sl-knn-algorithm-1

August 26, 2023

[1]:
```
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import accuracy_score
```

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##Project Title : Using support vector mechanism algorithem of suppervis machin learning,predict iris.csv dataset to find out species will be same or different

###problem statement: A American based botnical garden grow iris flower in ther lab but using bio technology in a singal tree differnt type of variety flower is grow as datascience engineer find out how much aacuracy is ther all categeries contain same specias.

##Task1: preprocess the data in skit.learn library ##Task2:Load the data using sklearn model selection deffult argument ##Task3: On the baese of your dataset train test and split your svm model ##Task4:impliment support vector mechanism clasifier using svm_classifier.The svm must be “Linear” ##Task5:Train the classifier on the training data ##Task6:findout the prediction value on the test data ##Task7:Testthe model with the help of accurecy,accuracy should lie in range of 0-1

[2]:
```
# Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target
```

[3]:
```
# Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,␣
 ↪random_state=42)
```

[4]:
```
# Create a kNN classifier with k=3
k = 3
knn_classifier = KNeighborsClassifier(n_neighbors=k)
```

[5]:
```
# Train the classifier on the training data
knn_classifier.fit(X_train, y_train)
```

[5]:

```
KNeighborsClassifier(n_neighbors=3)
```

[6]:

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

[7]:

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

```
Accuracy: 1.00
```

[7]:

```

```