

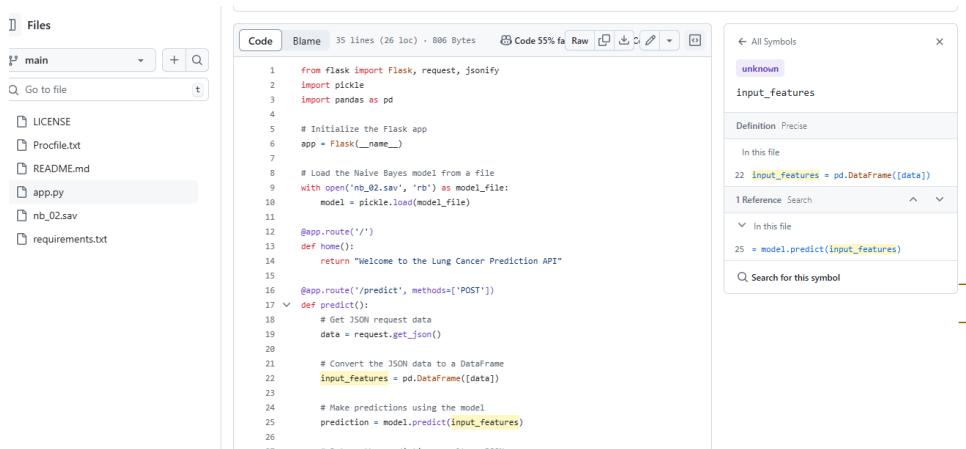
Week 4 Deployment on Flask.

Name: Pamela S. D Martey,

Batch code: LISUM33,

Submission date:07/01/2024,

Submitted to: My Github repo



We can see that the Multinomial Naive Bayes model uses key factors such as:

Age
Fatigue
Shortness of Breath
Smoking Peer pressure Chest Pain and Yellow Fingers

Predictors such as Gender, swallowing difficulty and chronic disease were not key features in our predic

End of Project

```
In [56]: 1 #Save naive bayes model
2 import pickle
3 filename = 'nb_02.sav'
4 pickle.dump(nb_01, open(filename, 'wb'))
```

```
In [ ]: 1
```

Naive Bayes Classification

```
[49]: 1 #Import MultinomialNB from sklearn.naive_bayes
2 from sklearn.naive_bayes import MultinomialNB
3
4 #Run the Naive Bayes algorithm
5 nb_01 = MultinomialNB().fit(X_train,y_train)
6
7 #Generate predictions for X_test data
8 V_predicted = nb_01.predict(X_test)
9
```

Model Accuracy

```
[50]: 1 mse_nb = metrics.mean_squared_error(y_test, V_predicted)
2 mse_nb
```

```
t[50]: 0.0641025641025641
```

```
[51]: 1 mae_nb = metrics.mean_absolute_error(y_test, V_predicted)
2 mae_nb
```

```
t[51]: 0.0641025641025641
```

```
3 # Show the columns and data types
4 lung_cancer_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 309 entries, 0 to 308
Data columns (total 16 columns):
#   Column                Non-Null Count  Dtype
---  -
0   GENDER                 309 non-null   object
1   AGE                   309 non-null   int64
2   SMOKING                309 non-null   int64
3   YELLOW_FINGERS        309 non-null   int64
4   ANXIETY                309 non-null   int64
5   PEER_PRESSURE          309 non-null   int64
6   CHRONIC_DISEASE        309 non-null   int64
7   FATIGUE                309 non-null   int64
8   ALLERGY                309 non-null   int64
9   WHEEZING               309 non-null   int64
10  ALCOHOL_CONSUMING      309 non-null   int64
11  COUGHING               309 non-null   int64
12  SHORTNESS OF BREATH    309 non-null   int64
13  SWALLOWING DIFFICULTY  309 non-null   int64
14  CHEST PAIN             309 non-null   int64
15  LUNG_CANCER            309 non-null   object
dtypes: int64(14), object(2)
memory usage: 38.8+ KB
```

```
5 # Look at the first 5 rows of the data
```