Project Development Phase

Model Performance Test

Date	21-02-2026
Team ID	LTVIP2026TMIDS54386
Project Name	Online Payment Fraud Detection
Maximum Marks	

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No	Parameter	Description
1	Data Rendered	Rendered from cleaned online payment fraud dataset (CSV file) containing transaction details such as amount, type, balance, and fraud label. Loaded 50,000+ sampled rows for training and testing.
2	Data Preprocessing	Handled missing values, encoded categorical variables, performed feature scaling, and separated features (X) and target variable (isFraud).
3	Utilization of Filters / Features	Selected important features for training including transaction type, amount, old balance, new balance. Feature importance analyzed using Random Forest.
4	Evaluation Metrics Used	Accuracy, Precision, Recall, F1-score, Confusion Matrix, and Cross-validation applied to evaluate model performance.
5	Model Performance	Best performing model selected based on evaluation metrics. Random Forest achieved highest accuracy and balanced recall for fraud detection.
6	Deployment Testing	Model saved using Joblib and integrated with Flask web application. Real-time predictions tested through user input form interface.