Model Development Phase Template

Date	20 June 2025
Team ID	SWTID1749791625
Project Title	Smart Lender- 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 Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	An ensemble of decision trees is robust, handles complex relationships effectively, reduces overfitting, and provides feature importance — making it well-suited for loan approval prediction.	-	Accuracy score= 80%
Decision Tree	A simple tree structure is interpretable, captures non-linear relationships, and is suitable for gaining initial insights into loan approval patterns.	-	Accuracy score= 74%

KNN	Classifies based on nearest neighbors; adapts well to data patterns and is effective for capturing local variations in loan approval criteria. Achieved an accuracy score of 77%.	-	Accuracy score= 72%
Gradient Boosting	Gradient boosting with decision trees optimizes predictive performance, handles complex relationships, and is well-suited for accurate loan approval predictions.	-	Accuracy score = 79%