ada\_boost Open Source code

# example code

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| # Import list  from sklearn.ensemble import AdaBoostClassifier  from sklearn.ensemble import RandomForestClassifier  from sklearn.tree import DecisionTreeClassifier  from sklearn import datasets  from sklearn.model\_selection import train\_test\_split  from sklearn import metrics  import pandas as pd  # RandomSeed  SEED = 30  # Load Dataset  data = pd.read\_csv("train.csv")  # Data preprocessing.  data.drop(['id'],axis=1)  mapping\_target = {"Class\_1" : 1,"Class\_2" : 2,"Class\_3" : 3,"Class\_4" : 4,"Class\_5" : 5,"Class\_6" : 6,"Class\_7" : 7,"Class\_8" : 8,"Class\_9" : 9,}  data\_target = data['target'].apply(lambda x : mapping\_target[x])  # Split data into features(X) and target(Y).  columns = data.columns  columns = columns[1:-1]  X = data[columns]  Y = data\_target  # Split dataset into train set and val set  x\_train , x\_test,y\_train,y\_test = train\_test\_split(X,Y,test\_size=0.3,random\_state=SEED)  # Make models (Decisiontree , Ada\_booost, RandomForest)  dec\_tree = DecisionTreeClassifier(criterion="entropy" , max\_depth = 4)  ada\_boost = AdaBoostClassifier(base\_estimator = dec\_tree,n\_estimators=100,learning\_rate=1)  random\_forest = RandomForestClassifier(criterion="entropy",n\_estimators=100,max\_depth=4)  # Train models.  dec\_tree.fit(x\_train,y\_train)  ada\_boost.fit(x\_train,y\_train)  random\_forest.fit(x\_train,y\_train)  # Prediction test dataset.  y\_pred\_tree = dec\_tree.predict(x\_test)  y\_pred\_ada = ada\_boost.predict(x\_test)  y\_pred\_ran = random\_forest.predict(x\_test)  # Check the Prediction result. (metrics.accuracy\_score)  print("Accuracy score (decisiontree) : {}".format(metrics.accuracy\_score(y\_test,y\_pred\_tree)))  print("Accuracy score (ada\_boost) : {}".format(metrics.accuracy\_score(y\_test,y\_pred\_ada)))  print("Accuracy score (random\_forest) : {}".format(metrics.accuracy\_score(y\_test,y\_pred\_ran))) |

# testing result

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| Accuracy score (decisiontree) : 0.4892264598146951  Accuracy score (ada\_boost) : 0.5886662357250593  Accuracy score (random\_forest) : 0.591413488472312 |