Model Development Phase Template

Date	15 July 2024
Team ID	SWTID1720151584
Project Title	Early Prediction of chronic Kidney disease(CKD)
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)
Decision Tree	A Decision Tree Classifier helps make decisions by splitting data into smaller parts based on simple yes/no questions.		Accuracy: 95% Precision: 0.923 Recall: 0.923 F1-Score: 0.923
Random Forest	An ensemble of decision trees that improves accuracy and reduces overfitting.		Accuracy: 97.5% Precision: 0.9615 Recall: 0.9615 F1-Score: 0.9615
K-Nearest Neighbors (KNN)	Classifies instances based on the majority vote of the nearest neighbors.		Accuracy: 88.75% Precision: 0.75 Recall: 0.96 F1-Score: 0.84
XGBoost	An advanced boosting		Accuracy: 95% Precision: 0.923

	algorithm that improves performance by correcting errors.		Recall: 0.923 F1-Score: 0.923
Logistic Regression	A statistical model that predicts binary outcomes using a logistic function.		Accuracy: 93.75% Precision: 0.838 Recall: 1 F1-Score: 0.912
Gradient Boosting Classifier	A Gradient Boosting Classifier improves predictions by combining multiple weak models (usually decision trees) into a strong model, correcting errors along the way.		Accuracy: 96.25% Precision: 0.96 Recall: 0.923 F1-Score: 0.9411
ADA Boost	An AdaBoost Classifier enhances accuracy by combining many weak models (often decision trees) and focusing more on the errors of previous models to improve future predictions.		Accuracy: 98.75% Precision: 0.987 Recall:0.987 F1-Score:0.987