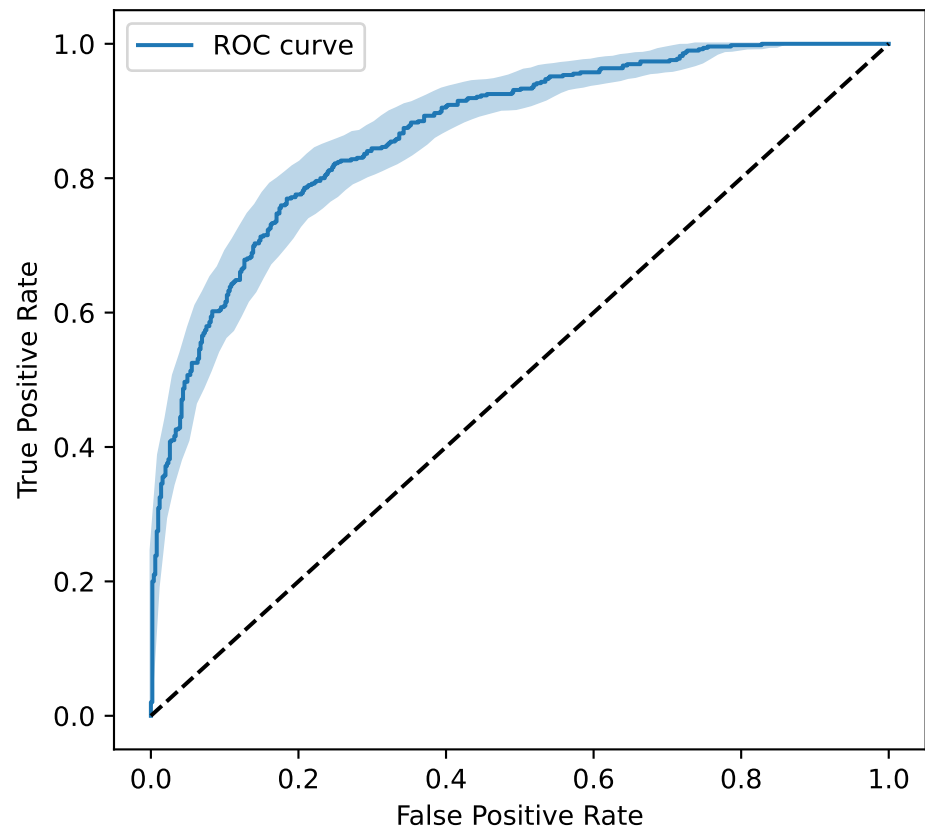
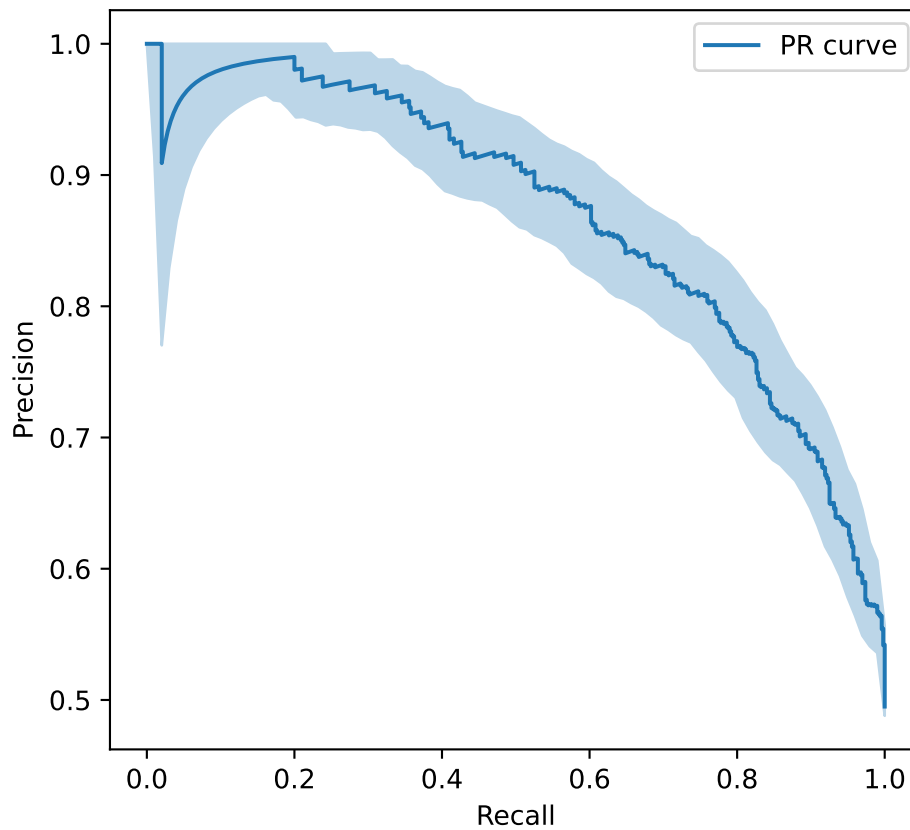


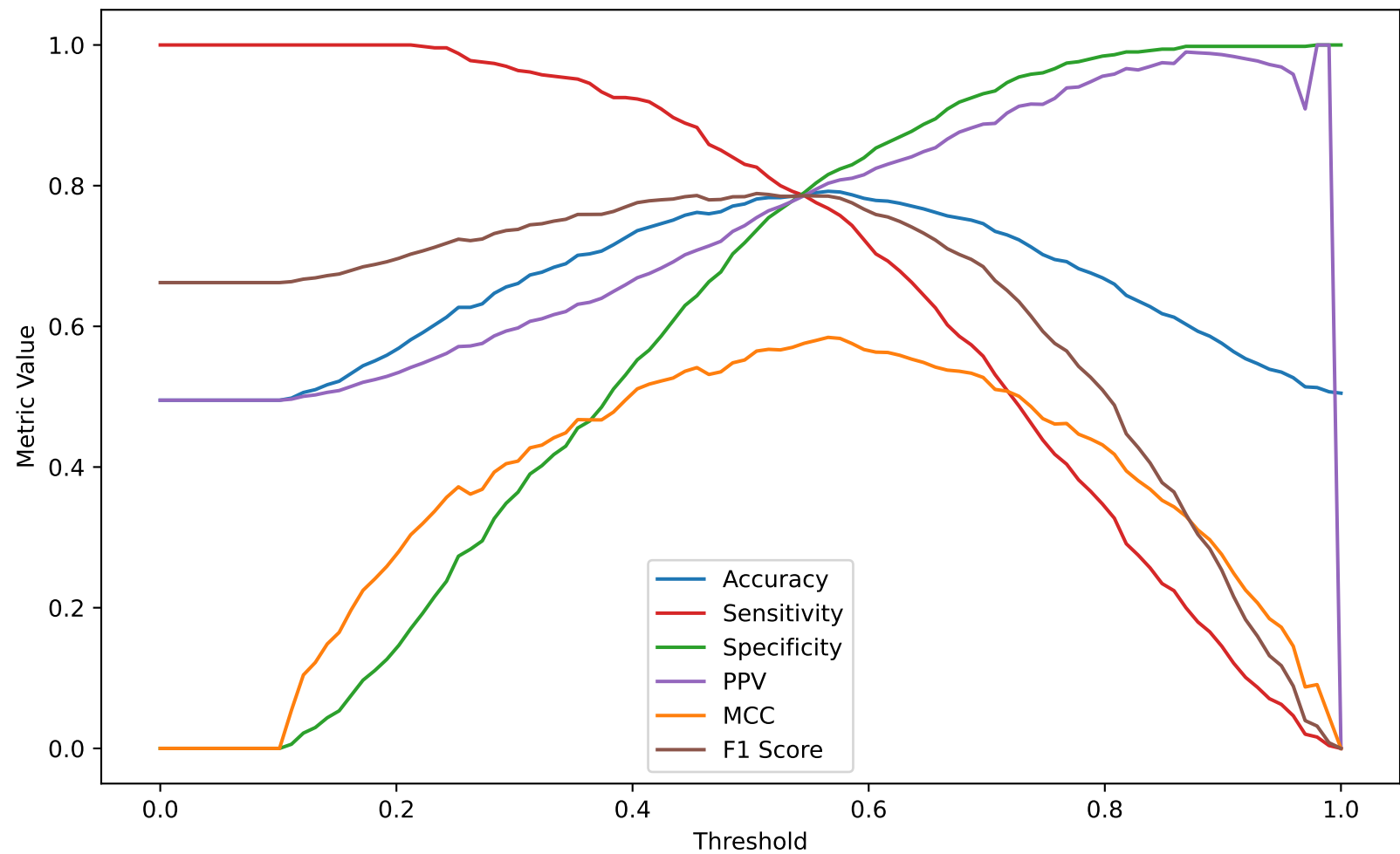
ROC Curve



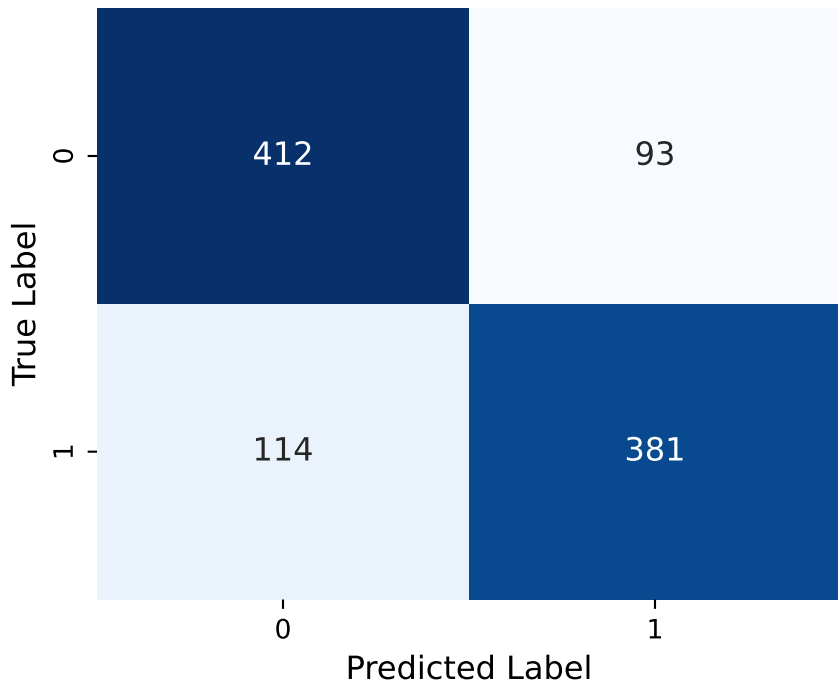
Precision-Recall Curve



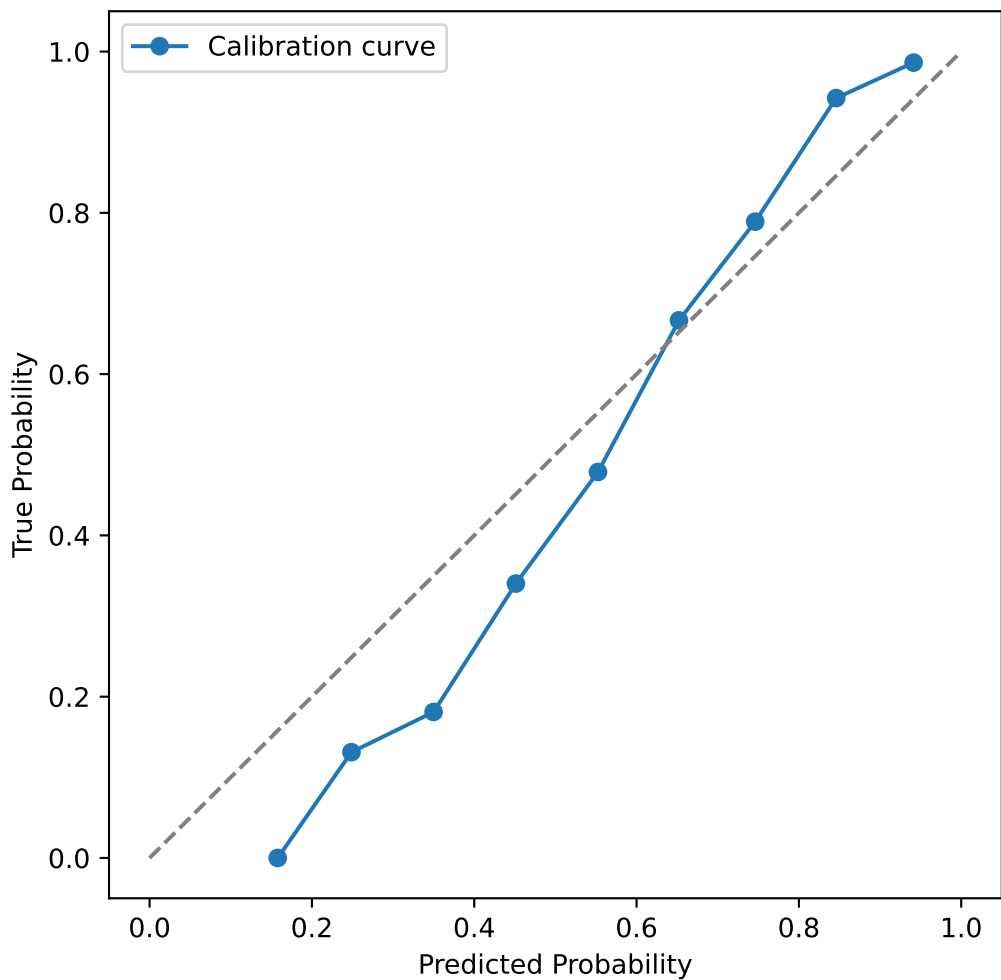
Metrics Across Thresholds



Confusion Matrix (Optimal Threshold)



Calibration Plot



**Performance Metrics at Optimal Threshold**

| Metric      | Value | 95% CI         |
|-------------|-------|----------------|
| Accuracy    | 0.793 | [0.768, 0.816] |
| Sensitivity | 0.770 | [0.732, 0.803] |
| Specificity | 0.816 | [0.784, 0.848] |
| PPV         | 0.804 | [0.766, 0.838] |
| NPV         | 0.783 | [0.749, 0.820] |
| MCC         | 0.586 | [0.538, 0.637] |
| F1 Score    | 0.786 | [0.758, 0.814] |
| AUC-ROC     | 0.869 | [0.847, 0.891] |
| AUC-PR      | 0.869 | [0.841, 0.895] |

