Model Development Phase Template

Date	15 July 2024
Team ID	740080
Project Title	Flight Delay Prediction using Machine Learning.
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest Classifier	A Random Forest Classifier is an ensemble learning method that operates by constructing multiple decision trees during training.	---	Accuracy Score: 91%
Linear Regression	Logistic Regression is a statistical model used for binary	---	Accuracy Score: 91%

	classification tasks. Despite its name, it is a linear model that uses the logistic function to map predicted values to probabilities between 0 and 1.		
Decision tree classifier	A Decision Tree Classifier is a non-parametric model that splits the data into subsets based on the value of input features. It builds a tree structure where each internal node represents a feature, each branch represents a decision rule, and each leaf node represents an outcome (class label).	---	Accuracy Score: 86%
Extra Tree Classifier	The Extra Trees Classifier (Extremely Randomized Trees) is another ensemble learning method similar to Random Forests. It builds multiple decision	----	Accuracy Score: 90%

	trees, but with two key differences: the splits are made using random thresholds for each feature, and the entire dataset is used to train each tree without bootstrapping.		