Model Development Phase Template

Date	11 July 2024
Team ID	740052
Project Title	SmartLender – Applicant Credibility Prediction for Loan Approval
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	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	A Random Forest is an ensemble learning method that constructs multiple decision trees during training and outputs the mode of their predictions for classification or the mean prediction for regression. It improves accuracy and controls overfitting by averaging the results of individual trees.	-	Accuracy score = 75%
Decision Tree	A Decision Tree is a machine learning model that uses a tree-like structure of decisions and their possible consequences to make predictions. Each internal node represents a test on an attribute, each branch represents an outcome of the test, and each leaf node represents a class label or continuous value.	-	Accuracy score = 67%
KNN	The k-Nearest Neighbors (kNN) algorithm is a simple, non-parametric method used for classification and regression. It classifies a data point based on the majority vote of its k closest neighbors or predicts a value by averaging the values of its k nearest neighbors.	-	Accuracy score = 66%

Gradient Boosting	Gradient boosting with trees; optimizes predictive performance, handles complex relationships, and is suitable for accurate loan approval predictions.	-	Accuracy score = 70%