Name: Riya Sawant
Position Name: Junior Data Scientist

Project Name: Customer Retention using Machine Learning

Approach:

The Appraoch was to start with **data preparation**, ensuring completeness and consistency by imputing missing values, addressing outliers, and creating new features like "DaysSinceLastDonation" for better insights. Performed **Feature engineering** included encoding categorical variables and scaling numerical features to standardize the data. Took care of class imbalance was tackled using SMOTE to improve model fairness.

Model training explored Decision Tree, Logistic Regression, Random Forest, and SVM to balance performance and simplicity. **Evaluation** based on accuracy, precision, recall and ROC-AUC. Identified **Random Forest as the best performer with 80% accuracy**. The deployment plan emphasizes actionable insights using feature importance, guiding retention strategies for at-risk donors.

Model Evaluation

Model Name	Accuracy
Decision Tree	68%
Random Forest	80%
SVM	53%
Logistic Regression	50%