

# SVM za regresiju

Sve pojmove i hiperparametre zadržavamo, ali će neki od njih imati drugačiju interpretaciju. Interpretacija širokog pojasa kod regresije je nešto drugačija u odnosu na klasifikaciju. Naime, u regresionom slučaju široki pojas je prostor tačaka koje se po y osi razlikuju od regresione krive za više od  $\epsilon$ . Za mnogo više detalja pogledati [link](#). Sada ćemo na primeru pokazati kako se metod potpornih vektora koristi za regresiju.

Skup podataka je California Housing, a cilj je predvideti cenu nekretnine.

```
In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

```
In [2]: from sklearn import model_selection
from sklearn import datasets
from sklearn import preprocessing
from sklearn import metrics
from sklearn import svm
```

```
In [3]: data = datasets.fetch_california_housing()
X = data.data
y = data.target
```

```
In [4]: X_train, X_test, y_train, y_test = model_selection.train_test_split(
    X, y, test_size=0.33, random_state=7)
```

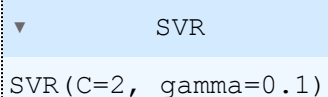
```
In [5]: X_train.shape
```

```
Out[5]: (13828, 8)
```

```
In [6]: scaler = preprocessing.StandardScaler()
scaler.fit(X_train)
X_train = scaler.transform(X_train)
X_test = scaler.transform(X_test)
```

```
In [7]: model = svm.SVR(kernel='rbf', gamma=0.1, C = 2)
```

```
In [8]: model.fit(X_train, y_train)
```

```
Out[8]: 
```

```
In [9]: metrics.mean_squared_error(y_test, model.predict(X_test))
```

```
Out[9]: 0.34724233763674195
```

```
In [10]: metrics.r2_score(y_test, model.predict(X_test))
```

```
Out[10]: 0.7426782223919458
```

```
In [ ]:
```