

Project Development Phase

Model Performance Test

Date	
Team ID	LTVIP2026TMIDS40243
Project Name	Online Payments Fraud Detection
Maximum Marks	10 Marks

Model Performance Testing

S.No.	Parameter	Values		
1.	Metrics: <ul style="list-style-type: none"> Decision Tree: <ul style="list-style-type: none"> Accuracy: 98.14% [1247242 23639] [112 1631] Precision: 0.06 Recall: 0.99 F1 Score: 0.12 	Decision Tree: <ul style="list-style-type: none"> Accuracy: 98.14% Confusion Matrix: [2639] <table border="1" style="margin-left: 20px;"> <tr><td>12</td></tr> <tr><td>1631</td></tr> </table> Precision: 0.06 Recall: 0.99 F1 Score: 0.87 	12	1631
12				
1631				
2.	Tune the Model <ul style="list-style-type: none"> Hyperparameter Tuning: <ul style="list-style-type: none"> class_weight = 'balanced' max_depth = 8 Validation Method: Test-Train Split 	Decision Tree: <ul style="list-style-type: none"> Hyperparameter Tuning: <ul style="list-style-type: none"> n_estimators = 50 Validation Method: <ul style="list-style-type: none"> Test-Train Split 		

```

File Edit Selection View Go Run Terminal Help ← → Q online_payments_fraud_detection
EXPLORER PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
> OPEN EDITORS
ONLINE_PAYMENTS_FRAUD_D...
  > data
    PS_20174392719_14912...
  > DOCUMENTATION
  > EDA
  > flask
    > model
      decision_tree_model.pkl
    static/images
      1bg.jpeg
      2bg.jpeg
      3bg.png
  templates
    home.html
    predict.html
    submit.html
  app.py
  > training
    data.info.py
    data_load.py
    model_save.py
    model_training.py
    preprocessing.py
    .gitignore
    Fraud vs Non-Fraud Trans...
  README.md
  > OUTLINE
  > TIMELINE
PS C:\Users\HP\OneDrive\Desktop\online_payments_fraud_detection> python training/model_training.py
>>
Data prepared for training
X shape: (6362620, 11)
y shape: (6362620,)
Train-test split completed

Decision Tree Results
Accuracy: 0.981414102995307

Confusion Matrix:
[[1247242 23639]
 [ 12 1631]]

Classification Report:
precision recall f1-score support
0 1.00 0.98 0.99 1270881
1 0.06 0.99 0.12 1643

accuracy macro avg 0.53 0.99 0.56 1272524

Random Forest Results
Accuracy: 0.9996998091980976

Confusion Matrix:
[[1270851 30]
 [ 352 12911]]

Classification Report:
precision recall f1-score support
0 1.00 1.00 1.00 1270881
1 0.98 0.79 0.87 1643

accuracy macro avg 0.99 0.89 0.94 1272524
weighted avg 1.00 1.00 1.00 1272524

```