

orest-algorithm-using-iris-dataset

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

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

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

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[7]: Y_pred=rf.predict(X_test)
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[8]: print("Accuracy:",accuracy_score(Y_test,Y_pred))
      print("\nconfusion Matrix:",confusion_matrix(Y_test,Y_pred))
```

Accuracy: 1.0

confusion Matrix: $\begin{bmatrix} 10 & 0 & 0 \end{bmatrix}$

$\begin{bmatrix} 0 & 9 & 0 \end{bmatrix}$

$\begin{bmatrix} 0 & 0 & 11 \end{bmatrix}$