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1 # Required libraries
2 import numpy as np
3 import pandas as pd
4 #from scipy.stats import mode
5 import matplotlib.pyplot as plt
6 import seaborn as sb
7 from sklearn.preprocessing import LabelEncoder
8 from sklearn.model_selection import train_test_split
9   , cross_val_score
10 from sklearn.svm import SVC
11 from sklearn.model_selection import KFold
12 from sklearn.naive_bayes import GaussianNB
13 from sklearn.ensemble import RandomForestClassifier
14 from sklearn.metrics import accuracy_score,
15   confusion_matrix
16
17 #Reading Training Data
18 data_train = pd.read_csv("../Dataset/Training.csv")
19
20 #Converting Prognosis Object part into numerical form
21 using sklearn LabelEncoder()
22 le = LabelEncoder()
23 detected = le.fit_transform(data_train["prognosis"])
24
25 print(detected)
26
27
28
29 model_set = {
30     "SVC": SVC(),
31     "Gaussian NB": GaussianNB(),
32     "Random Forest": RandomForestClassifier(
33         random_state=16)
34 }
35 for i in model_set:
36     current_model = model_set[i]
37     scores = cross_val_score(current_model, X, y, cv=
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36 12, n_jobs = -1)
37     print(f"Model In Use: {current_model}")
38     print(f"Model Score: {scores}")
39     print(f"Mean Of Scores: {np.mean(scores)}")
40
41
42
43 #Training Using SVM Algorithm
44 model_SVC = SVC()
45 model_SVC.fit(X_train, y_train)
46 result_svc = model_SVC.predict(X_test)
47
48 #Training The Model Using Naive Bayes Algorithm
49 gnb = GaussianNB()
50 result_NB = gnb.fit(X_train, y_train).predict(X_test)
51
52 #Training The Model Using RandomForestClassifier -
   Decision Tree Algorithm
53 clf=RandomForestClassifier(n_estimators=100,
   random_state=16)
54 clf.fit(X_train,y_train)
55 result_RFC = clf.predict(X_test)
```