orest-algorithm-using-iris-dataset

March 30, 2025

[2]:
```
import pandas as pd
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score,confusion_matrix
df=pd.read_csv("/content/iris_data.csv")
df
```

[2]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
..	…	…	…	…	…
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

[150 rows x 5 columns]

[3]:
```
X=df[['sepal_length','sepal_width','petal_length','petal_width']]
Y=df['species']
```

[4]:
```
X_train, X_test, Y_train, Y_test = train_test_split(X, Y, test_size=0.2,␣
↪random_state=42)
```

[6]:
```
rf=RandomForestClassifier(n_estimators=100,random_state=42)
rf.fit(X_train,Y_train)
```

[6]:
```
RandomForestClassifier(random_state=42)
```

[7]:
```
Y_pred=rf.predict(X_test)
```

[8]:
```
print("Accuracy:",accuracy_score(Y_test,Y_pred))
print("\nconfusion Matrix:",confusion_matrix(Y_test,Y_pred))
```

```
Accuracy: 1.0

confusion Matrix: [[10  0  0]
 [ 0  9  0]
 [ 0  0 11]]
```