random-forest-1

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0.5 Project Title :

0.5.1 Classify the Random_Forest algorithm using skit.learn classifier "RandomForestClassifier" for iris.csv, and pedict the data how many species are interconnected with nth Decision tree node.

0.6 Task-1 :

0.6.1 Import the RandomForestClassifier by using sklearn.ensemble library.

0.7 Task-2 :

0.7.1 Load your data using seaborn graphics library as arguement load_iris().

0.8 Task-3 :

0.8.1 Preprocess the data using skitlearn graphics library.

0.9 Task-4 :

0.9.1 Select the model using "model_selection" from sns as a seaborn and sklearn as a skitlearn machine learning library.

0.10 Task-5 :

0.10.1 Load iris.csv dataset for data as a input variable and target as the functionable output variable.

0.11 Task-6 :

0.11.1 Pick the train and test data using arguemental library train_test_split.

0.12 Task-7 :

0.12.1 Select the estimators as the nth Decision tree.

0.13 Task-8 :

0.13.1 Use a RandomForestClassifier and fit your model.

0.14 Task-9 :

0.14.1 Find out your accuracy model.

[8]:
```
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
```

[9]:
```
# Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target
```

[10]:
```
# 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)
```

[11]:
```
# Create a Random Forest classifier with 100 trees
random_forest = RandomForestClassifier(n_estimators=100)
```

[12]:
```
# Train the classifier on the training data
random_forest.fit(X_train, y_train)
```

[12]:
```
RandomForestClassifier()
```

[13]:
```
# Make predictions on the test data
y_pred = random_forest.predict(X_test)
```

[14]:
```
# Calculate accuracy
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy:.2f}")
```

```
Accuracy: 1.00
```

0.15 Conclusion :

0.15.1 My model has approach 1.00 accuracy, which is lies between in the range of 0 to 1.

0.15.2 Hence it is shows that RandomForestDecision model successfully implement.