

ML Models Comparison Report

Generated: 2025-11-21T22:29:09.895337

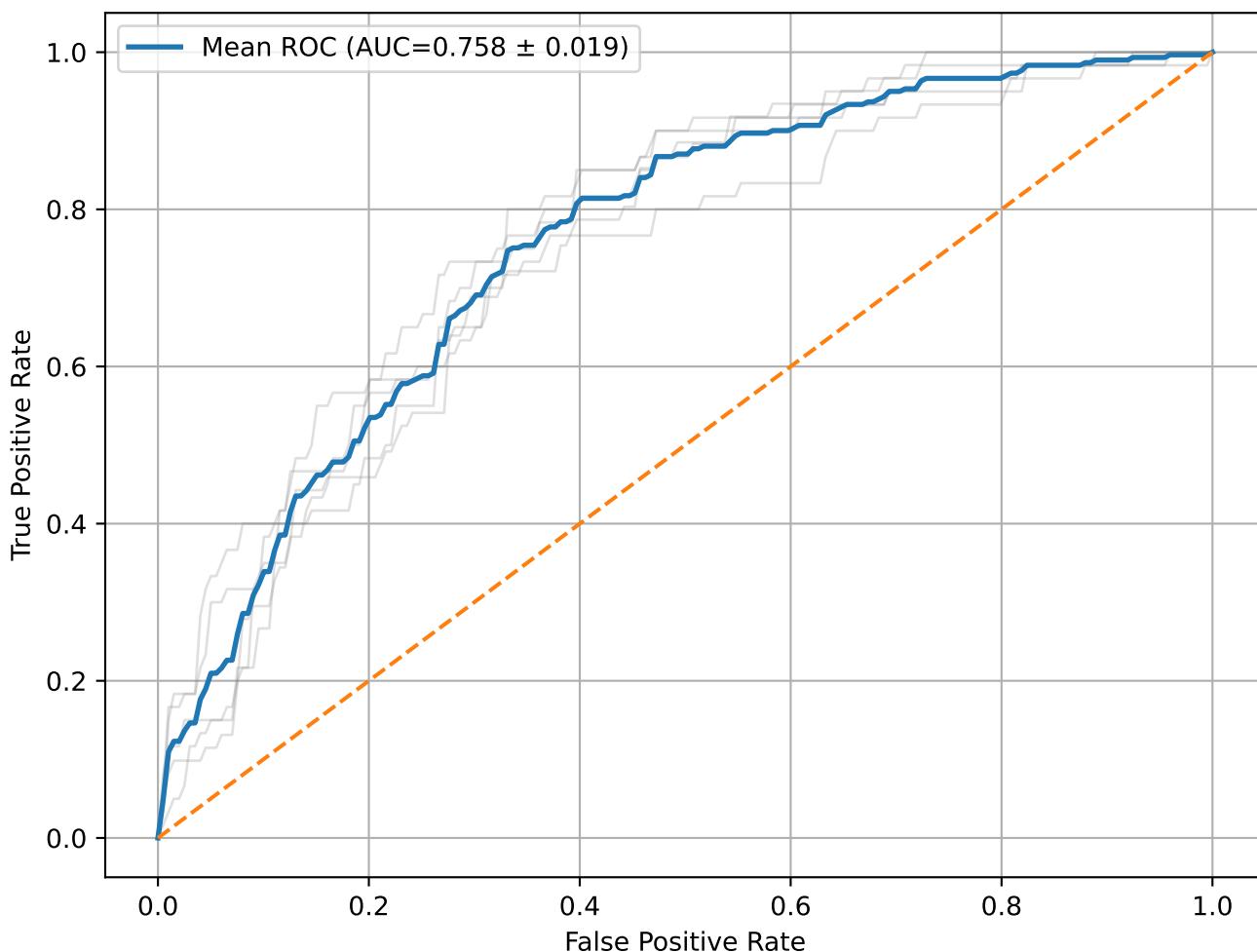
Dataset samples: 1000

Models: logistic, rf, svm, xgboost, lightgbm, dnn

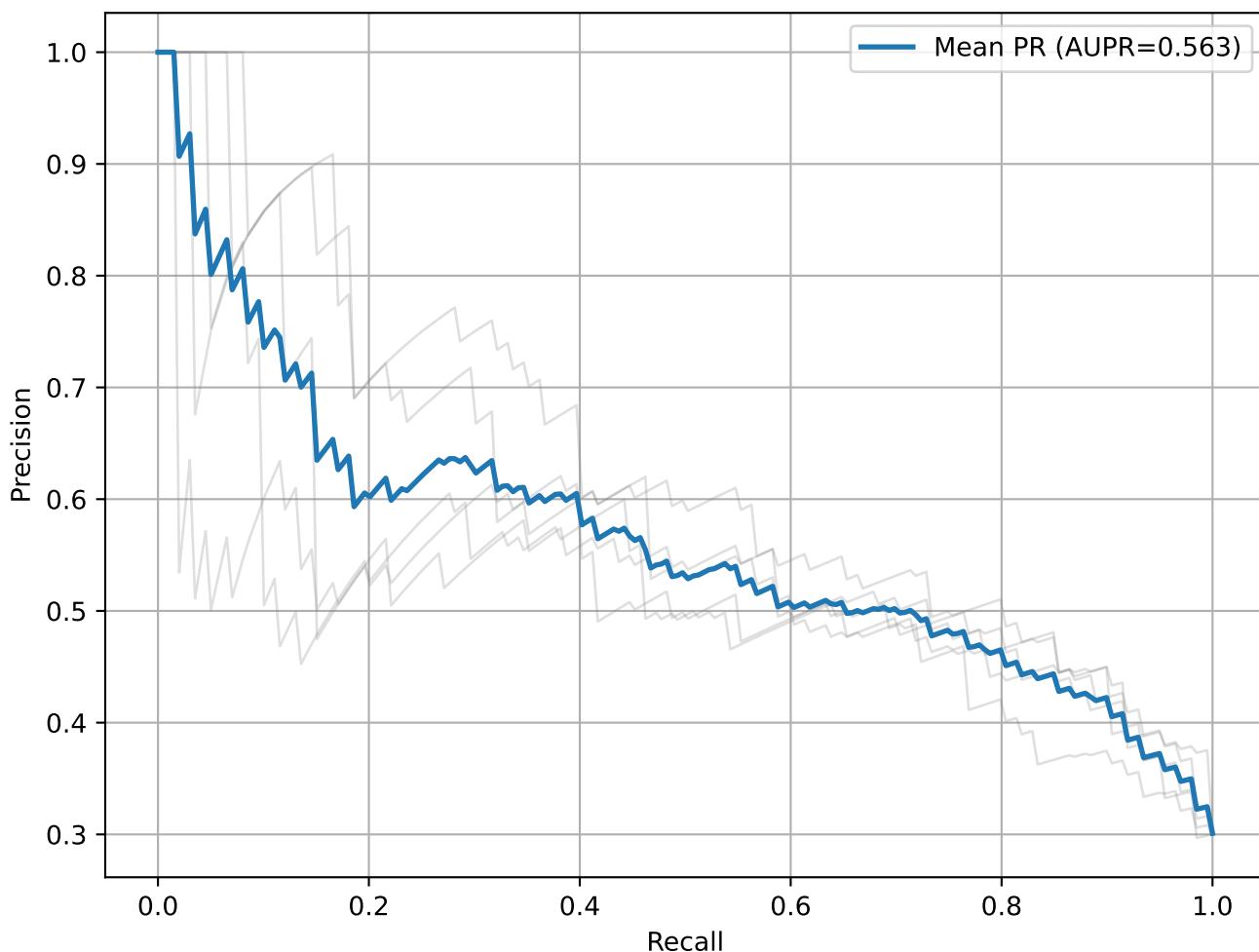
StratifiedKFold: 5 splits

Random seed: 42

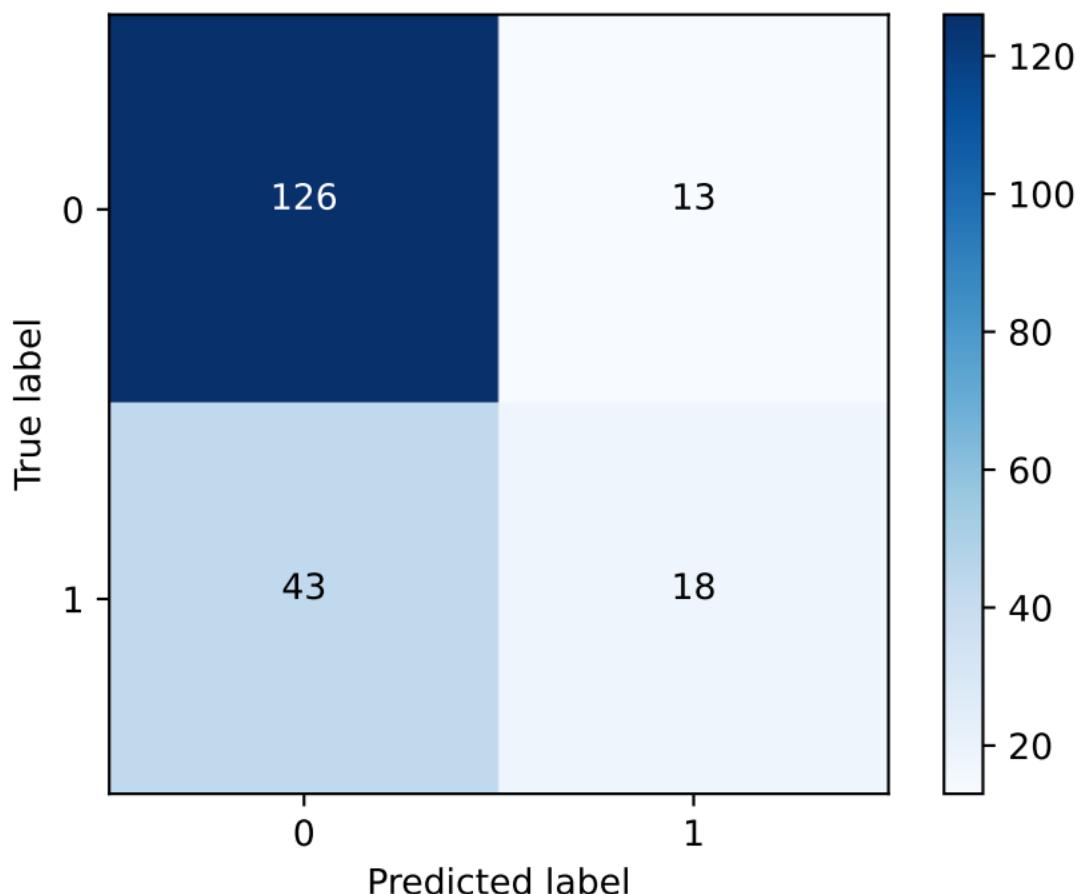
ROC - LOGISTIC



Precision-Recall - LOGISTIC



Confusion Matrix - LOGISTIC (last fold)



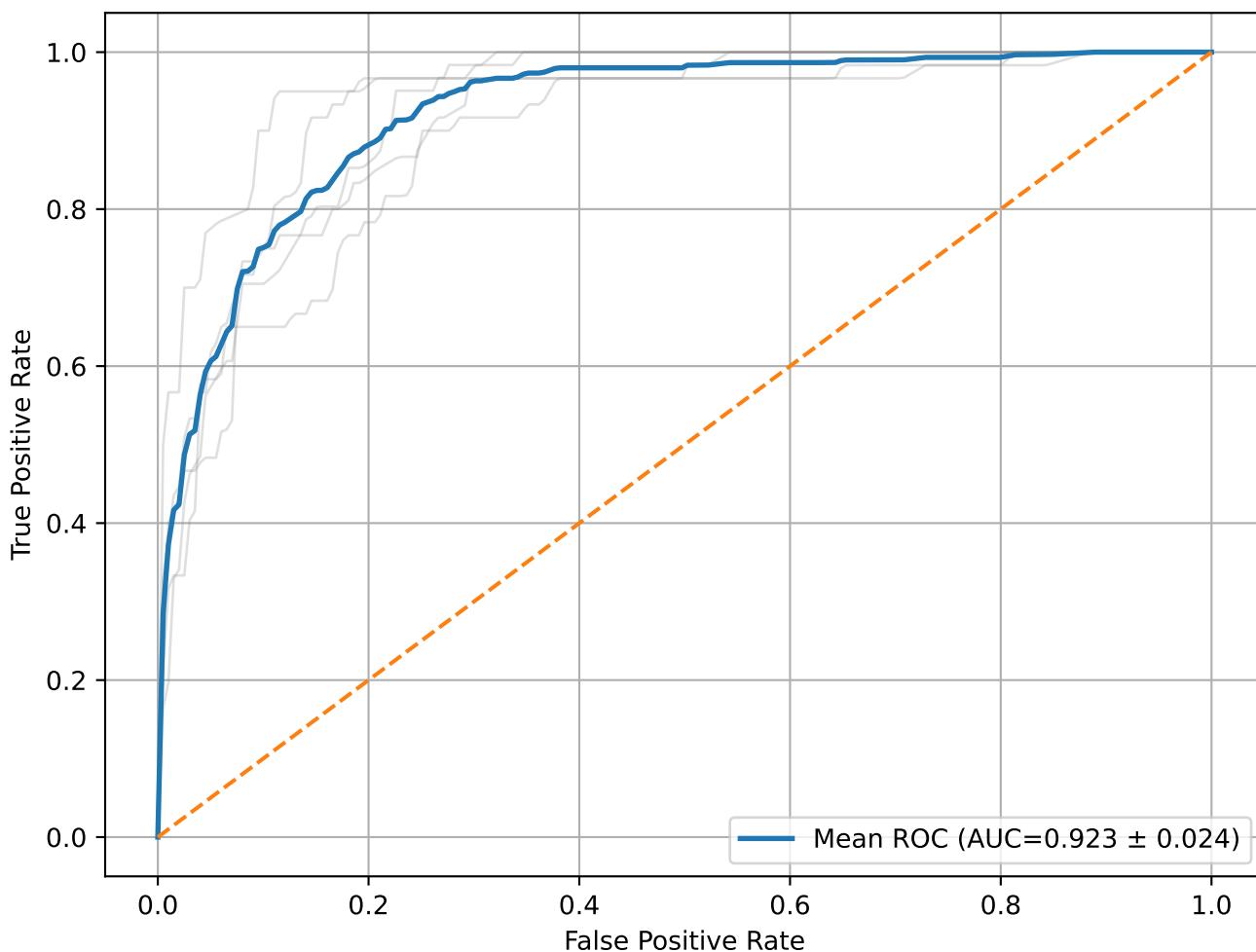
	precision	recall	f1-score	support
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0	0.75	0.91	0.82	139
1	0.58	0.30	0.39	61

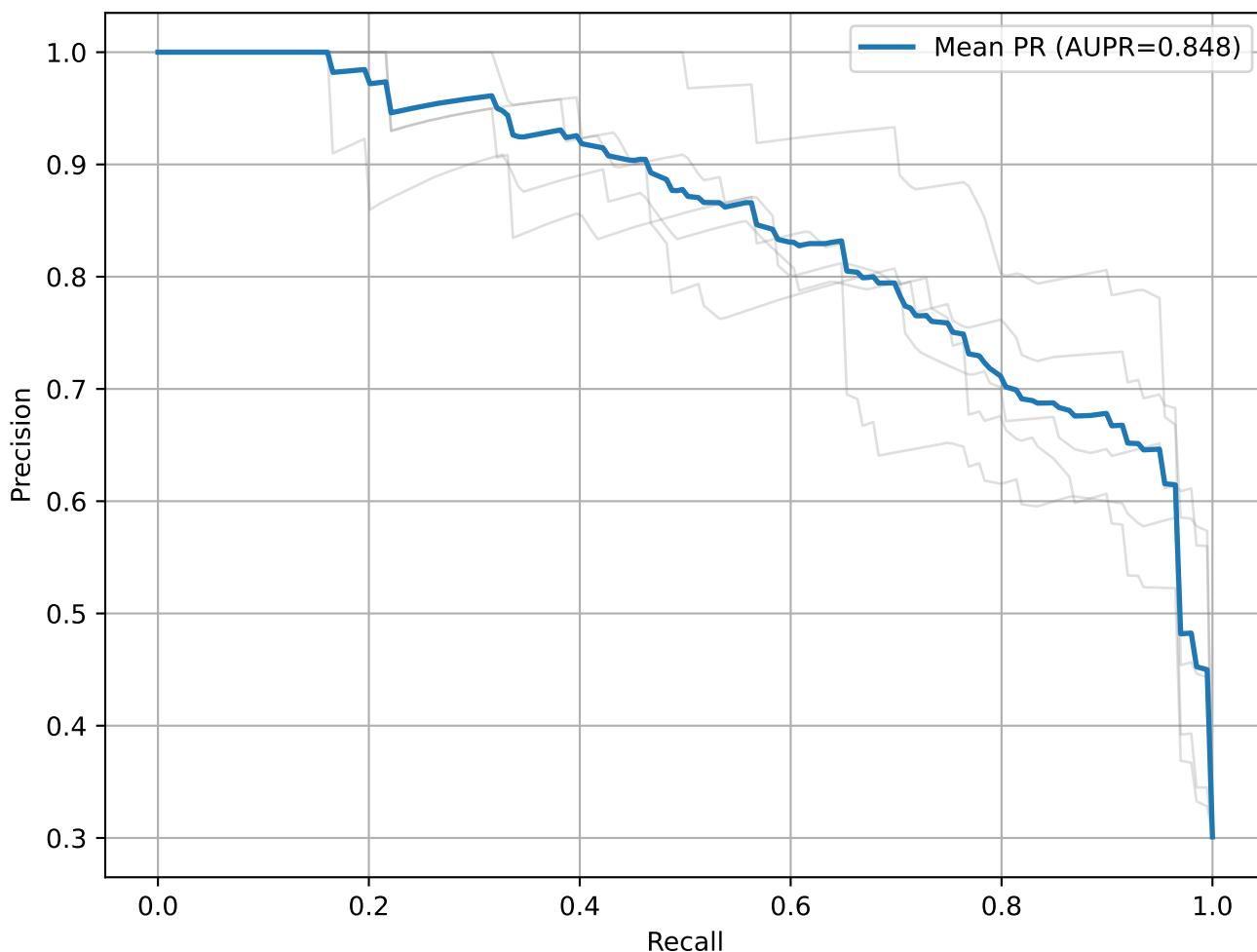
accuracy	0.66
macro avg	0.60
weighted avg	0.70

Classification Report LOGISTIC (last fold)

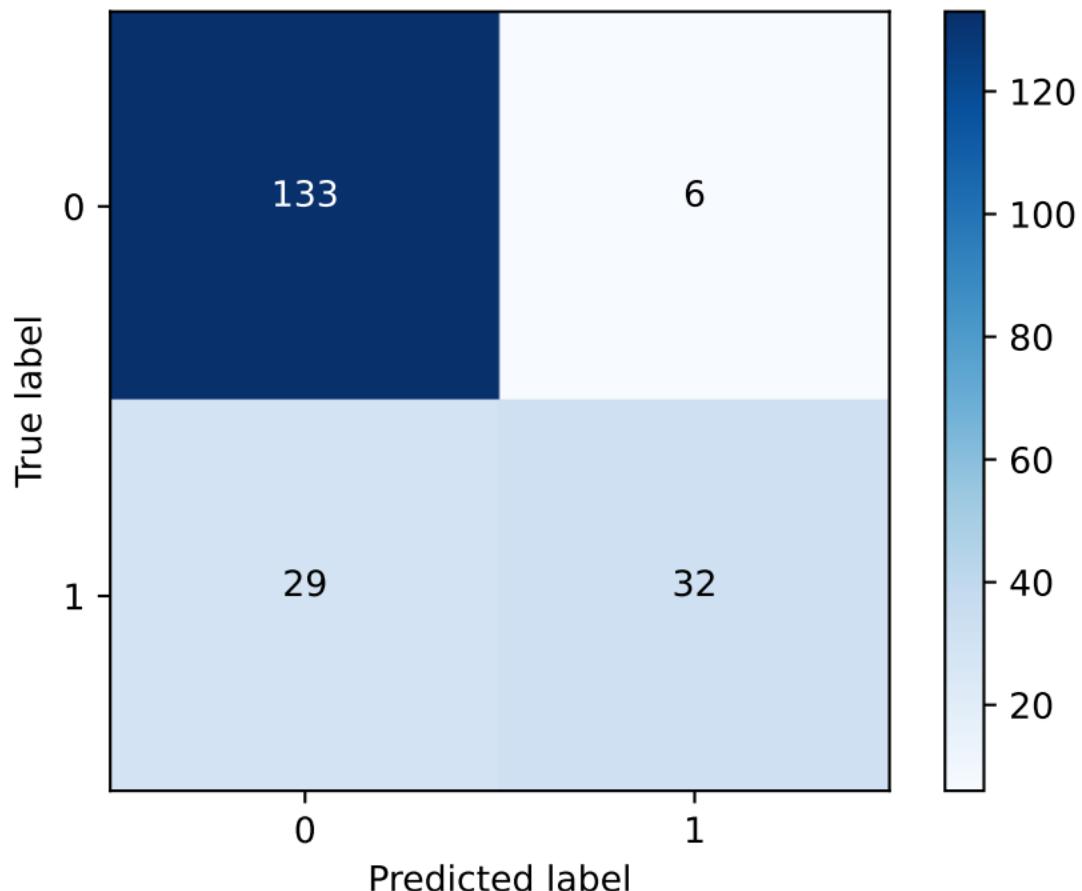
ROC - RF



Precision-Recall - RF



Confusion Matrix - RF (last fold)



	precision	recall	f1-score	support
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0	0.82	0.96	0.88	139
1	0.84	0.52	0.65	61

accuracy	0.82
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Classification Report RF (last fold)

macro avg	0.83
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weighted avg	0.83
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precision	0.74
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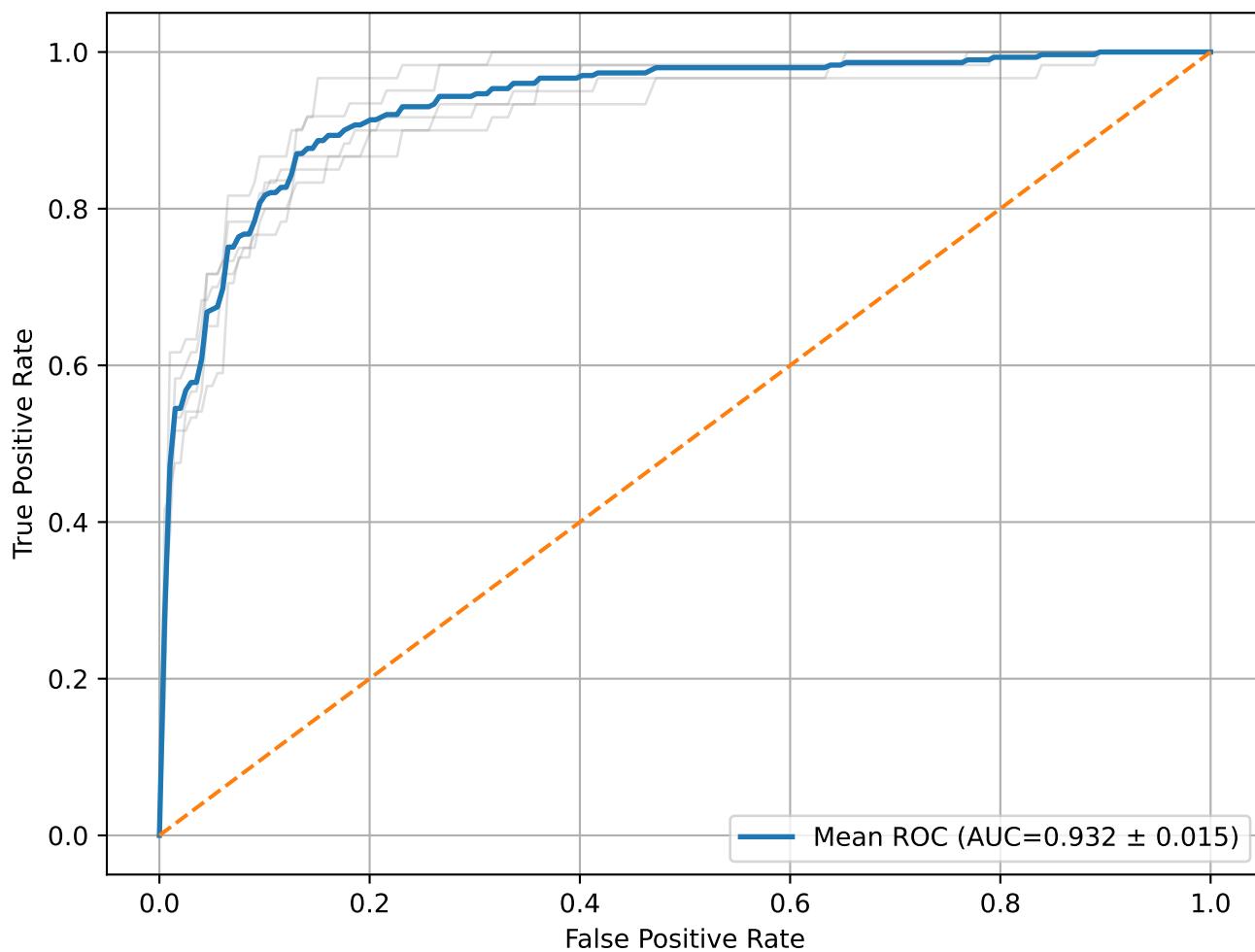
recall	0.77
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f1-score	0.81
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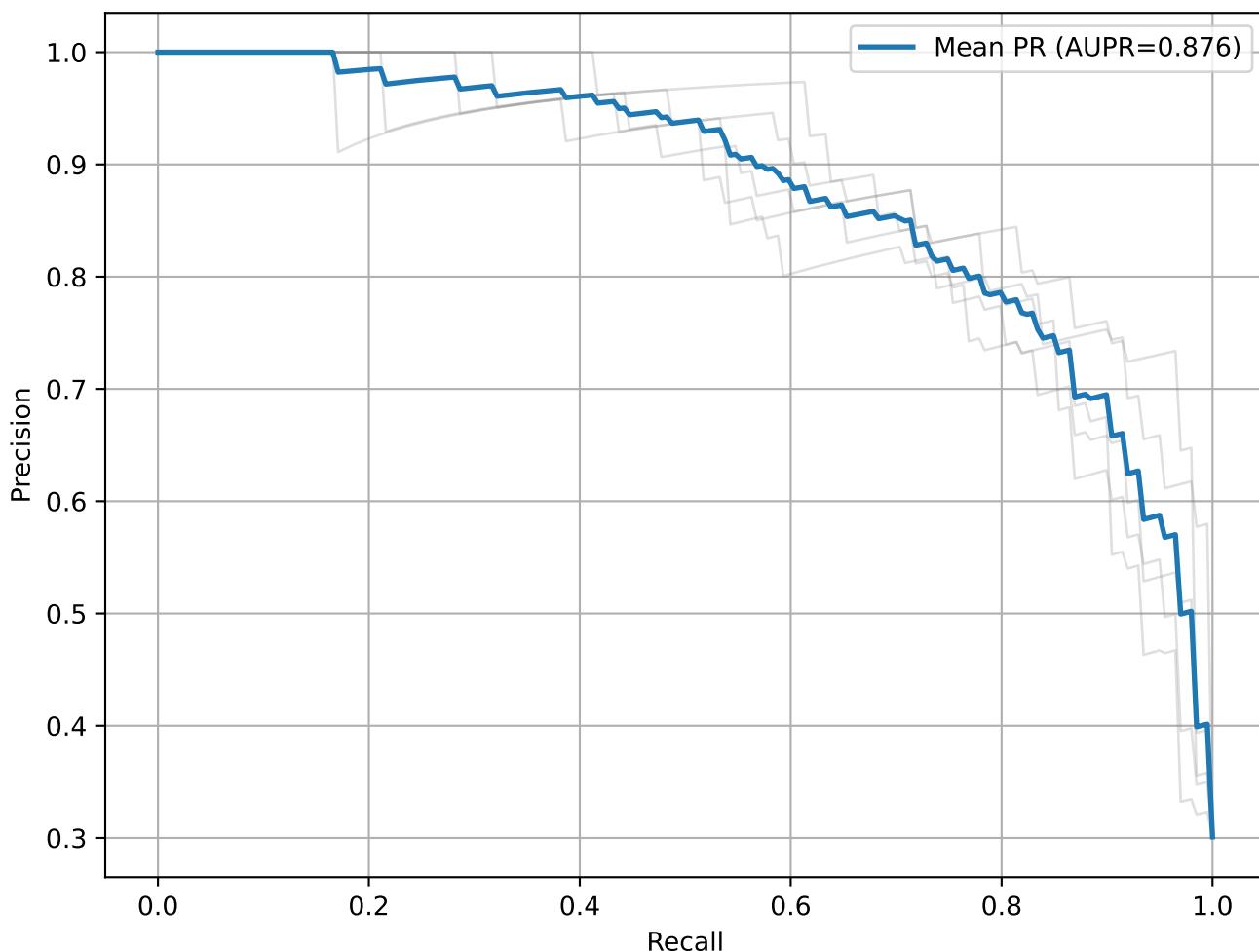
support	200
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200

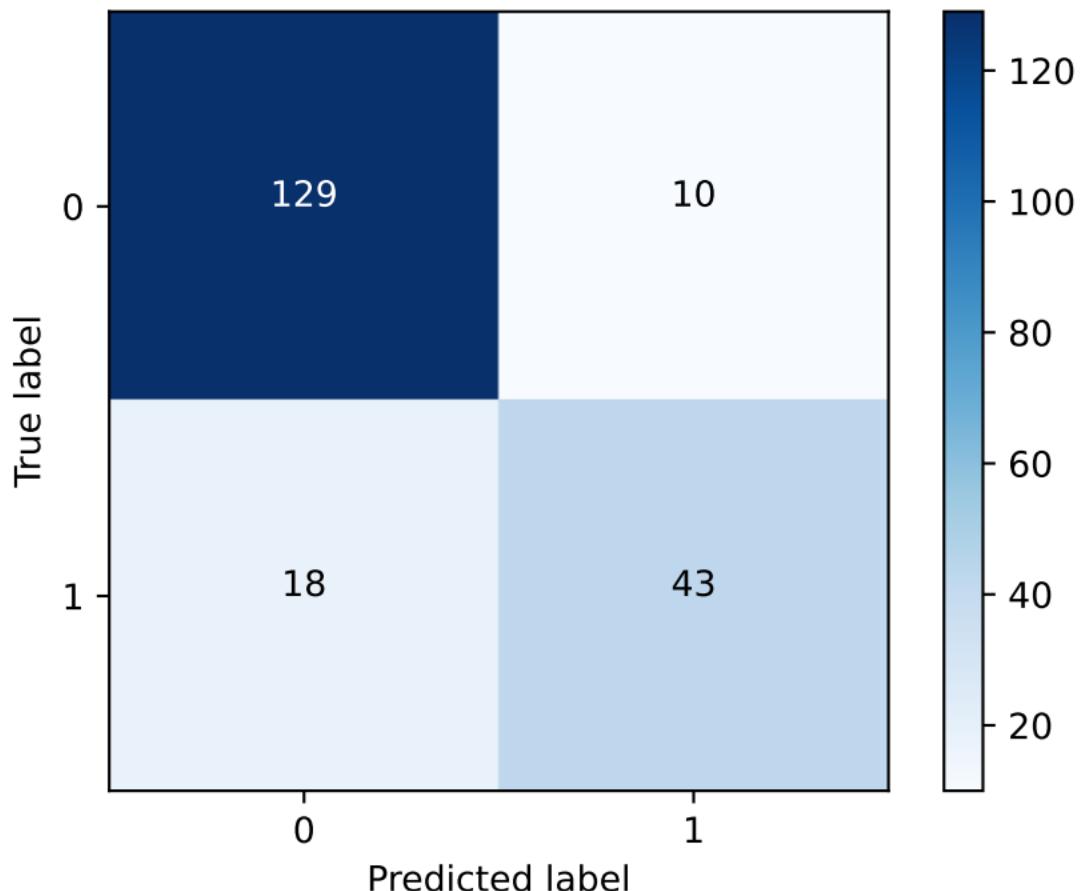
ROC - SVM



Precision-Recall - SVM



Confusion Matrix - SVM (last fold)



	precision	recall	f1-score	support
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0	0.88	0.93	0.90	139
1	0.81	0.70	0.75	61

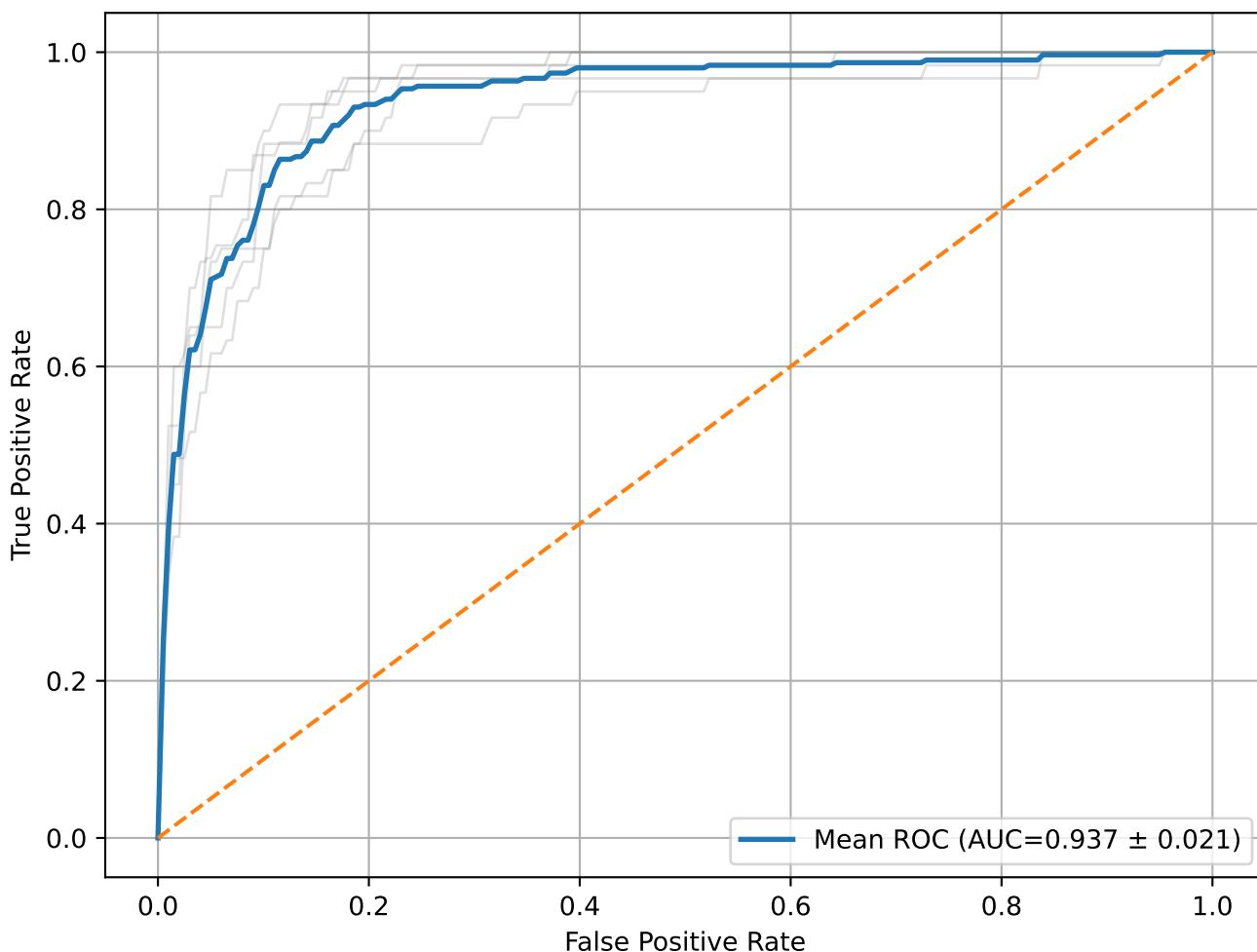
accuracy	0.86
macro avg	0.86
weighted avg	0.86

precision	0.82
recall	0.86
f1-score	0.86

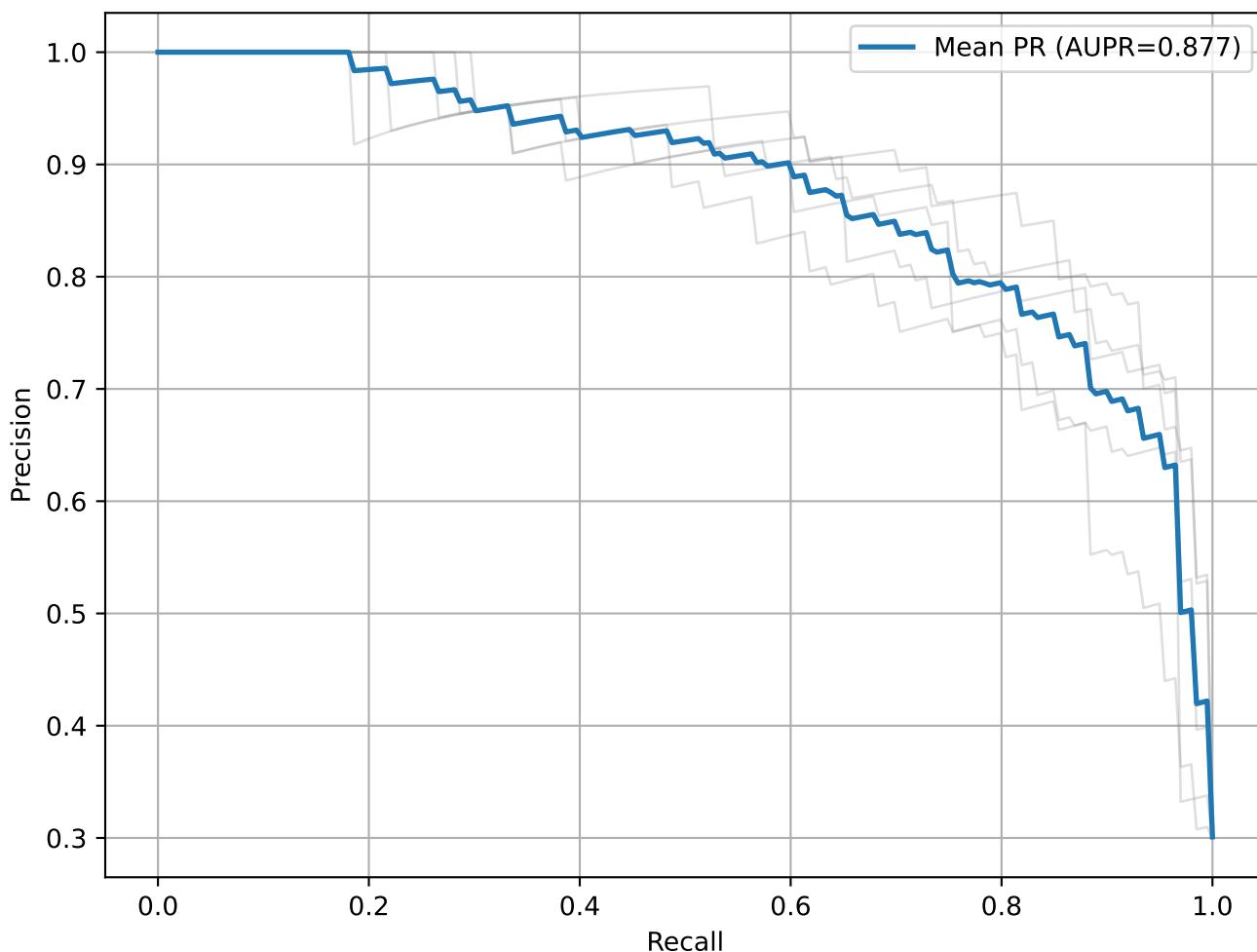
support	200
	200

Classification Report SVM (last fold)

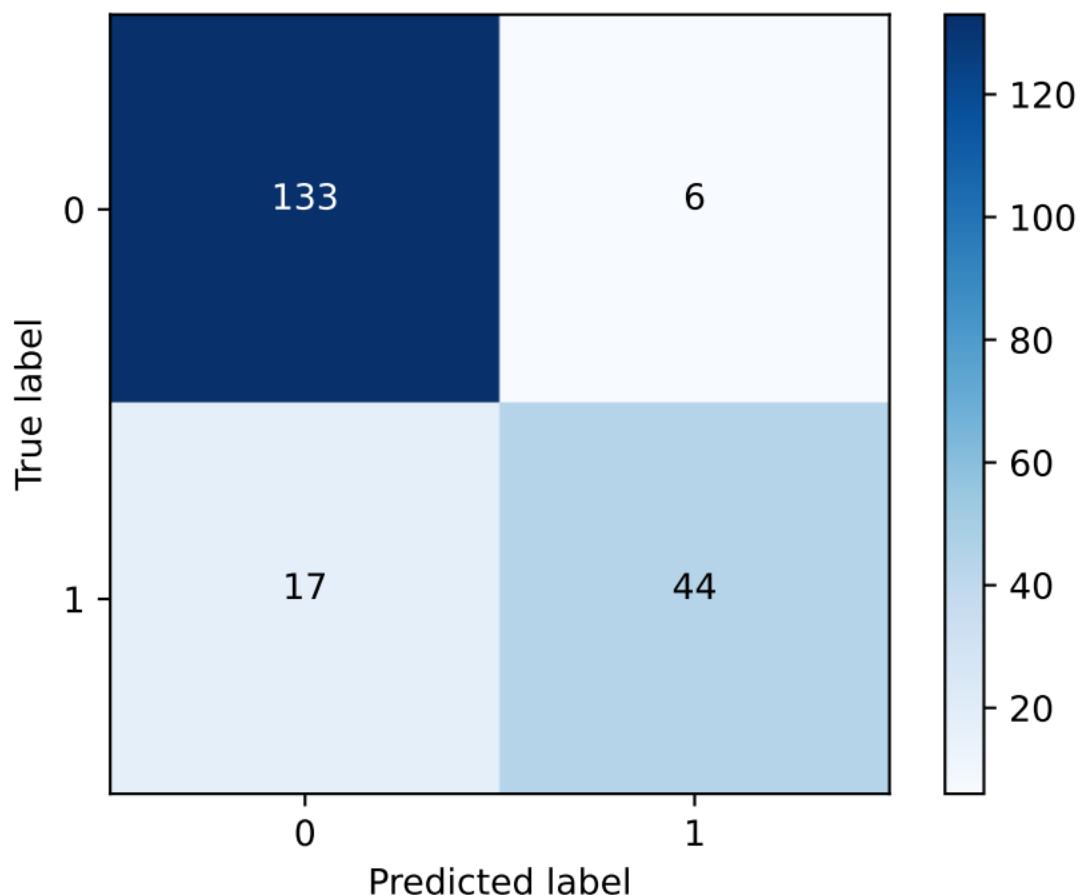
ROC - XGBOOST



Precision-Recall - XGBOOST



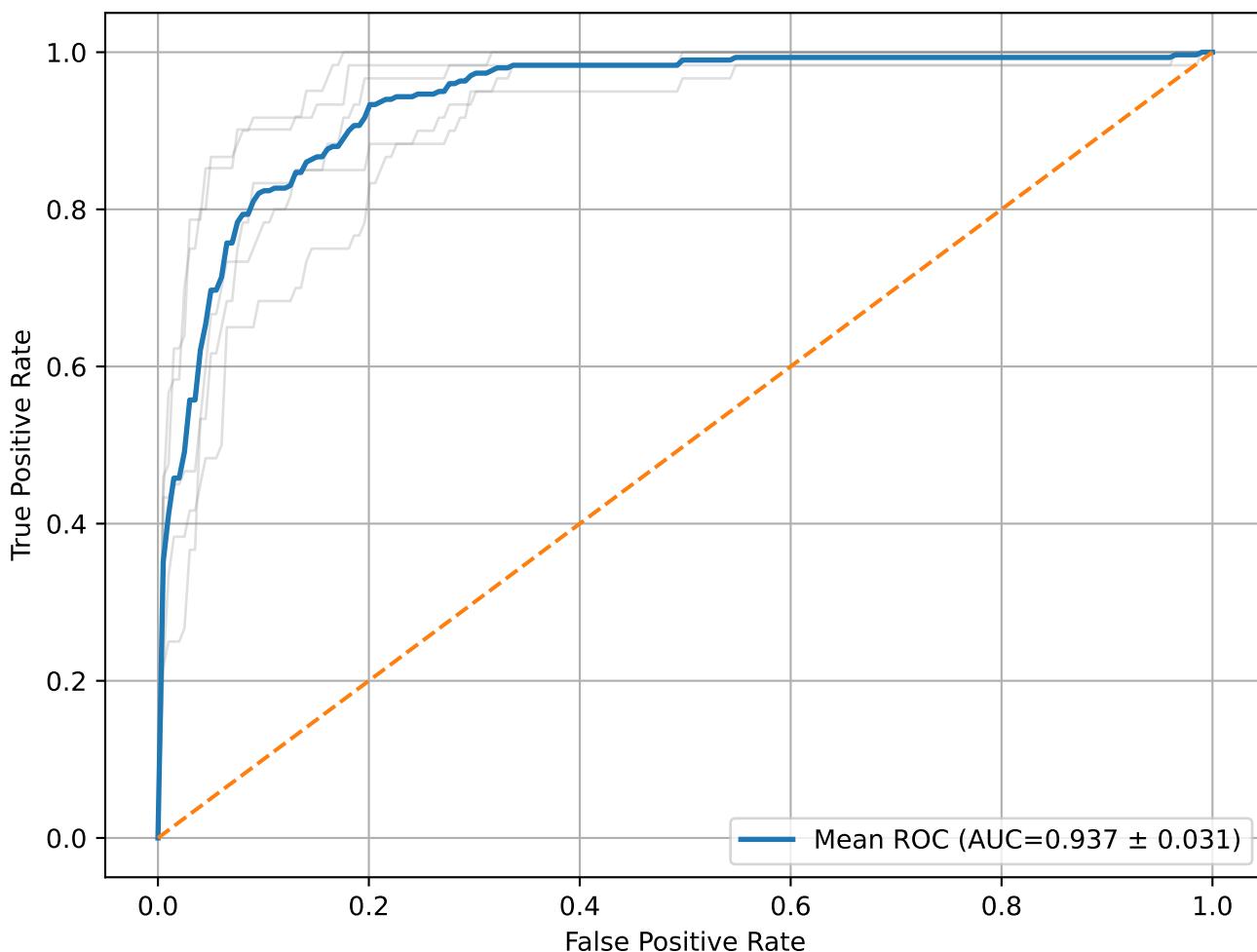
Confusion Matrix - XGBOOST (last fold)



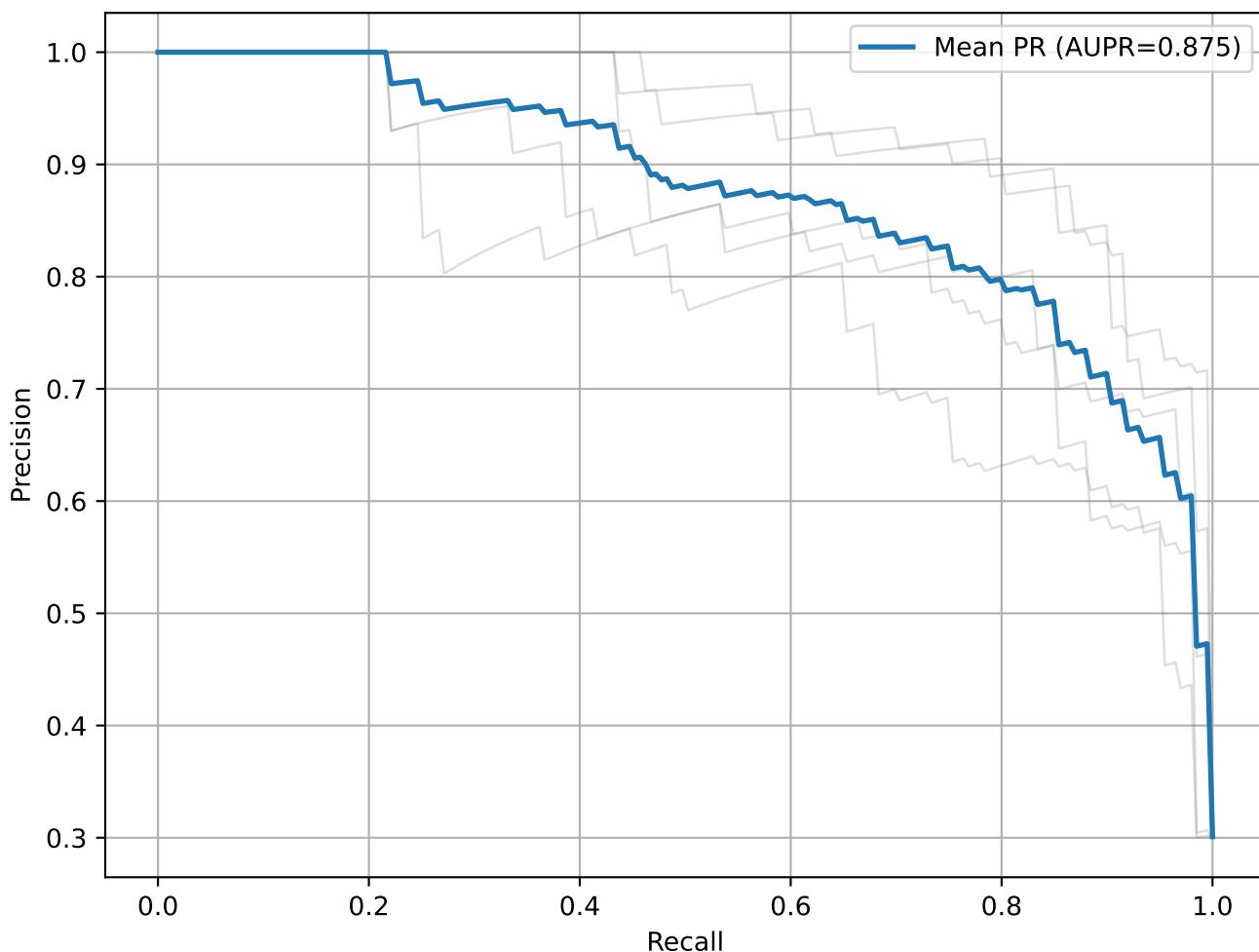
	precision	recall	f1-score	support
0	0.89	0.96	0.92	139
1	0.88	0.72	0.79	61
accuracy	0.88	0.84	0.89	200
weighted avg	0.88	0.89	0.88	200

Classification Report XGBOOST (last fold)

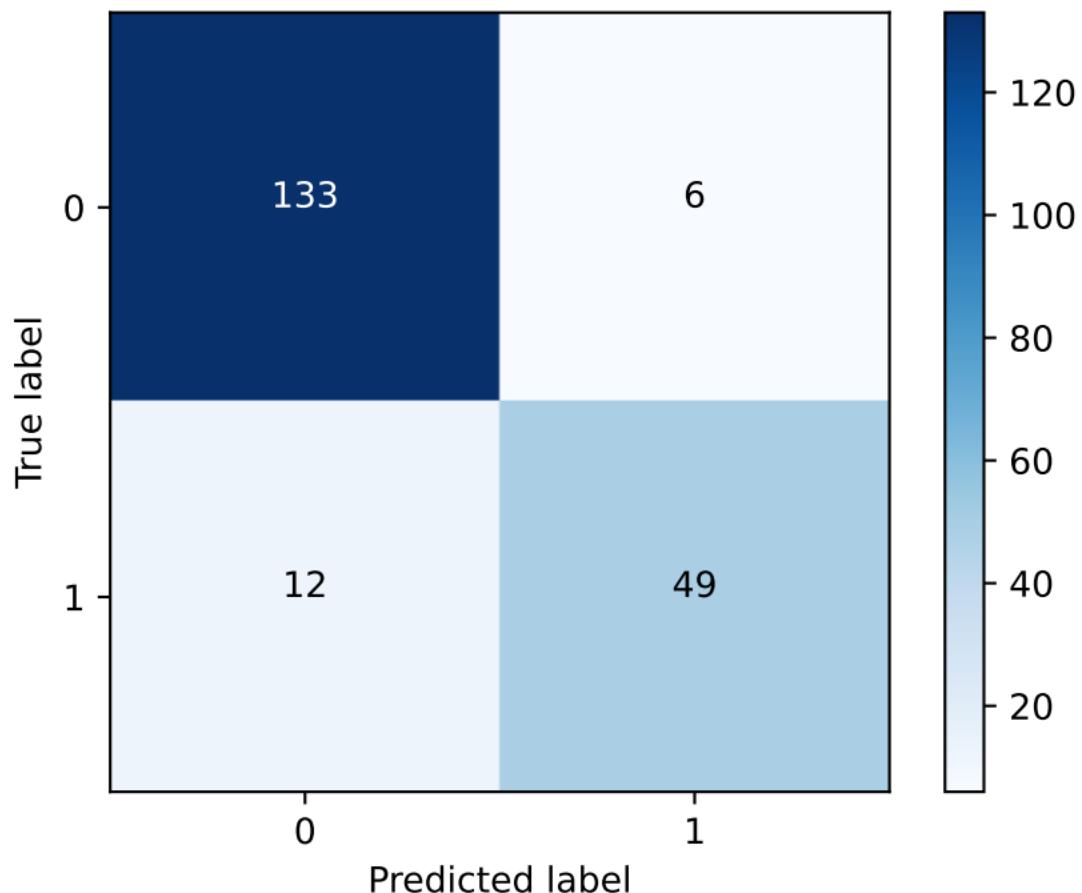
ROC - LIGHTGBM



Precision-Recall - LIGHTGBM



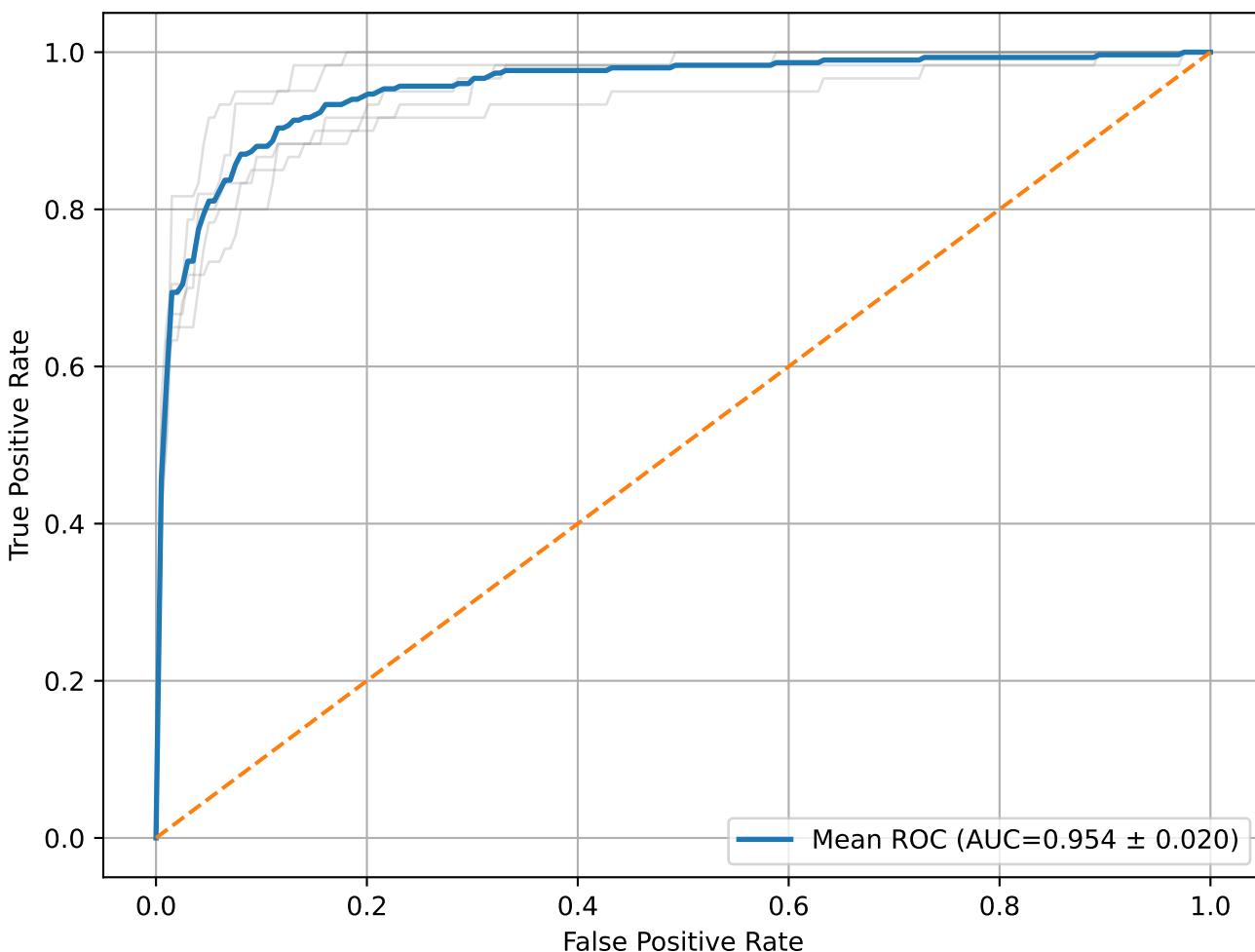
Confusion Matrix - LIGHTGBM (last fold)



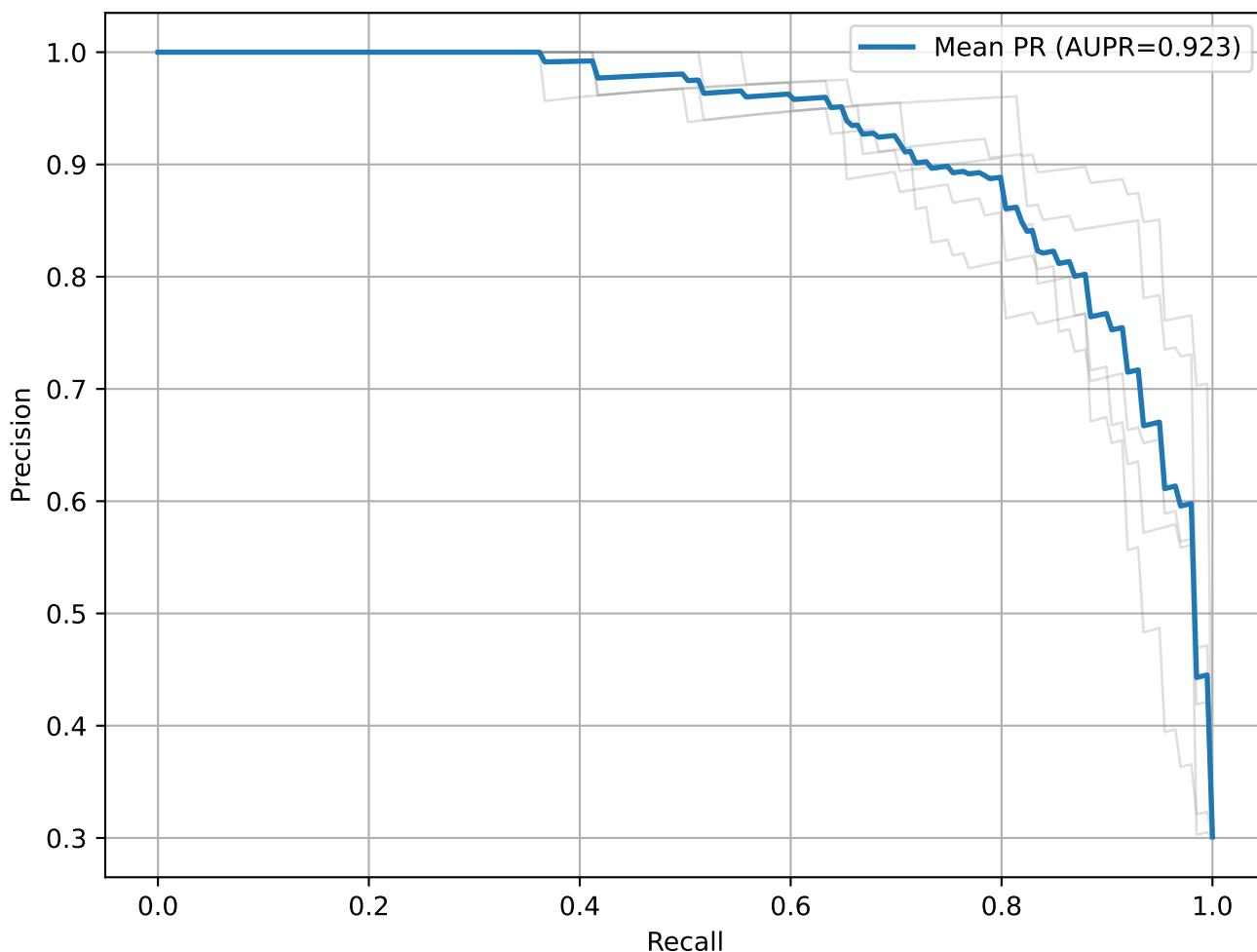
	precision	recall	f1-score	support
0	0.92	0.96	0.94	139
1	0.89	0.80	0.84	61
accuracy	0.90	0.88	0.91	200
weighted avg	0.91	0.91	0.91	200

Classification Report LIGHTGBM (last fold)

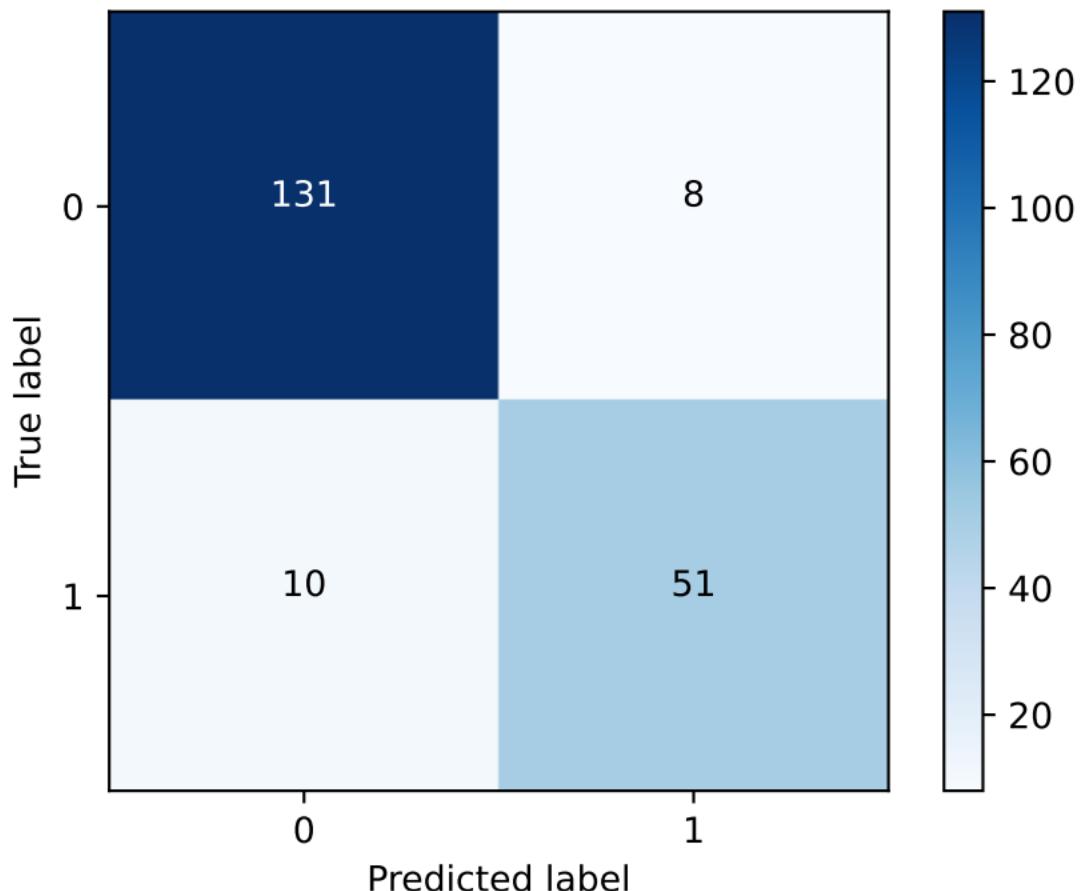
ROC - DNN



Precision-Recall - DNN



Confusion Matrix - DNN (last fold)



	precision	recall	f1-score	support
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0	0.93	0.94	0.94	139
1	0.86	0.84	0.85	61

accuracy	0.90	0.89	0.90	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