sl-idecision-tree-algorithmmpynb

August 26, 2023

##NAME : K.NIKHIL CHARY ##pin-no : 21X05A6726 ##BRANCH : DATA SCIENCE ##COLL : NRCM

#PROJECT TITLE PREDICTION OF IRIS.CSV DATASET FOR DECISION TREE ALGORITHM USING SUPERVISED LEARNING MACHINE ALGORITHM

[ ]:

#PROBLEM STATEMENT A american based botnical gardan grow iris flower in there labs but using bio technology in a single tree different type of variety flower is grow. as a data science engineer find out how much accurecy is there all catagories contain same species

#CONCLUSION: According to my decision the model the flower not contain exact same species but only 1% species is found

[ ]:

```
[1]: from sklearn.datasets import load_iris
     from sklearn.model_selection import train_test_split
     from sklearn.tree import DecisionTreeClassifier
     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 Decision Tree classifier
     decision_tree = DecisionTreeClassifier()
```

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

```
[5]: DecisionTreeClassifier()
```

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

[6]:

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

```
Accuracy: 1.00
```

[7]: