

Model Optimization and Tuning Phase Template

Date	15 March 2024
Team ID	738289
Project Title	Rainfall Prediction Using Machine Learning
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Hyperparameter Tuning Documentation (6 Marks):

Model	Tuned Hyperparameters	Optimal Values
Model 1	The Hyper Parameter Optimisation was carried out using Two-steps: RandomizedSearchCV and GridSearchCV	The Model Demonstrated results with accuracy, precision, recall and reaching 95% indicating ability to effectively predict Rainfall

Performance Metrics Comparison Report (2 Marks):

Model	Baseline Metric	Optimized Metric

Model 1	The data set includes parameters like temperature, humidity, wind speed	Random Forest Method And Linear Regression method
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Final Model Selection Justification (2 Marks):

Final Model	Reasoning
Model 1	Machine Learning Uses Different Classification Algorithms to make rainfall data set Trained and Tested to obtain Rainfall Prediction based on previous calculations.