Model Development Phase Template

Date	24 April 2024
Team ID	739962
Project Title	One Year Life Expectancy post on Thoracic Surgery 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	Description	Hyperparameters	PerformanceMetric (e.g., Accuracy, F1 Score)
Random Forest	Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance for loan approval prediction.		Accuracy score = 83%
Decision Tree	Simple tree structure; interpretable, captures non-linear relationships, suitable for initial insights into loan		Accuracy score = 73%

	approval patterns.		
KNN	Classifies based on nearest neighbors; adapts well to data patterns, effective	-	Accuracy score = 82%
	for local variations in predicting model		
Gradient Boosting	Gradient boosting with trees; optimizes predictive performance, handles complex relationships, and is suitable for accurate loan approval predictions.	-	Accuracy score = 82%
Logistic regression	**Binary Classification:** Logistic regression is primarily used for binary classification tasks, where the goal is to predict one of two possible outcomes (e.g., spam or not spam, disease or no disease, etc.).		Accuracy score = 83%