

hypermater tuning for lasso regression can be done in python without using lassCV API

```
In [1]: 1 import pandas as pd
```

```
In [2]: 1 df = pd.read_csv("Boston_Housing.csv")
```

```
In [3]: 1 df.head(3)
```

```
Out[3]:
```

	CRIM	ZN	INDUS	CHAS	NOX	RM	AGE	DIS	RAD	TAX	PTRATIO	B	LS
0	0.00632	18.0	2.31	0	0.538	6.575	65.2	4.0900	1	296	15.3	396.90	
1	0.02731	0.0	7.07	0	0.469	6.421	78.9	4.9671	2	242	17.8	396.90	
2	0.02729	0.0	7.07	0	0.469	7.185	61.1	4.9671	2	242	17.8	392.83	

```
In [4]: 1 x=df.iloc[:, :-1]
```

```
In [5]: 1 x.shape
```

```
Out[5]: (506, 13)
```

```
In [6]: 1 y = df.iloc[:, -1]
```

```
In [7]: 1 y.shape
```

```
Out[7]: (506,)
```

```
In [8]: 1 from sklearn.linear_model import Lasso
2 model = Lasso()
```

```
In [10]: 1 from sklearn.model_selection import train_test_split
2 xtrain,xtest,ytrain,ytest = train_test_split(x,y,test_size=0.25, random
3 model.fit(xtrain,ytrain)
```

```
Out[10]: Lasso()
```

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.

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```
In [11]: 1 from sklearn.model_selection import RepeatedKFold
2 cv=RepeatedKFold(n_splits=10,n_repeats=3, random_state=1)
3
```

```
In [12]: 1 from sklearn.metrics import r2_score
2 ypred=model.predict(xtest)
3 r2_score(ytest,ypred)
```

```
Out[12]: 0.662198077052326
```

```
In [13]: 1 from sklearn.preprocessing import StandardScaler
2 sc= StandardScaler()
3 x_sc = sc.fit_transform(x)
4 xtrain,xtest,ytrain,ytest = train_test_split(x_sc,y, test_size=0.25 , r
5 model1=Lasso()
6 params={'alpha':[0.00001,0.0001,0.001,0.01]}
7
8 from sklearn.model_selection import GridSearchCV
9 search = GridSearchCV(model1,params,cv=cv)
10 result=search.fit(x_sc,y)
11 result.best_params_
```

Out[13]: {'alpha': 0.01}

```
In [14]: 1 model2 = Lasso(alpha=0.1)
2 model2.fit(xtrain,ytrain)
```

Out[14]: Lasso(alpha=0.1)

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```
In [15]: 1 ypred2=model2.predict(xtest)
2 r2_score(ytest, ypred2)
```

Out[15]: 0.7672154004841856

```
In [ ]: 1
```