機器學習實務與應用

Homework #1
Due Mar 24 2018 9:00AM

Write a python module named ***my_LR*** to implement ordinary least squares linear regression. You have to provide the following three methods for this module:

fit (X,y)	Fit linear model
get_Params()	Get parameters for this estimator
predict(X)	Predict using the linear model

where the format of the parameters X, y are

X: numpy array of input features.

y: numpy array of target values.

You should fetch the toy dataset Boston house-prices dataset by using sklearn.datasets.load_boston(), and test your ***my_LR*** module. You should divide the entire 506 samples into 350 training samples, and 156 testing samples. Then,

(a) List the three most key features that affect the price of houses.

(b) Also try to run the sklearn.linear_model.LinearRegression to estimate the prices.

(c) Plot your estimated price, the price obtained from sklearn module vs actual price.

(d) Try one different regression module provided by sklearn, and compare its result with ordinary linear regression approach.

Note: The split of the data into training and testing sets can be implemented by using the method: **sklearn.model_selection.train_test_split()**.