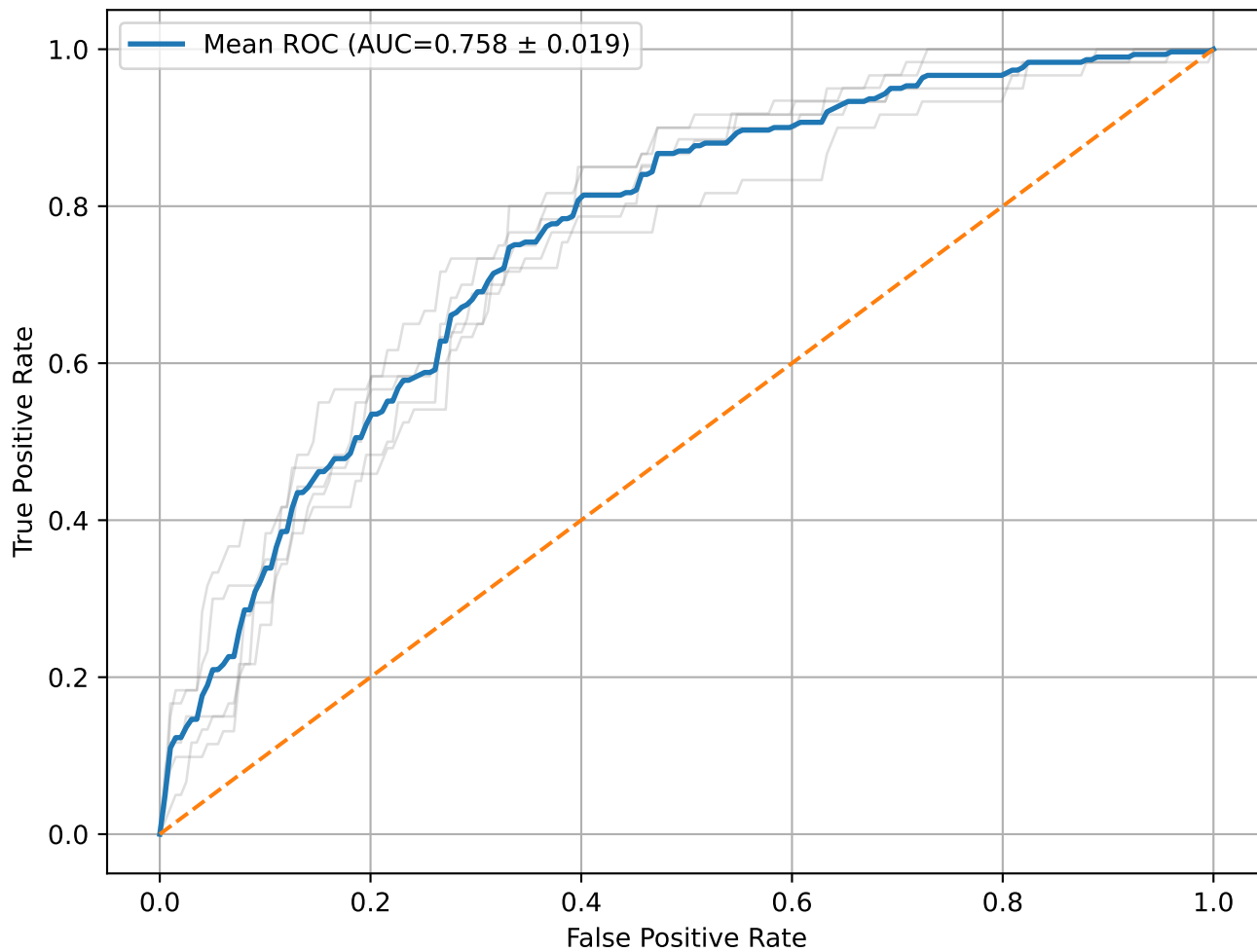


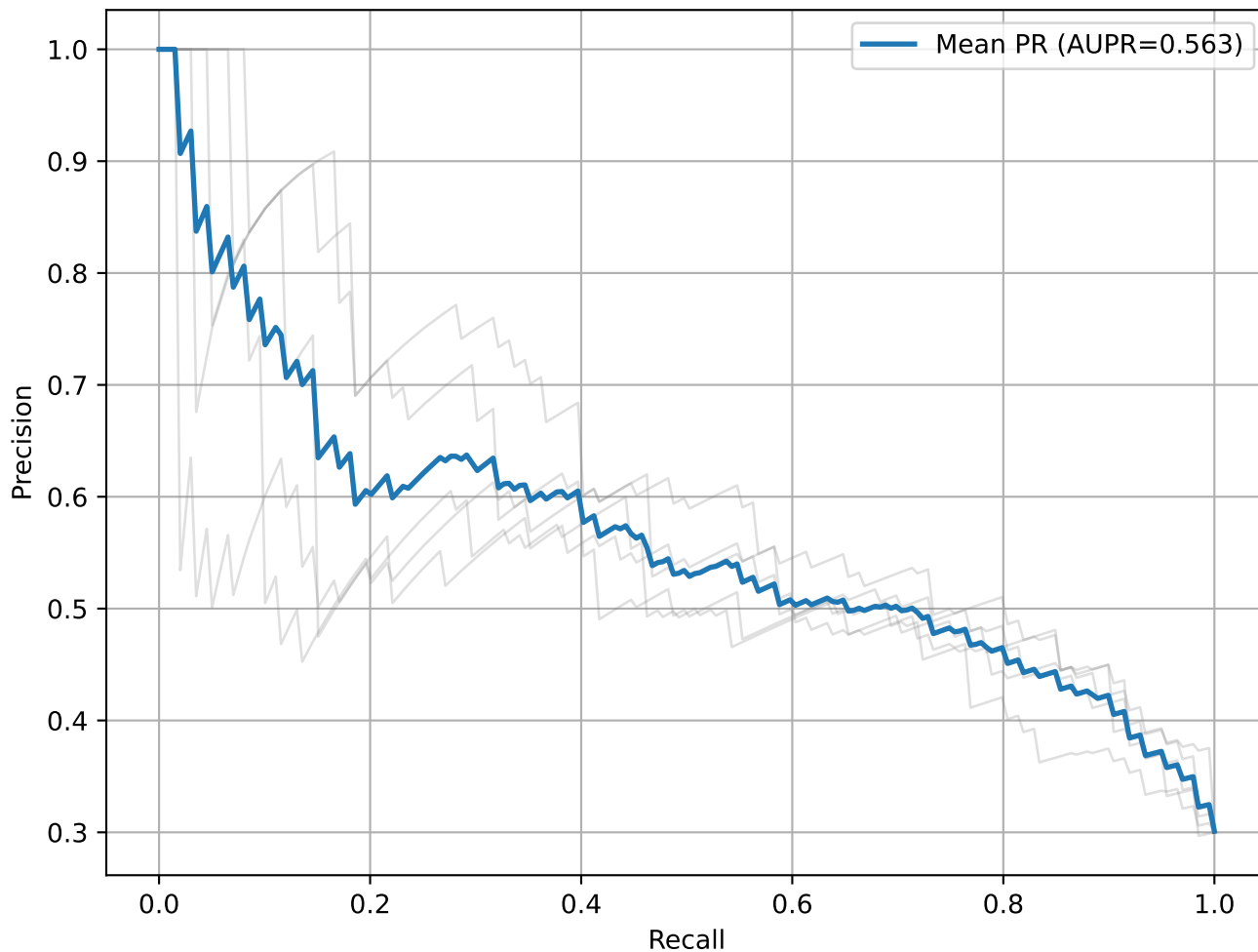
ML Models Comparison Report

Generated: 2025-11-21T22:29:09.895337
Dataset samples: 1000
Models: logistic, rf, svm, xgboost, lightgbm, dnn
StratifiedKFold: 5 splits
Random seed: 42

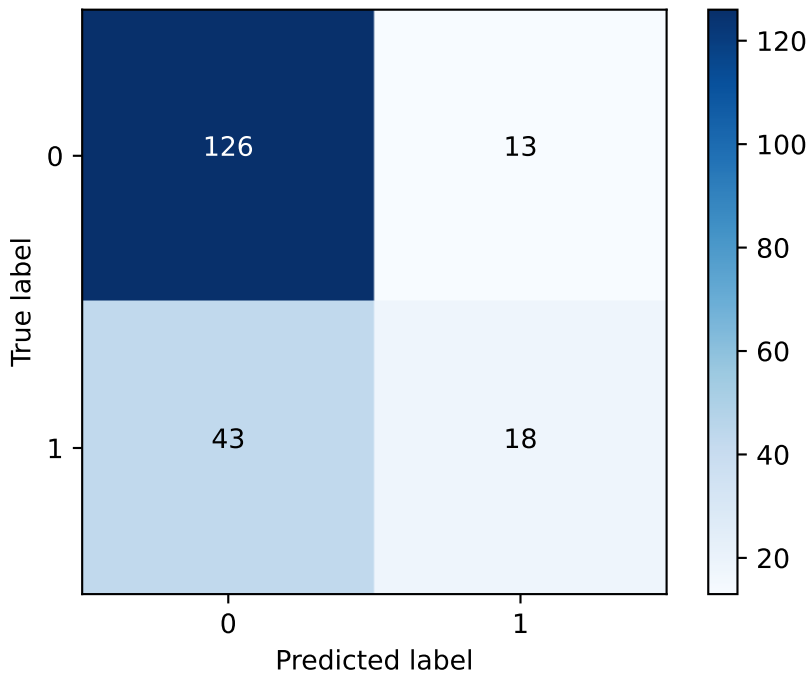
ROC - LOGISTIC



Precision-Recall - LOGISTIC



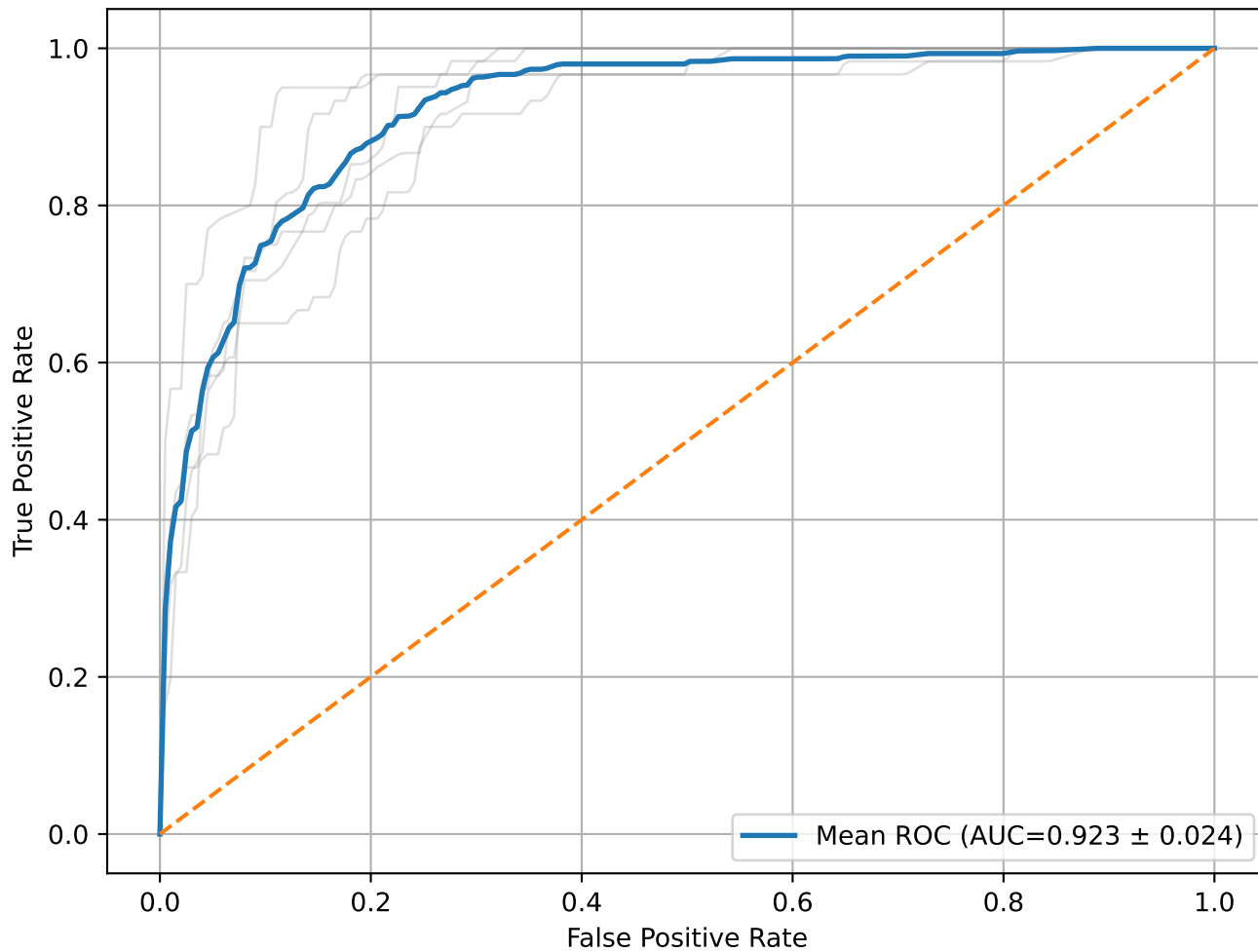
Confusion Matrix - LOGISTIC (last fold)



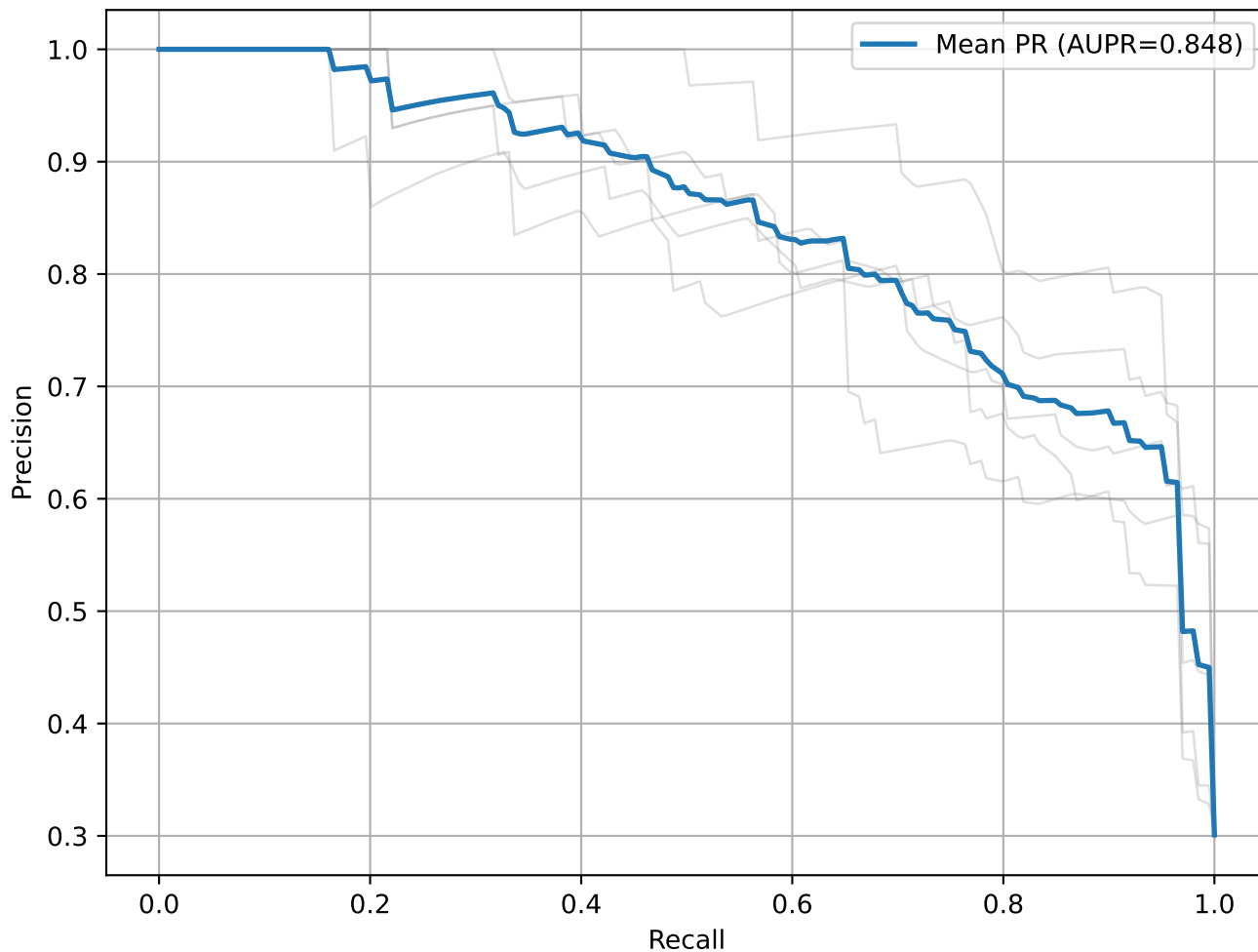
	precision	recall	f1-score	support
0	0.75	0.91	0.82	139
1	0.58	0.30	0.39	61
accuracy			0.72	200
macro avg	0.66	0.60	0.61	200
weighted avg	0.70	0.72	0.69	200

Classification Report - LOGISTIC (last fold)

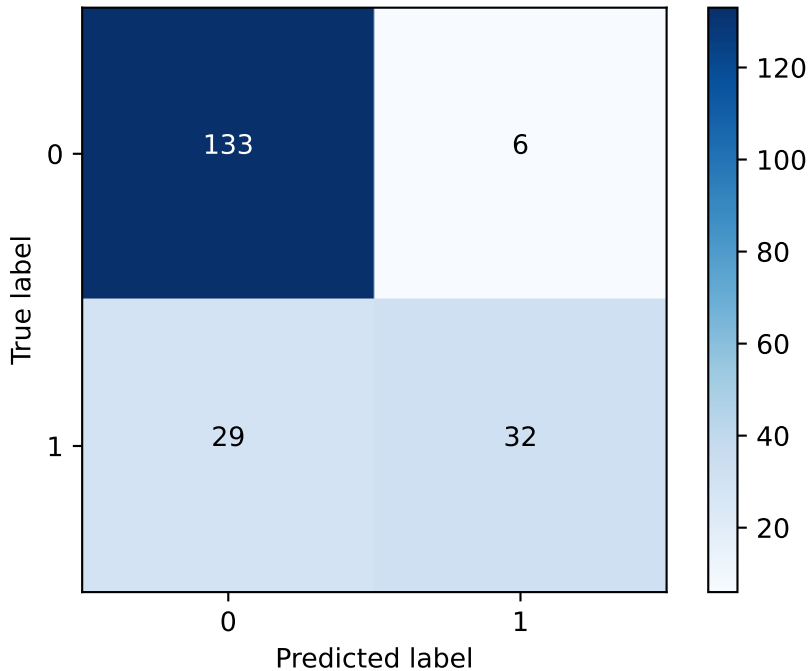
ROC - RF



Precision-Recall - RF



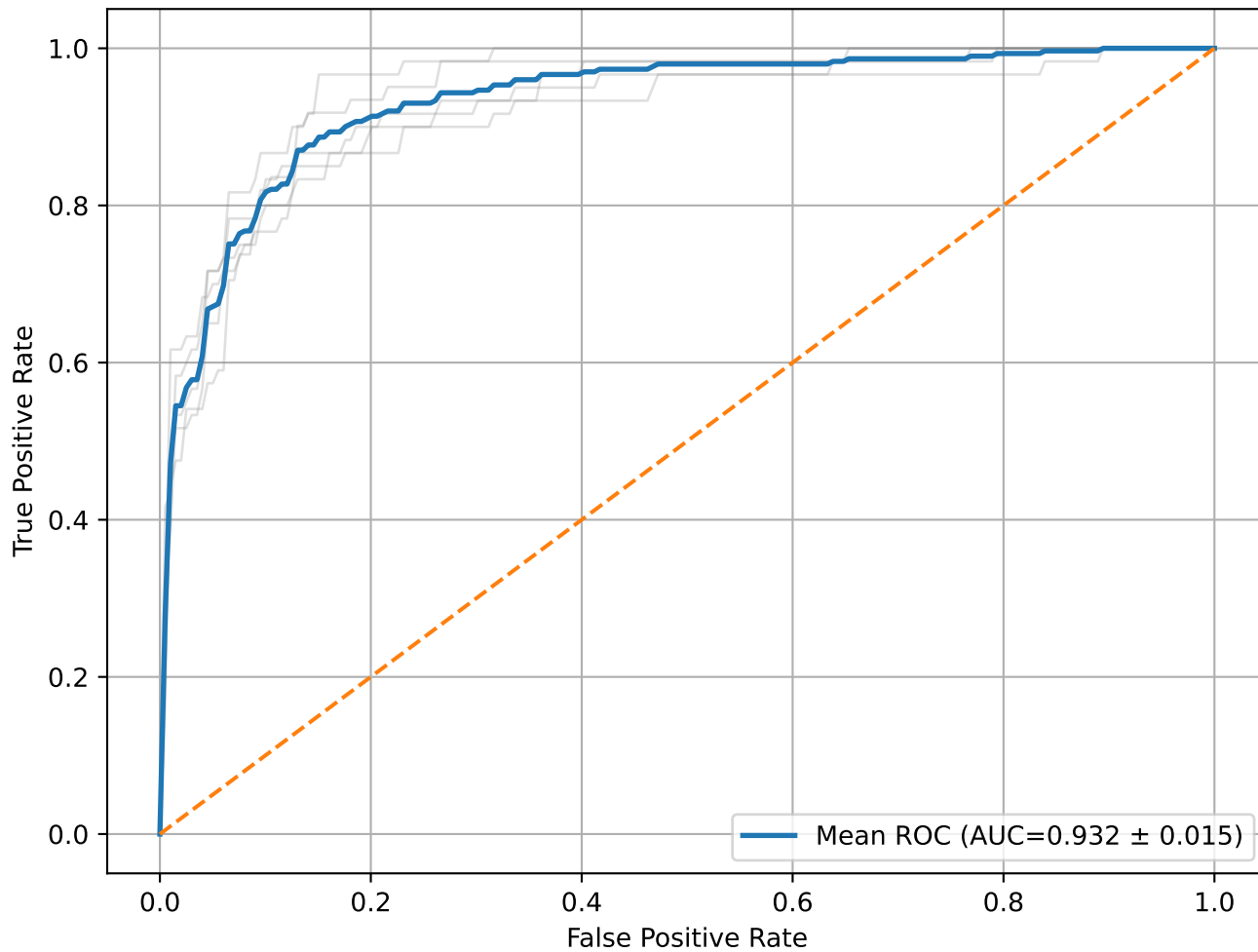
Confusion Matrix - RF (last fold)



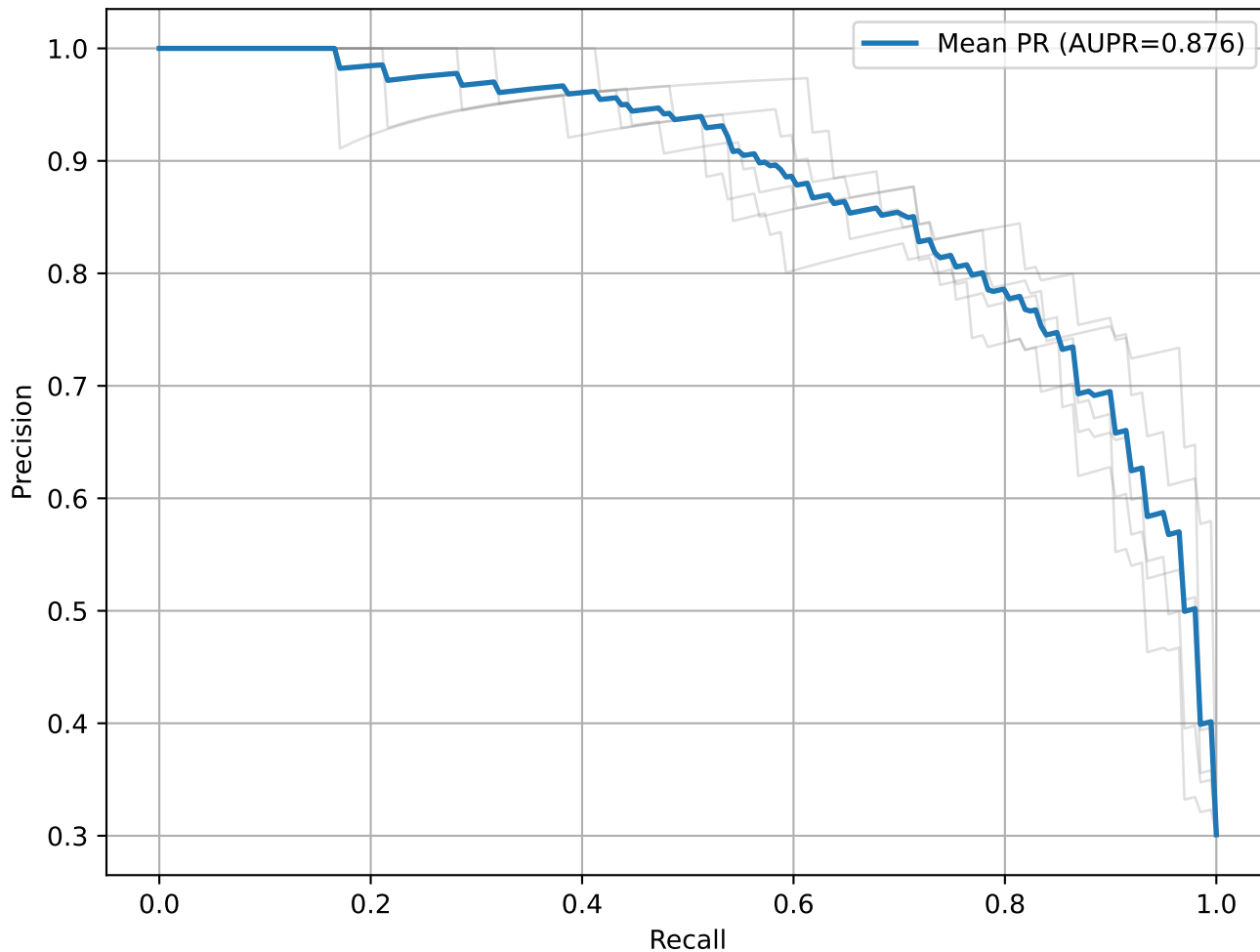
	precision	recall	f1-score	support
0	0.82	0.96	0.88	139
1	0.84	0.52	0.65	61
accuracy			0.82	200
macro avg	0.83	0.74	0.77	200
weighted avg	0.83	0.82	0.81	200

Classification Report - RF (last fold)

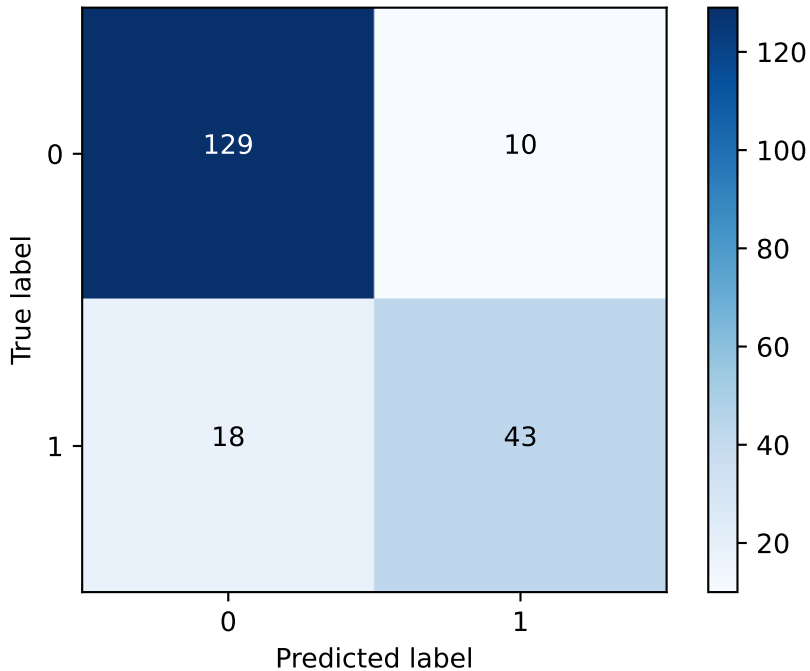
ROC - SVM



Precision-Recall - SVM



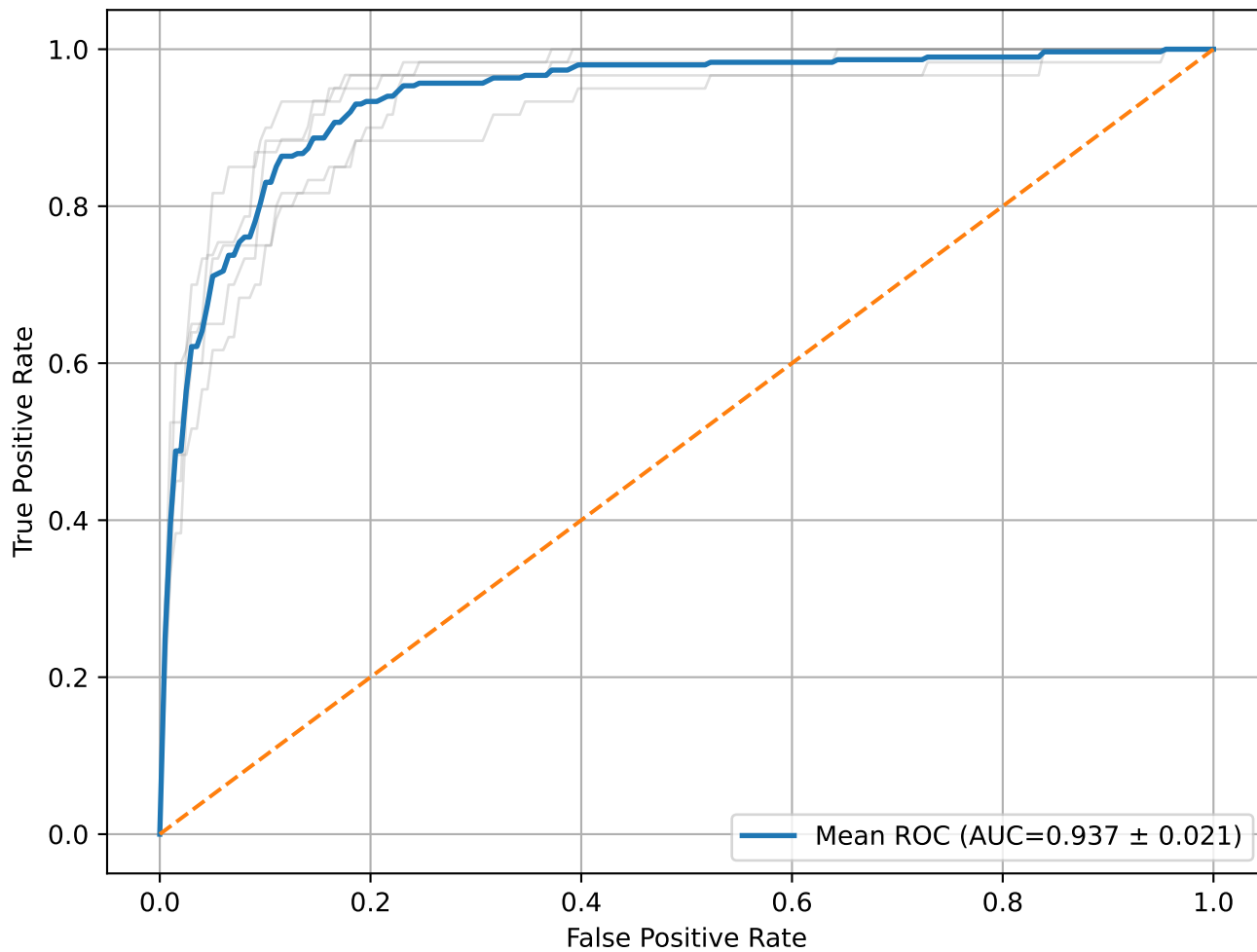
Confusion Matrix - SVM (last fold)



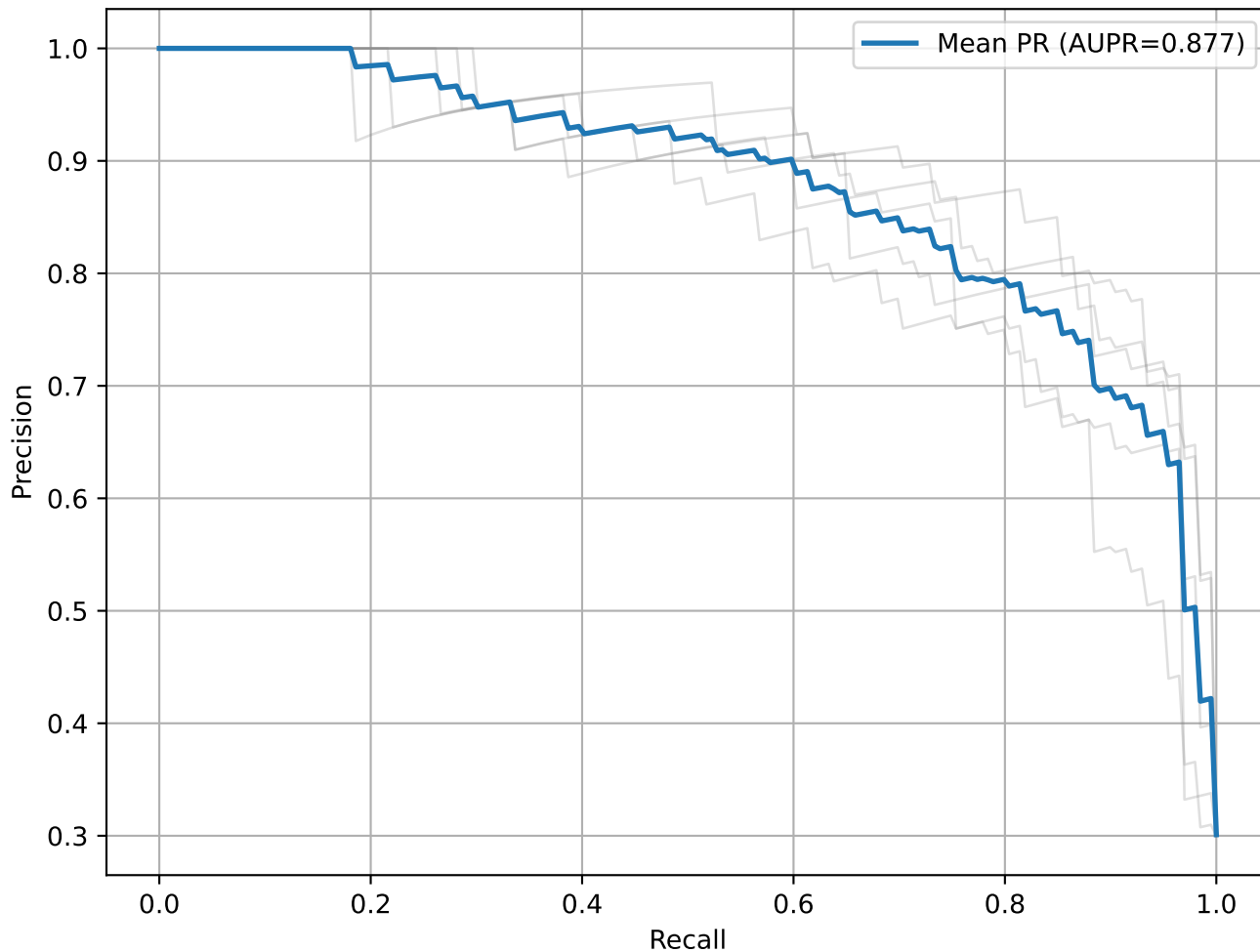
	precision	recall	f1-score	support
0	0.88	0.93	0.90	139
1	0.81	0.70	0.75	61
accuracy			0.86	200
macro avg	0.84	0.82	0.83	200
weighted avg	0.86	0.86	0.86	200

Classification Report - SVM (last fold)

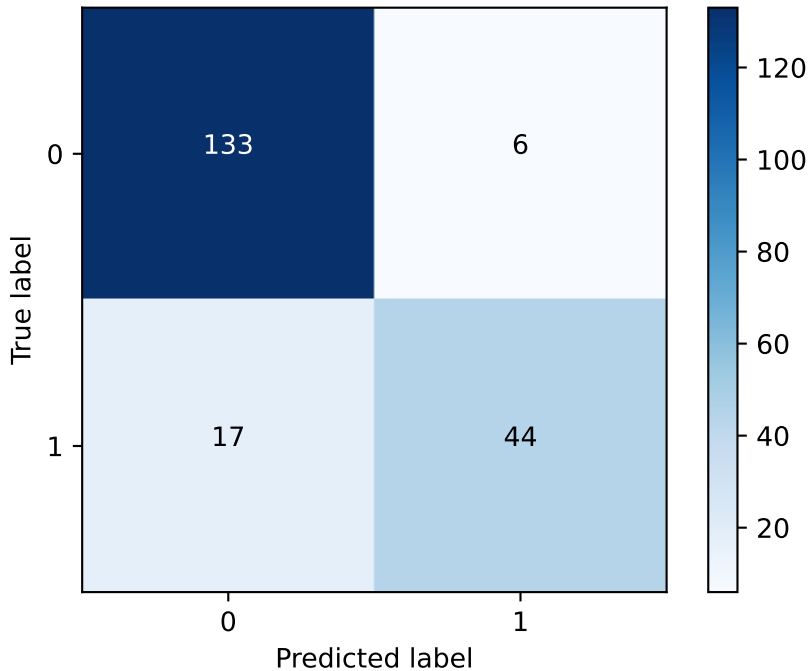
ROC - XGBOOST



Precision-Recall - XGBOOST



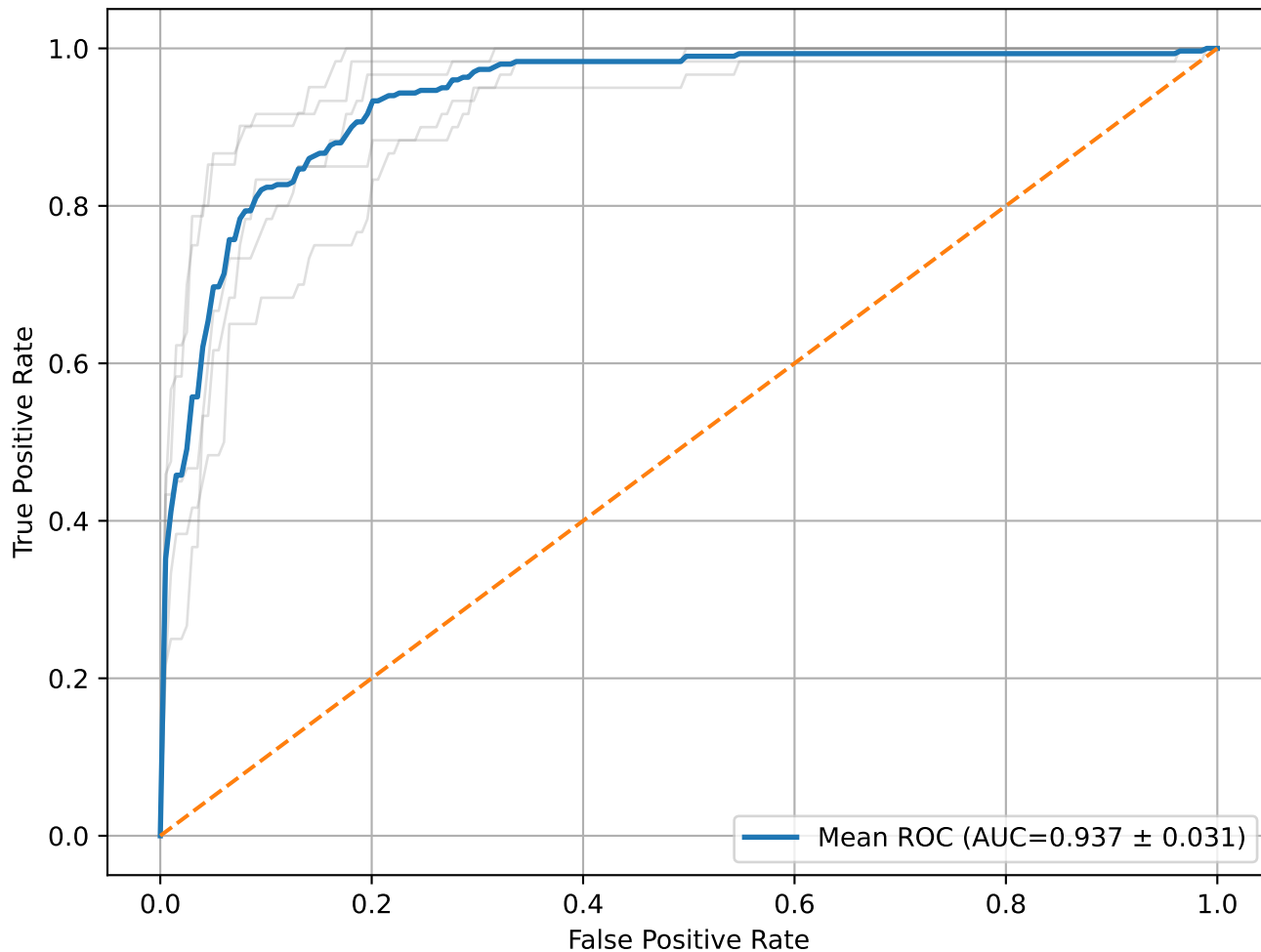
Confusion Matrix - XGBOOST (last fold)



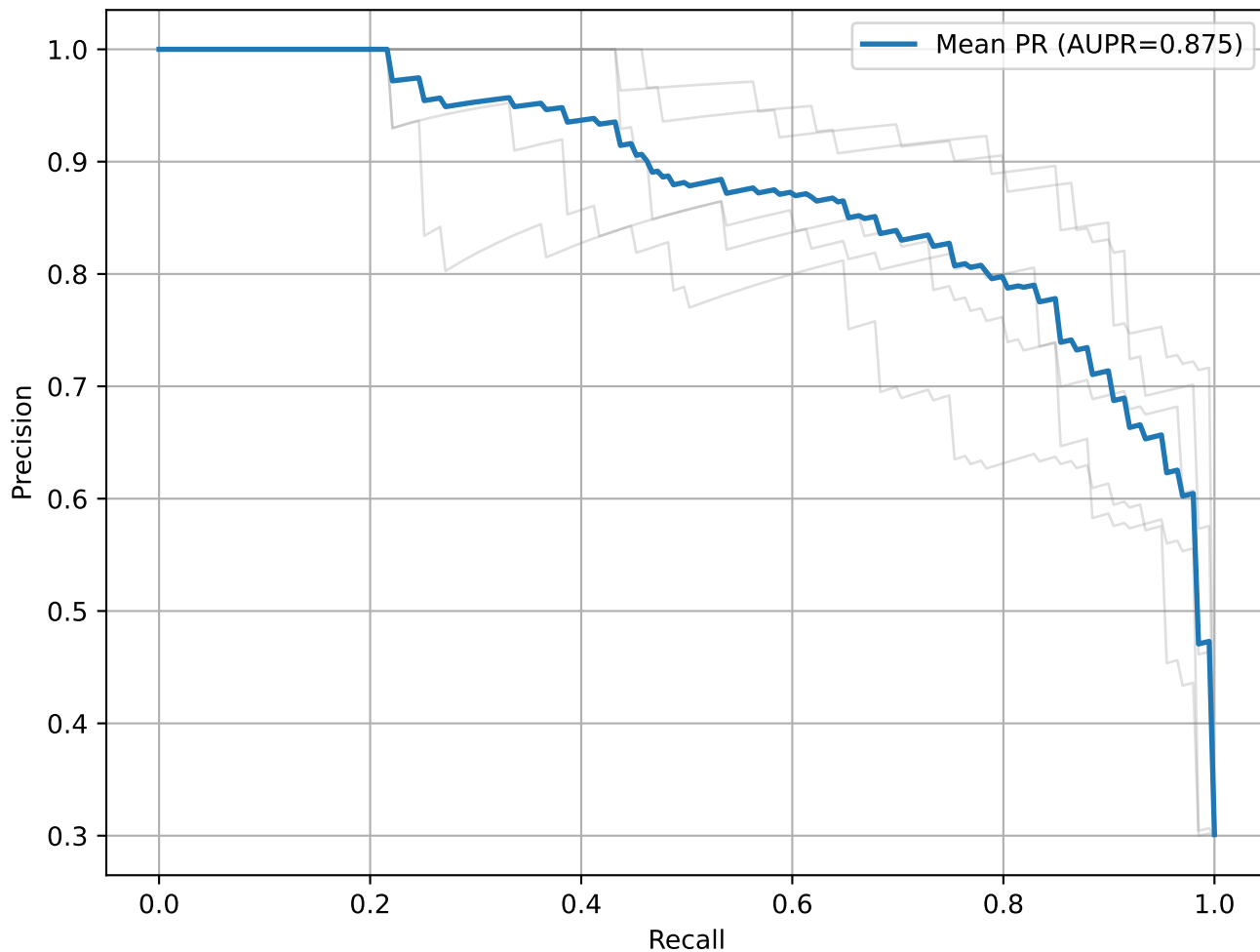
	precision	recall	f1-score	support
0	0.89	0.96	0.92	139
1	0.88	0.72	0.79	61
accuracy			0.89	200
macro avg	0.88	0.84	0.85	200
weighted avg	0.88	0.89	0.88	200

Classification Report - XGBOOST (last fold)

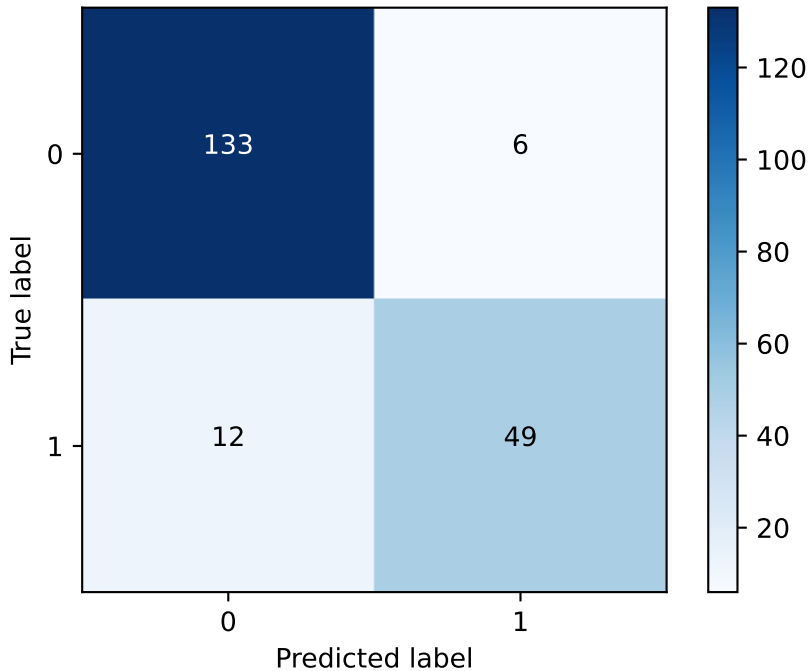
ROC - LIGHTGBM



Precision-Recall - LIGHTGBM



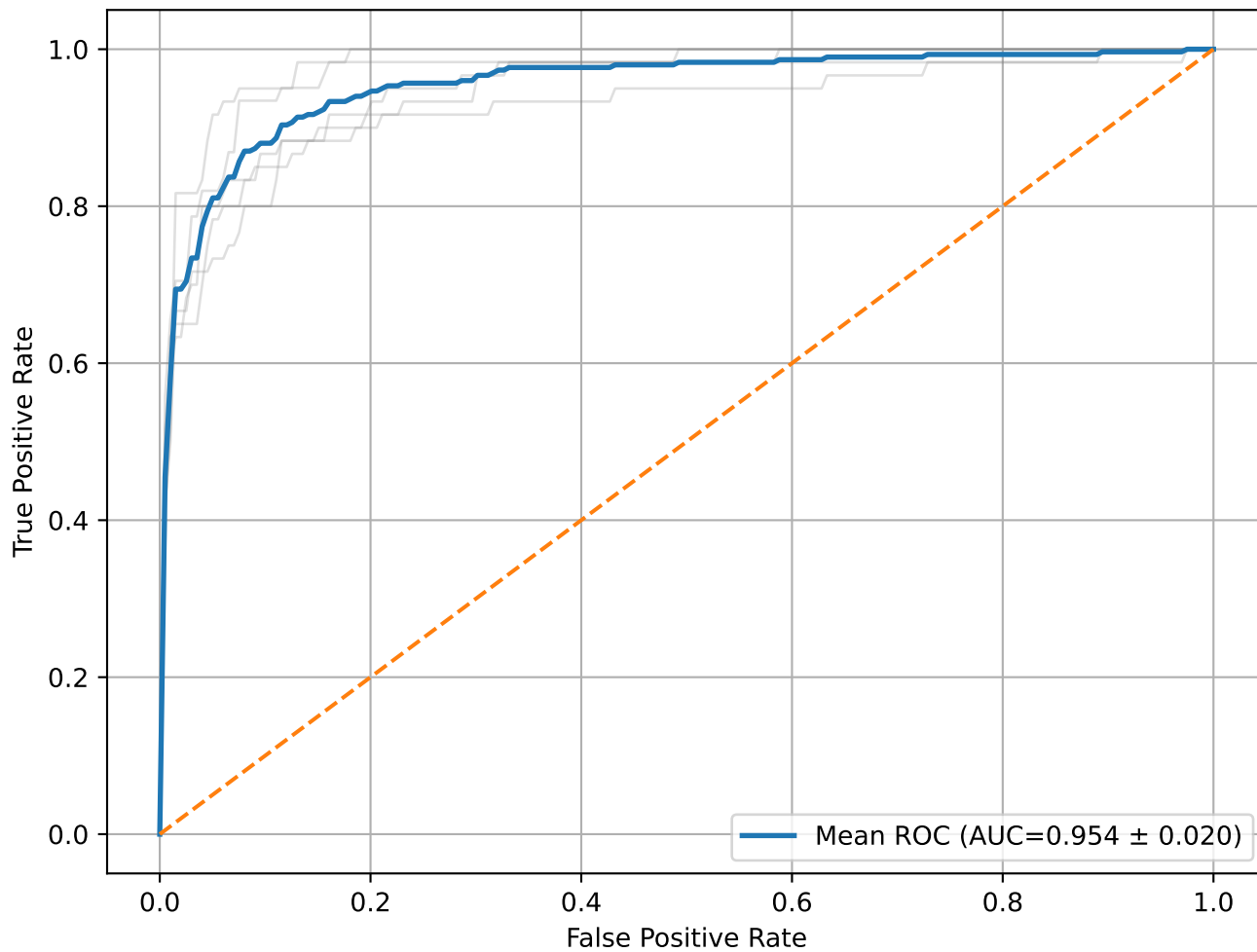
Confusion Matrix - LIGHTGBM (last fold)



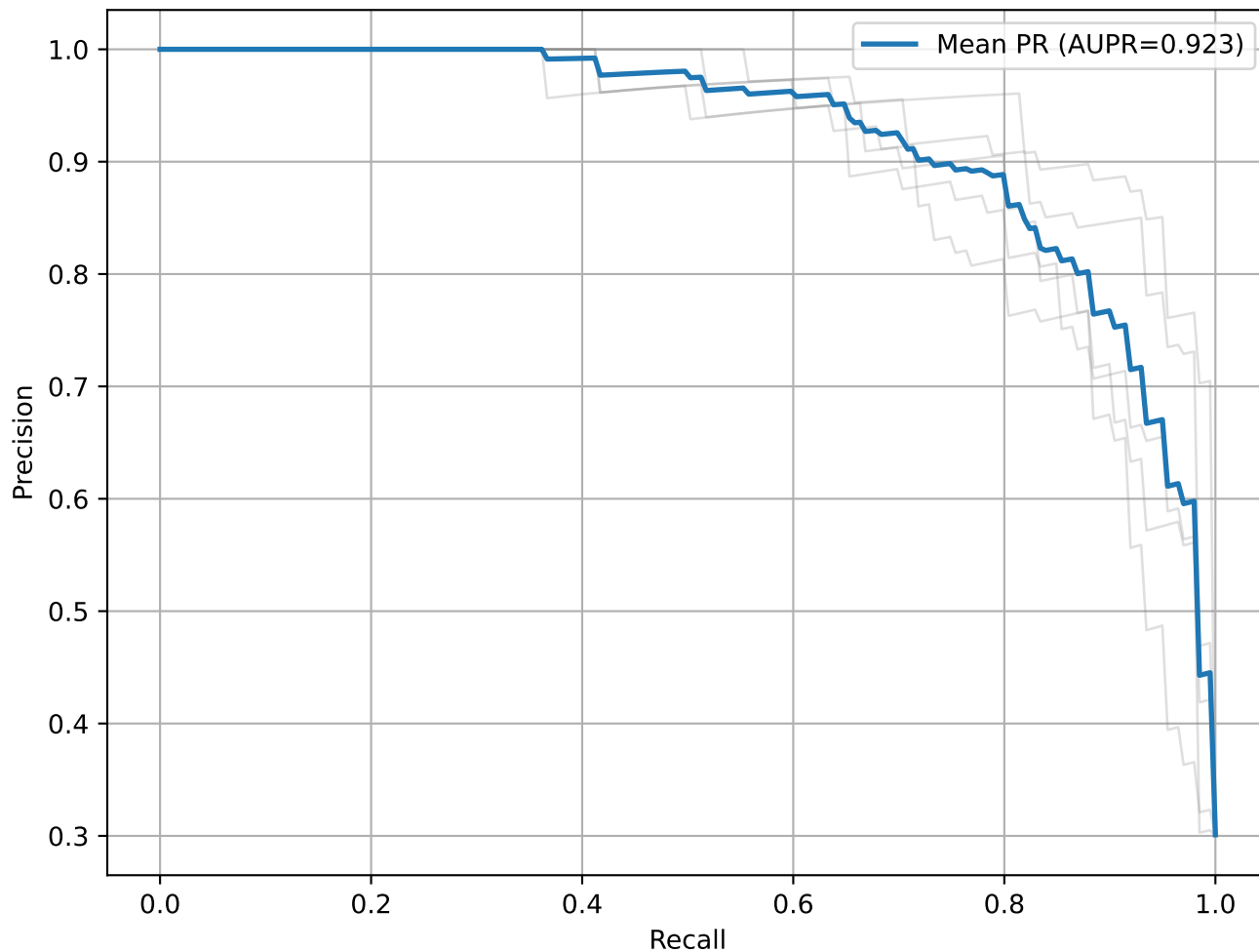
	precision	recall	f1-score	support
0	0.92	0.96	0.94	139
1	0.89	0.80	0.84	61
accuracy			0.91	200
weighted avg	0.90	0.88	0.89	200
weighted avg	0.91	0.91	0.91	200

Classification Report - LIGHTGBM (last fold)

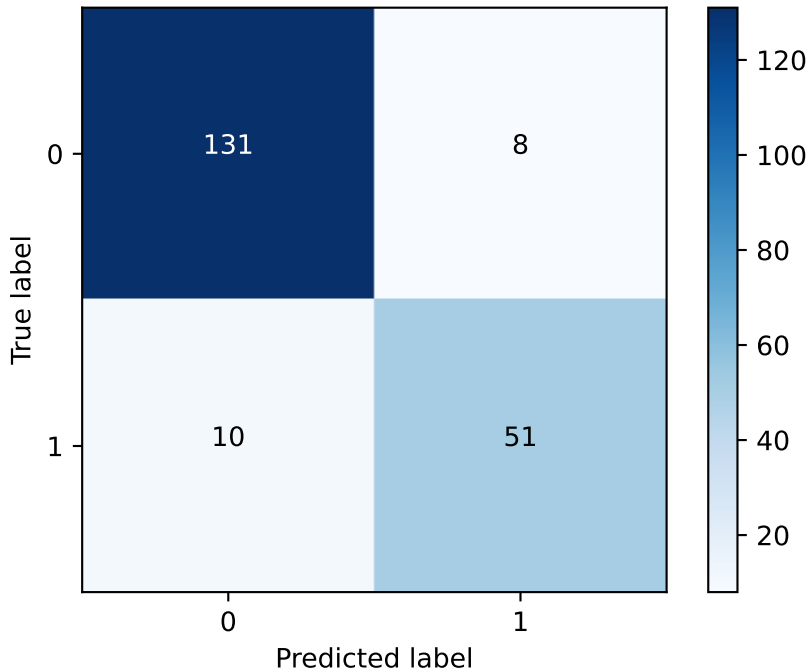
ROC - DNN



Precision-Recall - DNN



Confusion Matrix - DNN (last fold)



	precision	recall	f1-score	support
0	0.93	0.94	0.94	139
1	0.86	0.84	0.85	61
accuracy			0.91	200
macro avg	0.89	0.89	0.89	200
weighted avg	0.91	0.91	0.91	200

Classification Report - DNN (last fold)

Model Comparison Table (sorted by mean ROC AUC)

model	mean_roc_auc	std_roc_auc	mean_aupr	mean_accuracy	mean_f1
dnn	0.954838	0.020268	0.923383	0.905	0.836275
lightgbm	0.938267	0.030541	0.875199	0.872	0.769101
xgboost	0.937059	0.021090	0.877383	0.865	0.756923
svm	0.932700	0.014608	0.876416	0.875	0.777251
rf	0.923501	0.023684	0.847909	0.834	0.653633
logistic	0.758539	0.019272	0.563017	0.732	0.428006