

Supplementary Table IV

Hyperparameters used in the model tuning step of Figure 1.

All pipelines of the grid search used the function `StandardScaler()` to standardize the data.

Classifier	Python Scikit Classifier Instantiation	Grid Search
Random Forest (RF)	<code>RandomForestClassifier(random_state=42)</code>	<code>n_estimators = [5, 10, 15, 50, 100, 200, 500]</code> , <code>max_depth = [2, 4, 8, 16, 32, None]</code>
Logistic Regression (LR)	<code>LogisticRegression(max_iter=10000, tol=1e-08, random_state=1)</code>	<code>C = [0.01, 0.05, 0.1, 0.5, 1.0, 5.0, 10.0]</code> , <code>solver = ['lbfgs', 'liblinear']</code>
K-Nearest Neighbors (KNN)	<code>KNeighborsClassifier()</code>	<code>n_neighbors = [3, 5, 7, 9, 11]</code> , <code>weights = ['uniform', 'distance']</code> , <code>p = [1, 2]</code>
Support Vector Machine (linear kernel, linearSVM)	<code>SVC(kernel="linear", max_iter=10000, tol=1e-08, random_state=1)</code>	<code>C = [0.01, 0.05, 0.1, 0.5, 1.0, 5.0, 10.0]</code> , <code>Gamma = ['scale', 'auto']</code>
Support Vector Machine (rbf kernel, rbfSVM)	<code>SVC(kernel='rbf', max_iter=10000, tol=1e-08, random_state=1)</code>	<code>C = [0.01, 0.05, 0.1, 0.5, 1.0, 5.0, 10.0]</code> , <code>gamma = ['scale', 'auto']</code>
Gaussian Process (GP) Kernel = <code>[1.0 * RBF(1.0)]</code>	<code>GaussianProcessClassifier(random_state=1)</code>	No parameters to search.
Decision Tree (DT)	<code>DecisionTreeClassifier(random_state=1)</code>	<code>criterion = ['gini', 'entropy']</code> , <code>max_depth = [2, 3, 4, 5, 6, 7, 8]</code> , <code>max_features = [2, 3, 4, 5, 6, 8, 10, 20, 30, 100]</code>
Neural Network (NN)	<code>MLPClassifier(random_state=1, max_iter=500)</code>	<code>hidden_layer_sizes = [1, 5, 10, 15, 20]</code>
AdaBoost (AB)	<code>AdaBoostClassifier(random_state=1)</code>	<code>n_estimators = [10, 20, 30, 40, 50]</code>
Naive Bayes (NB)	<code>GaussianNB()</code>	<code>var_smoothing': [1e+0, 1e-01, 1e-02, 1e-03, 1e-04, 1e-05, 1e-06, 1e-07, 1e-08, 1e-09]</code>
Quadratic Discriminant Analysis (QDA)	<code>QuadraticDiscriminantAnalysis()</code>	No parameters to search.