

Project Development Phase

Model Performance Test

Date	14 February 2026
Team ID	LTVIP2026TMIDS66676
Project Name	Online Payments Fraud Detection using Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot
1.	Metrics	Regression Model: [[750, 5], [2, 143]] (Example: High TN and TP) Accuracy Score: 99.10% Classification Model: Confusion Matrix - , Accuray Score- 0.9966& Classification Report -	<pre>--- PERFORMANCE REPORT --- Accuracy : 0.9966 Recall : 1.0000 F1-Score : 0.9966 Confusion Matrix: [[1262189 8648] [17 1270909]]</pre>
2.	Tune the Model	Hyperparameter Tuning - n_estimators=100, max_depth=6, learning_rate=0.1, scale_pos_weight=99 Validation Method - Train-Test Split (80/20) with SMOTE (Synthetic Minority Over-sampling Technique) applied to training data	<input checked="" type="checkbox"/> --- CLASS BALANCE AFTER SMOTE --- isFraud 0 6354407 1 6354407 Name: count, dtype: int64 Fraud Ratio: 50.0000% print("¤ Training XGBoost (Optimized for Recall)...") model = XGBClassifier(n_estimators=100, max_depth=6, learning_rate=0.1, scale_pos_weight=99, eval_metric='logloss') model.fit(X_train, y_train)