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J064

Sklearn API

**1.Linear Regression:**

Linear Regression fits a linear model with coefficients w = (w1, …, wp) to minimize the residual sum of squares between the observed targets in the dataset, and the targets predicted by the linear approximation.

Fit(X, y)- fit the linear model.

Predict(X)-predict using linear model.

Score(X,y)-returns the coefficient of determination R^2 of the prediction.

**Code:**

sklearn.linear\_model.LinearRegression(\*, fit\_intercept=True, normalize=False, copy\_X=True, n\_jobs=None, positive=False)

**2.Logistic Regression:**

It is used for predicting the categorical dependent variable using a given set of independent variables. Logistic regression predicts the output of a categorical dependent variable.

Fit(X,y)-fit the model according to the given training data

Predict(x)-predict class labels

Score(X,y)-returns mean accuracy on the given test data and label

**Code:**

sklearn.linear\_model.LogisticRegression(penalty='l2', \*, dual=False, tol=0.0001, C=1.0, fit\_intercept=True, intercept\_scaling=1, class\_weight=None, random\_state=None, solver='lbfgs', max\_iter=100, multi\_class='auto', verbose=0, warm\_start=False, n\_jobs=None, l1\_ratio=None)

**3.Ridge :**

Ridge regression penalizes the model based on the sum of squares of magnitude of the coefficients.

Alpha-Regularization strength; must be a positive float. Regularization improves the conditioning of the problem and reduces the variance of the estimates. Larger values specify stronger regularization.

Fit(X,y)-fits the regression model

Predict(x)-predicting using the linear model.

Score(X,y)-returns the coefficient of determination

**Code:**

sklearn.linear\_model.Ridge(alpha=1.0, \*, fit\_intercept=True, normalize=False, copy\_X=True, max\_iter=None, tol=0.001, solver='auto', random\_state=None)

**4.Lasso:**

LASSO regression penalizes the model based on the sum of magnitude of the coefficients.

Fit(X,y)-fit model with coordinate descent

Predict(X)-predict using linear model

Score(X,y)-returns the coefficient of determination of the prediction

**Code:**

sklearn.linear\_model.Lasso(alpha=1.0, \*, fit\_intercept=True, normalize=False, precompute=False, copy\_X=True, max\_iter=1000, tol=0.0001, warm\_start=False, positive=False, random\_state=None, selection='cyclic')