

CatBoost Fraud Detection Model Report

1. Hyperparameter Tuning Results

Best hyperparameters:

```
{'learning_rate': 0.09990291872131865, 'depth': 7, 'l2_leaf_reg': 9.870697503354776, 'border_count': 180, 'scale_pos_weight': 6.382153921511625}
```

Best F1 score: 0.3570

2. Classification Report (Best Threshold)

	precision	recall	f1-score	support
0	0.96	0.92	0.94	2899
1	0.23	0.39	0.29	185
accuracy			0.88	3084
macro avg	0.59	0.65	0.61	3084
weighted avg	0.92	0.88	0.90	3084

Best Threshold: 0.5048

Precision: 0.2260

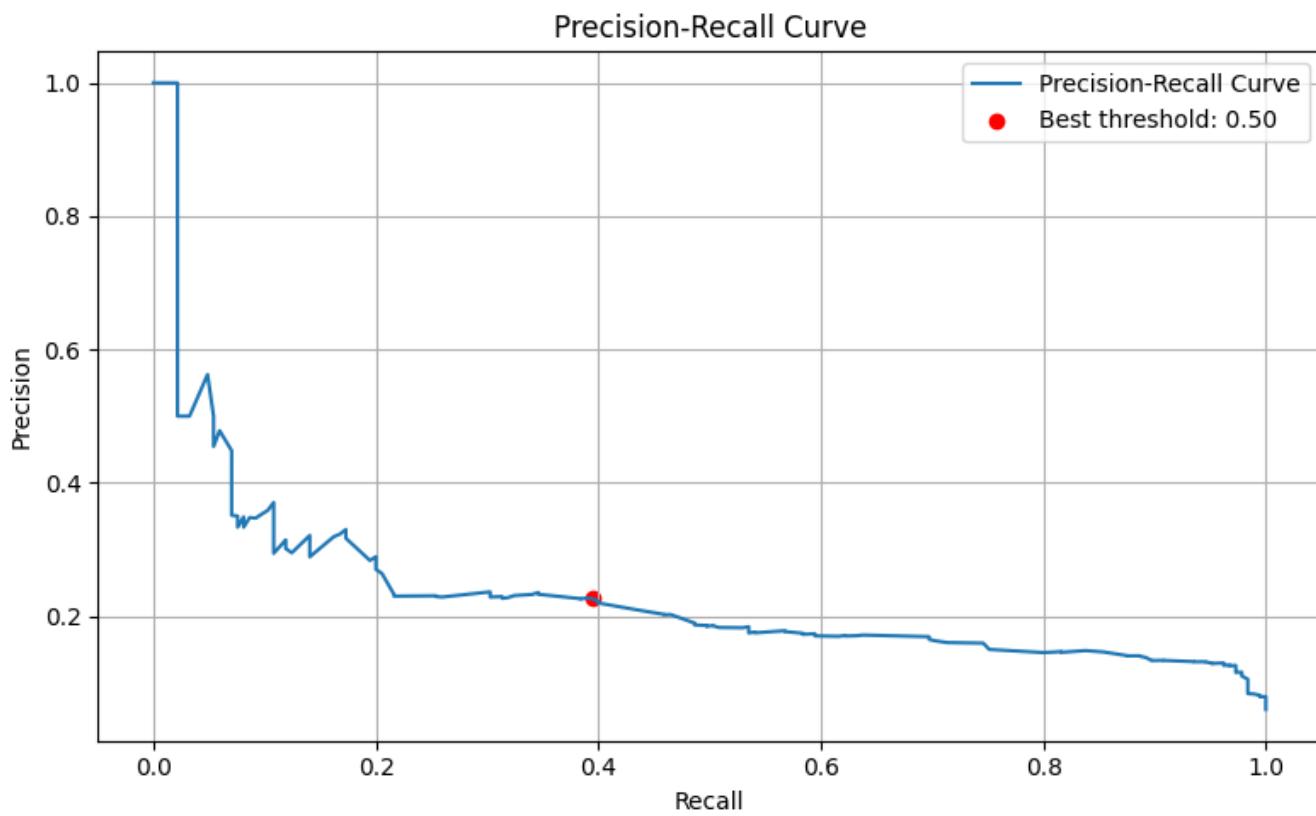
Recall: 0.3946

F1 Score: 0.2874

3. Plots

Precision-Recall Curve:

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SHAP Summary Plot:

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