sl-support-vector-mechanismm-1

August 26, 2023

####**Name:** A.Pavani ####**Roll no:** 20X01A6701 ####**Branch:** Data Science ####**College:** Narasimha Reddy Engineering College

Project Title:Using the support vector mechanism algorithm of supervised manchine learning, predict iris.csv dataset to find out species be same or not.

Probelm Statement:A American based botinical gardens a grow iris flower in their labs but using biotechnology in a single tree different types of varity flower is grow.As a datascience engineering find out how much accuarcy is their all categories contains same species. ####**Task-1:**Preprocess the data in skit.learn library. ####**Task-2:**Load the data using sk.learn model selection default argument ####**Task-3:**On basis of datasets train,test and split of your svn model. ####**Task-4:**Implement support vector mechanism classifier using svm_clasifier.The svm must be "Linear". ####**Task-5:**Train the classifier on training data. ####**Task-6:**Find out the prediction value on the test data. ####**Task-7:**Test the model with help of accuarcy,accuacry should be liein the range of 0-1.

```python
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.svm import SVC
from sklearn.metrics import accuracy_score
```

```python
# Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target
```

```python
# Consider only two classes for simplicity
X = X[y != 2]
y = y[y != 2]
```

```python
# Consider only two classes for simplicity
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
 ↪random_state=42)
```

```python
# Create an SVM classifier
svm_classifier = SVC(kernel='linear')
```

```python
# Train the classifier on the training data
svm_classifier.fit(X_train, y_train)
```

```
SVC(kernel='linear')
```

```python
# Make predictions on the test data
y_pred = svm_classifier.predict(X_test)
```

```python
# Calculate accuracy
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy:.2f}")
```

Accuracy: 1.00

####**Conclusion**:Accoding to my support vector mechanism model the spices are linaer.with the accuarcy of 1.00. ####Hence proved model was successfully implemeted