

| Algorithm | Hyperparameters |
|---|---|
| Gaussian Naïve Bayes (GNB) | No parameters. |
| Bernoulli Naïve Bayes (BNB) | alpha : Additive smoothing parameter. binarize : Threshold for binarizing the features. fit_prior : Whether or not to learn class prior probabilities. |
| Multinomial Naïve Bayes (MNB) | alpha : Additive smoothing parameter. fit_prior : Whether or not to learn class prior probabilities. |
| Logistic Regression (LR) | C : Regularization strength. penalty : Whether to use Lasso or Ridge regularization. fit_intercept : Whether or not the intercept of the linear classifier should be computed. |
| Stochastic Gradient Descent (SGD) | loss : Loss function to be optimized. penalty : Whether to use Lasso, Ridge, or ElasticNet regularization. alpha : Regularization strength. learning_rate : Shrinks the contribution of each successive training update. fit_intercept : Whether or not the intercept of the linear classifier should be computed. l1_ratio : Ratio of Lasso vs. Ridge regularization to use. Only used when the 'penalty' is ElasticNet. eta0 : Initial learning rate. power_t : Exponent for inverse scaling of the learning rate. |
| Passive Aggressive Classifier (PAC) | loss : Loss function to be optimized. C : Maximum step size for regularization. fit_intercept : Whether or not the intercept of the linear classifier should be computed. |
| Support Vector Classifier (SVC) | kernel : 'linear', 'poly', 'sigmoid', or 'rbf'. C : Penalty parameter for regularization. gamma : Kernel coef. for 'rbf', 'poly' & 'sigmoid' kernels. degree : Degree for the 'poly' kernel. coef0 : Independent term in the 'poly' and 'sigmoid' kernels. |
| K-Nearest Neighbor (KNN) | n_neighbors : Number of neighbors to use. weights : Function to weight the neighbors' votes. |
| Decision Tree (DT) | min_weight_fraction_leaf : The minimum number of (weighted) samples for a node to be considered a leaf. Controls the depth and complexity of the decision tree. max_features : Number of features to consider when computing the best node split. criterion : Function used to measure the quality of a split. |
| Random Forest (RF) & Extra Trees Classifier (ERF) | n_estimators : Number of decision trees in the ensemble. min_weight_fraction_leaf : The minimum number of (weighted) samples for a node to be considered a leaf. Controls the depth and complexity of the decision trees. max_features : Number of features to consider when computing the best node split. criterion : Function used to measure the quality of a split. |
| AdaBoost (AB) | n_estimators : Number of decision trees in the ensemble. learning_rate : Shrinks the contribution of each successive decision tree in the ensemble. |
| Gradient Tree Boosting (GTB) | n_estimators : Number of decision trees in the ensemble. learning_rate : Shrinks the contribution of each successive decision tree in the ensemble. loss : Loss function to be optimized via gradient boosting. max_depth : Maximum depth of the decision trees. Controls the complexity of the decision trees. max_features : Number of features to consider when computing the best node split. |