

sl-random-forest

August 26, 2023

NAME : SUMANTH

ROLL NO : 21X05A6704

BRANCH : CSE(DS)

NRCM

0.1 project title

Classify the random_forest algorithm using skit learn classifier “random_forest” classifier for “iris.scv” and predict the datahow many species are interconnected with nth Decsion tree node.

0.2 TASK

1. import the random_forest classifier by using sklearn.ensemble librarie.
2. Load your data using seaborn graphics librarie as a argument load_iris().
3. prepreoces the data using skitlearn graphic librarie.
4. select the model using “model_selection” from sns as a seaborn and sklearn as a skitlearn machine learning librarie
5. load iris.csv dataset for data as a input variable and target as a functinable output variable.
6. choose the train and test data using argumental librarie train_test_split.
7. select the estimators as a nth Decision tree.
8. use a random_forest classifier and quit your model.
9. find out your model accuracy

[]:

```
[1]: from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score
```

```
[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 Random Forest classifier with 100 trees  
random_forest = RandomForestClassifier(n_estimators=100)
```

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

```
[5]: RandomForestClassifier()
```

```
[6]: # Make predictions on the test data  
y_pred = random_forest.predict(X_test)
```

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

Accuracy: 1.00

#conclusion model as approach 1.00 accuracy, which lies between in the range of 0-1.

Hence it is shown that random_forest Decision successfully.

```
[7]:
```