

Table 1: Performance Metrics of Tuned Models

Model	Best Parameters	Balanced Accuracy	F1 Score	ROC AUC	μ_t (s)
Tuned Logistic Regression 'penalty': 'l2', 'solver': 'lbfgs'	'C': 0.1, 0.838	0.867	0.838	0.174	
Tuned Random Forest 'max_features': 'sqrt', 'n_estimators': 200	'max_depth': 10, 0.896	0.945	0.896	1.306	
Tuned XGBoost 'max_depth': 6, 'n_estimators': 200	'learning_rate': 0.1, 0.946	0.969	0.946	0.432	
Tuned ANN 'act1': 'relu', 'units2': 48, 'act2': 'relu', 'lr': 0.001	'units1': 64, 0.864	0.934	0.864	0.307	