Credit Risk Model Validation Report

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Model Information

Model File:	tune_best.xgb
Model Type:	XGBoost Binary Classifier
Test Set Size:	219 samples
Class Distribution:	Good Credit: 154, Bad Credit: 65

Overall Performance Metrics

Classification Metrics

Accuracy	0.7032
Balanced Accuracy	0.6067
Precision	0.7602
Recall	0.8442
F1-Score	0.8000
Matthews Correlation Coefficient	0.2356

Probabilistic Metrics

ROC-AUC	0.7219
Average Precision	0.8616
Log Loss	0.6214

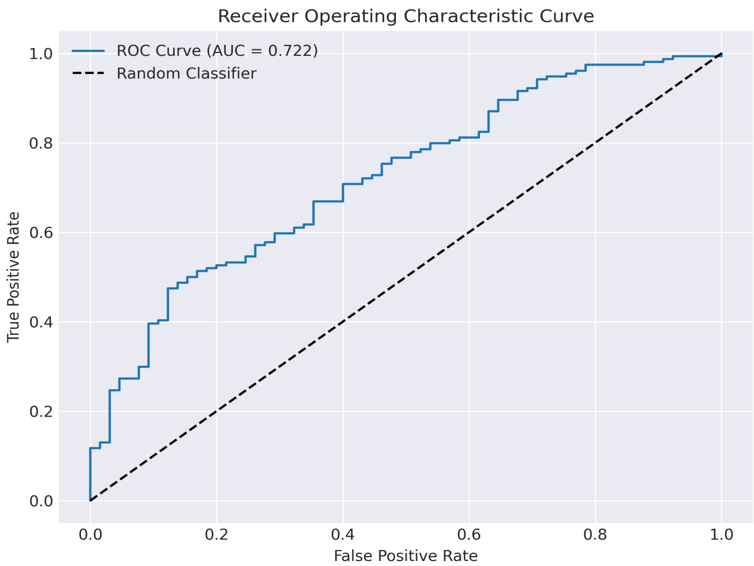
Business Impact Analysis

Decision Distribution

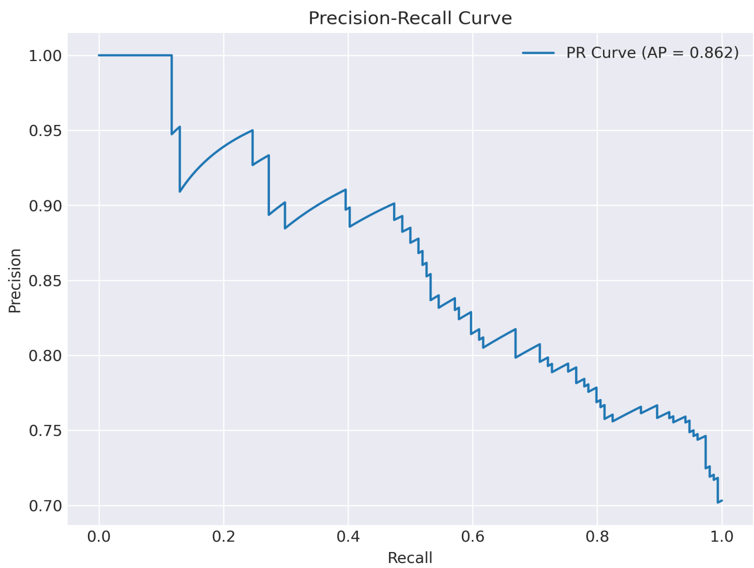
Decision Tier	Count	Percentage	Bad Rate
Approved (≥0.6)	161	73.5%	22.98%
Manual Review (0.4-0.6)	19	8.7%	26.32%
Denied (<0.4)	39	17.8%	58.97%

Model Performance Visualizations

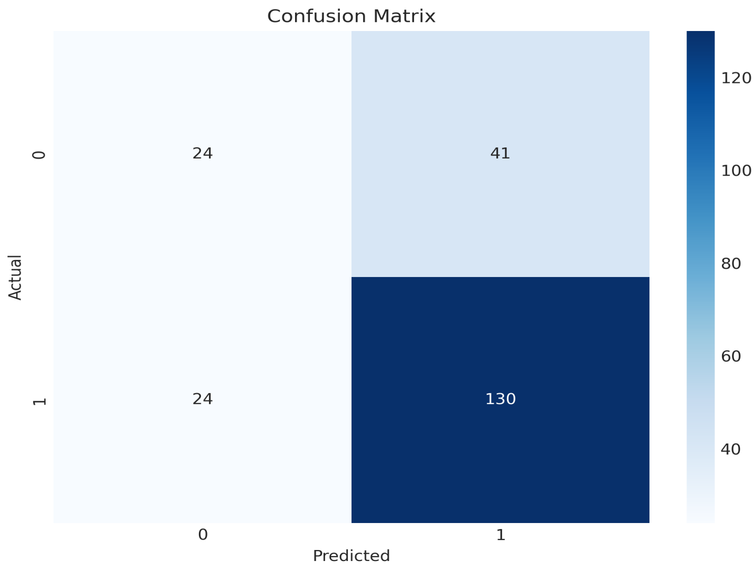
ROC Curve



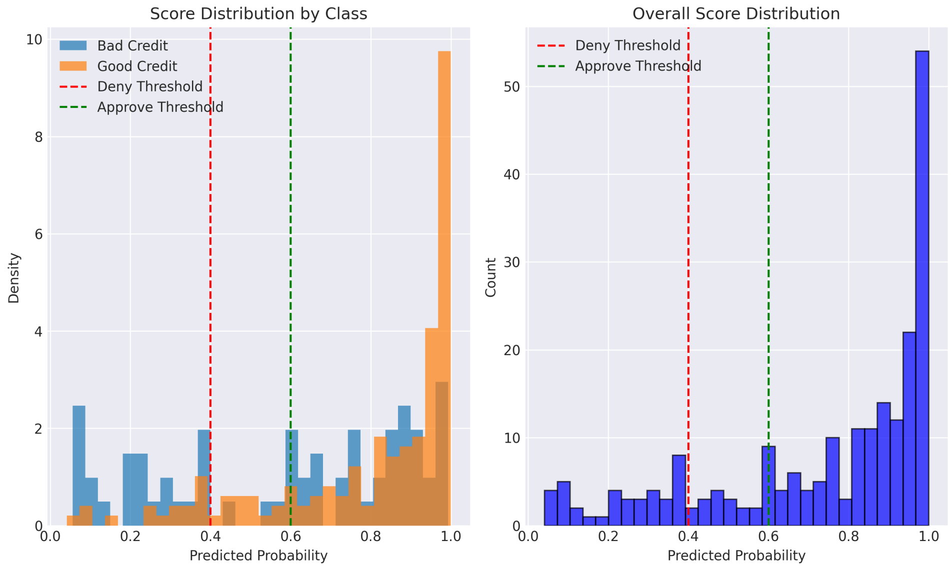
Precision-Recall Curve



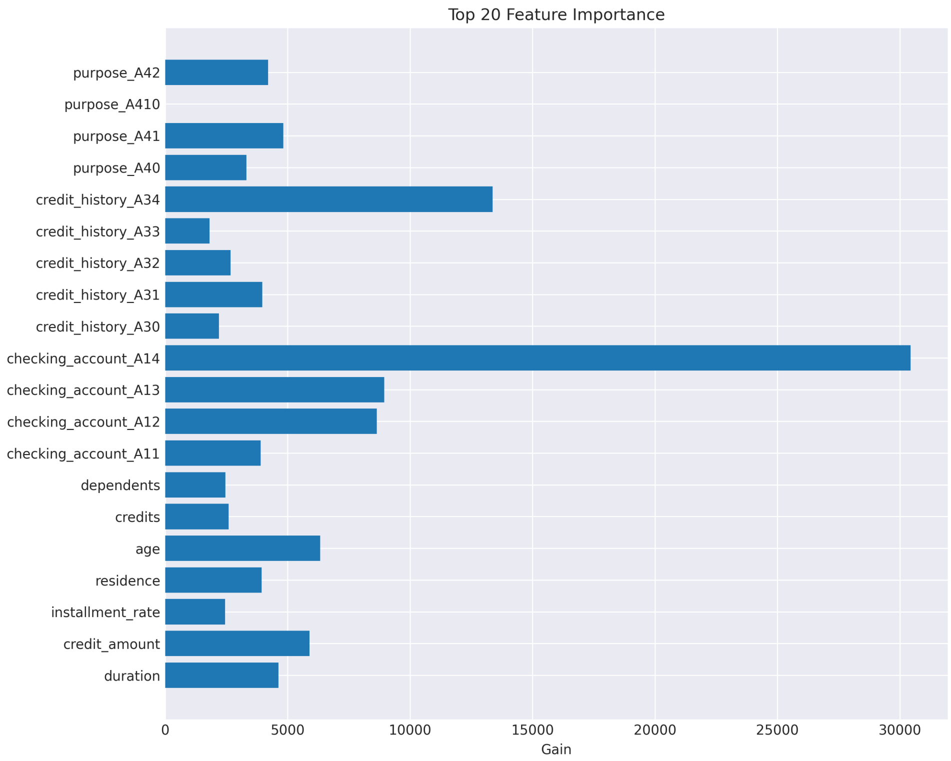
Confusion Matrix



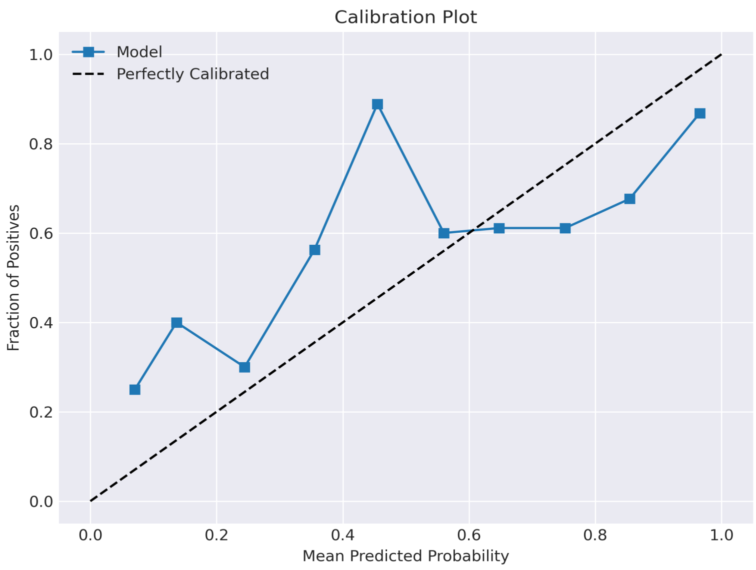
Score Distribution



Feature Importance



Calibration Plot



Recommendations

1. The model shows moderate discriminatory power with an AUC of 0.722

2. The business thresholds effectively separate risk levels with bad rates of 23.0% for approved vs 59.0% for denied

3. Consider adjusting thresholds based on business risk appetite and manual review capacity

4. Monitor model performance regularly and retrain when performance degrades