

Using the iris data set implement the KNN algorithm. Take different values for Test and training data set. Also find the accuracy level.

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import numpy as np
import pandas as pd

dataset = pd.read_csv("iris.csv")
X = dataset.iloc[:, :-1].values
y = dataset.iloc[:, 4].values

from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.20)
from sklearn.neighbors import KNeighborsClassifier
classifier = KNeighborsClassifier(n_neighbors=5)
classifier.fit(X_train, y_train)

y_pred = classifier.predict(X_test)

from sklearn.metrics import classification_report
print(classification_report(y_test, y_pred))

from sklearn.metrics import accuracy_score
print ("Accuracy : ", accuracy_score(y_test, y_pred))

df = pd.DataFrame({'Real Values':y_test, 'Predicted Values':y_pred})
print(df)

new_test_point = np.array([[5.1, 3.5, 1.4, 0.2]])
prediction = classifier.predict(new_test_point)
print(f"\n Predicted class: {prediction[0]}")
```