C1_W3_Lab07_Scikit_Learn_Soln

July 5, 2022

1 Ungraded Lab: Logistic Regression using Scikit-Learn

1.1 Goals

In this lab you will: - Train a logistic regression model using scikit-learn.

1.2 Dataset

Let's start with the same dataset as before.

[1]:
```
import numpy as np

X = np.array([[0.5, 1.5], [1,1], [1.5, 0.5], [3, 0.5], [2, 2], [1, 2.5]])
y = np.array([0, 0, 0, 1, 1, 1])
```

1.3 Fit the model

The code below imports the logistic regression model from scikit-learn. You can fit this model on the training data by calling `fit` function.

[2]:
```
from sklearn.linear_model import LogisticRegression

lr_model = LogisticRegression()
lr_model.fit(X, y)
```

[2]:
```
LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                   intercept_scaling=1, l1_ratio=None, max_iter=100,
                   multi_class='auto', n_jobs=None, penalty='l2',
                   random_state=None, solver='lbfgs', tol=0.0001, verbose=0,
                   warm_start=False)
```

1.4 Make Predictions

You can see the predictions made by this model by calling the `predict` function.

[3]:
```
y_pred = lr_model.predict(X)

print("Prediction on training set:", y_pred)
```

```
Prediction on training set: [0 0 0 1 1 1]
```

1.5 Calculate accuracy

You can calculate this accuracy of this model by calling the `score` function.

[4]:
```
print("Accuracy on training set:", lr_model.score(X, y))
```

```
Accuracy on training set: 1.0
```