Lab: AI & ML Lab (23A31403)

College: Andhra Engineering College

11. Apply Random Forest algorithm for classification and regression

Math

From tree logic refere PPT

Code

```
from sklearn.ensemble import RandomForestClassifier
#from sklearn.cross_validation import train_test_split
from sklearn.model_selection import train_test_split

from sklearn.metrics import confusion_matrix
from sklearn.metrics import accuracy_score
from sklearn import datasets

dataset = datasets.load_iris()

features = dataset.data
targets = dataset.target

feature_train, feature_test, target_train, target_test = train_test_split(features, targets, test_size=.2)

model = RandomForestClassifier(n_estimators=1000, max_features='sqrt')
fitted_model = model.fit(feature_train, target_train)
predictions = fitted_model.predict(feature_test)

print(confusion_matrix(target_test, predictions))
print(accuracy_score(target_test, predictions))

pred = model.predict([[5.0, 3.5, 1.4, 0.2]])
print(pred)
```

Output

```
[[12  0  0]
 [ 0  8  0]
 [ 0  0 10]]
1.0
[0]
```