

Model Development Phase Template

Date	03 October 2024
Team ID	LTVIP2024TMID24922
Project Title	Rainfall 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 Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	Builds multiple decision trees and averages them for robust predictions.	-	Accuracy Score = 82%
Decision Tree	Uses a tree-like structure to make decisions based on feature splits.	-	Accuracy Score = 80%
K Nearest Neighbour	Predicts the class based on the majority vote of the 'k' nearest neighbors.	-	Accuracy Score = 75%

Logistic Regression	Applies regression techniques to classify binary targets.	-	Accuracy Score = 76%
XGBoost	Efficient, high-performance gradient boosting classifier.	-	Accuracy Score = 84%
SVC	Finds the best hyperplane for separating classes in n-dimensional space.	-	Accuracy Score = 76%
CatBoost	Gradient boosting optimized for handling categorical features without much preprocessing.	-	Accuracy Score = 85%