

Project Development Phase
Model Performance Test

Date	18 February 2026
Team ID	LTVIP2026TMIDS54062
Project Name	Online Payments Fraud Detection using Machine Learning

Model Performance Testing:

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

S.No	Parameter	Screenshot / Values
1	Model Summary	Model Used: XGBoost Classifier Problem Type: Binary Classification (Fraud / Non-Fraud) Dataset Size: 284,807 transactions Fraud Cases: 492 (Imbalanced Dataset) Features Used: Transaction Amount, Time, Device Risk, Geo Location, Velocity, Behavioral Score
2	Accuracy	Training Accuracy: 99.42% Validation Accuracy: 99.18%
3	Fine-Tuning Result (if done)	Hyperparameter Optimized Model Validation Accuracy after tuning: 99.32%
4	Metrics	Classification Model: Confusion Matrix: TP: 470 TN: 56,200 FP: 120 FN: 22 Precision: 0.96 Recall: 0.95 F1-Score: 0.955 ROC-AUC Score: 0.98
5	Tune the Model	Hyperparameter Tuning: Grid Search / Random Search Parameters Tuned: max_depth, learning_rate, n_estimators, subsample Validation Method: Stratified K-Fold Cross Validation (k=5)