

Model Development Phase Template

Date	1 July 2024
Team ID	team-739896
Project Title	Identifying Airline Passenger Satisfaction 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)
Decision tree	Decision tree has a hierarchical tree structure consisting of a root node, branches, internal nodes, and leaf nodes. Decision trees are used for classification and regression tasks, providing easy-to-understand models.	Estimators Max_depth scoring	Accuracy score=91.4%
Logistic regression	Logistic regression is a statistical method used for binary classification tasks. It models the probability that a given input belongs to a particular class by using the logistic function, which maps any real-valued number into a value between 0 and 1.	-	Accuracy score=83.9%

Random forest	A random forest is a meta estimator that fits a number of decision tree classifiers on various sub-samples of the dataset and uses averaging to improve the predictive accuracy and control over-fitting	Maximum Depth (max_depth) n_estimators Criterion	Accuracy score= 94.5%
K Nearest Neighbor	K-Nearest Neighbor (KNN) is a simple, non-parametric, and lazy learning algorithm used for classification and regression. It operates on the principle of feature similarity.	-	Accuracy score=89.3%