Random Forest	-	-

Model	Tuned Hyperparameters	Optimal Values
Decision Tree	-	-

Model Optimization and Tuning Phase Report

Date	20 June 2024
Team ID	739637
Project Title	Rain fall prediction using ml

Gradient Boosting	-	-

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	-	-

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.