WEEK - 8 30/5/24

Ensemble - Random Forest

```
import numpy as np
import pandas as pd
from sklearn.ensemble import RandomForestClassifier
from sklearn import datasets
iris = datasets.load_iris()
type(iris)
iris_data = pd.DataFrame(iris.data, iris.target)
type(iris_data)
X = iris_data.iloc[:, :-1].values
y = iris_data.iloc[:, -1].values
X_train, X_test, y_train, y_test = train_test_split(X, y,
                                   test_size=0.33)
model = RandomForestClassifier()
model.fit(X_train, y_train)
y_pred = model.predict(X_test)
accuracy_score(y_test, y_pred)
```

Ensemble - boosting

```
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.ensemble import AdaBoostClassifier
iris = load_iris()
X = iris.data
y = iris.target
X_train, X_test, y_train, y_test = train_test_split(X, y,
                                   test_size=0.4)
adaboost = AdaBoostClassifier(n_estimators=30, learning_rate=1)
adaboost.fit(X_train, y_train)
y_pred = adaboost.predict(X_test)
accuracy_score(y_test, y_pred)
```

NLP 30/5/24