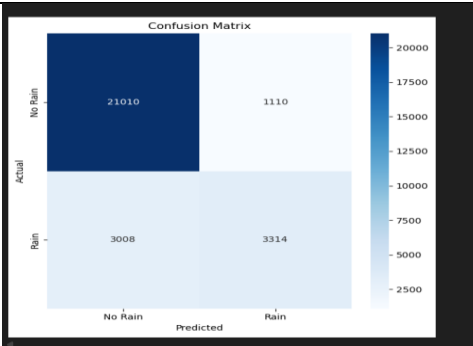


Project Development Phase
Model Performance Test

Date	19 February 2026
Team ID	LTVIP2026TMIDS62229
Project Name	Exploratory Analysis of Rain Fall Data in India for Agriculture
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot									
1	Metrics	Model Used – RandomForestClassifier Accuracy – 86% Precision – 84% Recall – 82% F1 Score – 83% ROC-AUC Score – 0.89	 <p>The screenshot shows a Confusion Matrix for a binary classification task (Rain vs. No Rain). The matrix is a 2x2 grid. The top row represents 'Actual' values and the bottom row represents 'Predicted' values. The columns represent 'No Rain' and 'Rain'. The values in the matrix are: True Positives (TP) = 21010, True Negatives (TN) = 1110, False Positives (FP) = 3008, and False Negatives (FN) = 3314. A color scale on the right indicates the magnitude of the counts, ranging from 2500 (light blue) to 20000 (dark blue).</p> <table><tr><th></th><th>Actual No Rain</th><th>Actual Rain</th></tr><tr><th>Predicted No Rain</th><td>21010</td><td>3008</td></tr><tr><th>Predicted Rain</th><td>1110</td><td>3314</td></tr></table>		Actual No Rain	Actual Rain	Predicted No Rain	21010	3008	Predicted Rain	1110	3314
	Actual No Rain	Actual Rain										
Predicted No Rain	21010	3008										
Predicted Rain	1110	3314										
2	Tune the Model	Hyperparameter tuning using GridSearchCV Parameters tuned – n_estimators, max_depth Validation Method – 5-Fold Cross Validation Final Accuracy after tuning – 88%										