliver concrete HR retention strategy recommendations.

EDUCATION

Bachelor of Science (B.Sc.) in Information Technology *2023 - 2026*

D.G. Ruparel College, Mumbai University | Current CGPA: 8.60 / 10

- **Relevant Coursework:** Statistics, Data Structures, Database Management Systems, Linear Algebra, Operating Systems

CERTIFICATIONS

- **Introduction to Programming Using Python** - Simplilearn (2024)
- **Data Science with Python** - Simplilearn (2025)

CORE COMPETENCIES

Analytical Thinking | Problem Solving | Communication of Insights | Attention to Detail | Adaptability | Time Management