Predictive_Models_Best_Accuracy&Speed_Report

	Classifier	Respective Classifier Params Range	Bagging Classifier Params Range	Best Respective Classifier Params	Best Bagging Classifier Params	Runtime (Seconds)	Accuracy
Highest Accuracy K-Nearest Neighbors (KNN) Prediction	Best K-Nearest Neighbors (KNN) Params w/ Best Bagging Params from Grid Search	n_neighbors': [3, 5, 7, 9, 11],'weights': ['uniform', 'distance'],'algorithm': ['auto', 'ball_tree', 'kd_tree', 'brute'],'leaf_size': [5, 15, 30, 50, 75],'p': [1, 2]	n_estimators': [5, 10, 25, 50, 100, 200, 400],'max_samples': [0.5, 0.75, 1.0],'bootstrap': [True, False],'bootstrap_features': [True, False]	algorithm': 'auto', 'leaf_size': 5, 'n_neighbors': 3, 'p': 1, 'weights': 'distance'	bootstrap': False, 'bootstrap_features': True, 'max_samples': 1.0, 'n_estimators': 200	6.14233	95.370%
Fastest K-Nearest Neighbors (KNN) Prediction	Default K-Nearest Neighbors (KNN) Params	None	N/A	None	N/A	0.20659	87.963%
Highest Accuracy Decision Tree (DT) Prediction	Best Decision Tree (DT) Params w/ Best Bagging Params from Grid Search	criterion': ['gini', 'entropy'],'max_depth': [5, 10, 20, 40, None],'min_samples_split': [2, 5, 10, 20],'min_samples_leaf': [1, 2, 5, 10],'max_features': [None, 'sqrt', 'log2'],'max_leaf_nodes': [None, 10, 50, 100],'splitter': ['best', 'random'],'class_weight': [None, 'balanced']	n_estimators': [5, 10, 25, 50, 100, 200, 400],'max_samples': [0.5, 0.75, 1.0],'bootstrap': [True, False],'bootstrap_features': [True, False]	class_weight': None, 'criterion': 'entropy', 'max_depth': 20, 'max_features': None, 'max_leaf_nodes': 100, 'min_samples_leaf': 1, 'min_samples_split': 2, 'splitter': 'random'	bootstrap': False, 'bootstrap_features': True, 'max_samples': 1.0, 'n_estimators': 100	7.46132	98.148%
Fastest Decision Tree (DT) Prediction	Default Decision Tree (DT) Params	None	N/A	None	N/A	0.003	86.111%
Highest Accuracy Random Forest (RF) Prediction	Default Random Forest (RF) Params	None	N/A	None	N/A	0.06175	97.222%
Fastest Random Forest (RF) Prediction	Default Random Forest (RF) Params	None	N/A	None	N/A	0.06175	97.222%
Highest Accuracy Perceptron Prediction	Best Perceptron Params w/ Best Bagging Params from Grid Search	penalty': ['l2', 'l1', 'elasticnet', None],'alpha': [0.0001, 0.001, 0.01, 0.1, 1],'max_iter': [500, 1000, 2000, 3500, 5000, 7500],'tol': [1e-5, 1e-4, 1e-3, 1e-2],'eta0': [0.001, 0.01, 0.1, 1],'early_stopping': [True, False],'validation_fraction': [0.1, 0.2, 0.3],'n_iter_no_change': [5, 10, 15, 20, 25]	n_estimators': [5, 10, 25, 50, 100, 200, 400],'max_samples': [0.5, 0.75, 1.0],'bootstrap': [True, False],'bootstrap_features': [True, False]	alpha': 0.001, 'early_stopping': True, 'eta0': 1, 'max_iter': 500, 'n_iter_no_change': 25, 'penalty': None, 'tol': 1e-05, 'validation_fraction': 0.1	bootstrap': False, 'bootstrap_features': False, 'max_samples': 0.5, 'n_estimators': 25	55.96688	74.074%
Fastest Perceptron Prediction	Default Perceptron Params	None	N/A	None	N/A	0.001	72.222%
Highest Accuracy Logistic Regression (LR) Prediction	Default Logistic Regression (LR) Params w/ Default Bagging Params	None	None	None	None	1.84968	69.444%
Fastest Logistic Regression (LR) Prediction	Default Logistic Regression (LR) Params	None	N/A	None	N/A	0.002	67.593%