

Iris flower ML learning, Model building and prediction

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In [ ]: import numpy as np # Linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)

from sklearn.model_selection import train_test_split
from sklearn import svm
from sklearn import metrics

#iris= pd.read_csv('/content/drive/MyDrive/Colab Notebooks/data/iris.csv')
iris= pd.read_csv('https://raw.githubusercontent.com/hondalee8/Intro-ML-NN/main/iris.csv')

#split data to 2 parts
train, test = train_test_split(iris, test_size = 0.2)

#first 4 column is input features, last column is the label(species)
#train_X = train[['SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm', 'PetalWidthCm']]
train_X = train.iloc[:, 0:4]
train_y=train.iloc[:, 4]
test_X= test.iloc[:, 0:4]
test_y =test.iloc[:,4]

#model building & training
model = svm.SVC() #select algorithm
model.fit(train_X,train_y) #model training
prediction=model.predict(test_X) #prediction
print('The accuracy of the SVM is:',metrics.accuracy_score(prediction,test_y))
```

1.2 Use the train model to do prediction

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In [ ]: print ("test data size :", test.shape)
test_X2 = test.iloc[0:5, 0:4]
test_y2 = test.iloc[0:5, 4]
print ("prediction data size: ", test_X2.shape)
p=model.predict(test_X2) #prediction
#print(p)
df_compare = pd.DataFrame({'Predicted':p, 'Actual':test_y2})
print("\nCompare: \n", df_compare)
```