Model Development Phase Template

Date	9 July 2024
Team ID	-
Project Title	Golden Harvesting: A Predictive Model For Apple Quality Assurance
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
Decision Tree	Basic tree-based classifier	Default	Accuracy of Decision tree is 81
Random Forest	Ensemble of decision trees	n_estimators=100, max_depth=[None, 10, 20, 30], min_samples_split=[2, 5, 10], min_samples_leaf=[1, 2, 4], bootstrap=[True, False]	Accuracy of Random Forest is 90.88

XGBoost	Gradient boosting algorithm	n_estimators=[100, 200, 300], learning_rate=[0.01, 0.1, 0.2], max_depth=[3, 4, 5], min_child_weight=[1, 5, 10], subsample=[0.8, 0.9, 1.0], colsample_bytree=[0.8, 0.9, 1.0]	Accuracy of XGBoost is 90.50
Logistic Regression	Linear model for binary classification	Default	Accuracy of Logistic Regression is 0.75
Support Vector Machine	Classifier based on hyperplane	Default	Accuracy of Support Vector Machine is 0.90
K Nearest Neighbors	Classifier based on distance	Default	Accuracy of K Nearest Neighbor is 0.90
Naive Bayes	Probabilistic classifier	Default	Accuracy of Naive Baye is 0.76