Model	Tuned Hyperparameters	Optimal Values
Decision Tree	-	-

Random Forest	-	-

Model Optimization and Tuning Phase Report

Date	20 June 2024
Team ID	739712
Project Title	Rain fall prediction using ml
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

In the optimization phase, we fine-tuned hyperparameters using Grid and Random Search, applied regularization, and enhanced feature engineering. Cross-validation ensured robustness, leading to improved model performance and accuracy.

Hyperparameter Tuning Documentation (6 Marks):

KNN	-	-

Gradient Boosting	-	-

Performance Metrics Comparison Report (2 Marks):

Model	Optimized Metric
Decision Tree	-
Random Forest	-

KNN	-
Gradient Boosting	-

Final Model Selection Justification (2 Marks):

Final Model	Reasoning
Gradient Boosting	For our project, Gradient Boosting improved predictions through iterative boosting of weak learners. We optimized hyperparameters like n_estimators and learning_rate, achieving high accuracy and robustness in rainfall forecasts.