Model Development Phase Template

Date	18 June 2024
Team ID	team-739679
Project Title	Hospital Readmission Prediction 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	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance for hospital readmission prediction.	-	Accuracy score = 93%
Decision Tree	Simple tree structure; interpretable, captures non-linear relationships, suitable for initial insights.	-	Accuracy score = 87%
KNN	Classifies based on nearest neighbors; adapts well to data patterns, effective	-	Accuracy score = 79%

	for local variations in predicting patient's readmission.		
Gradient Boosting	Gradient boosting with trees; optimizes predictive performance, handles complex relationships, and is	-	Accuracy score = 90%

	suitable for accurate readmission predictions.		