## **Breast Tissue Prediction**

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Here are my steps to do this deployment.

1- Extract the dataset from UCI. That is about breast tissue.

## 2- Build our model:

```
import pandas as pd
from sklearn.neighbors import KNeighborsClassifier
import pickle

dataset = pd.read_csv('BreastTissue.csv')

x= dataset.iloc[:, :9]

y= dataset.iloc[:, -1]

KNC=KNeighborsClassifier()

KNC.fit(x,y)

pickle.dump(KNC, open('model.pkl','wb'))

model=pickle.load(open('model.pkl','rb'))print(model.predict([290.4551412,0.1 44164196,0.053058009,74.63506664,1189.545213,15.93815436,35.70333099, 65.54132446,330.2672929]))
```

## 3- Coding our web application using flask:

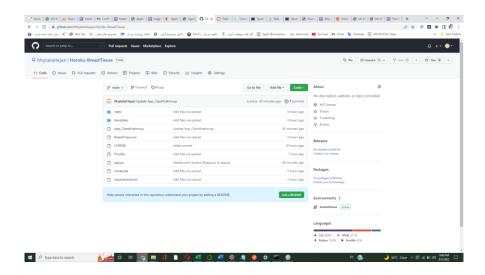
```
import numpy as np
from flask import Flask, request, render_template
import pickle
Myapp= Flask(__name__)
model = pickle.load(open('model.pkl', 'rb'))
@Myapp.route('/')
def home():
  return render_template('index.html')
@Myapp.route('/predict',methods=['POST'])
def predict():
  float_features = [float(x) for x in request.form.values()]
  final_features = [np.array(float_features)]
  prediction = model.predict(final_features)
  output =str(prediction)
  return render_template('index.html', prediction_text='Breast Tissue would be $
{ }'.format(output))
if __name__ == "__main__":
  Myapp.run(debug=True)
```

## 4- Coding HTML file for using as a template for our application

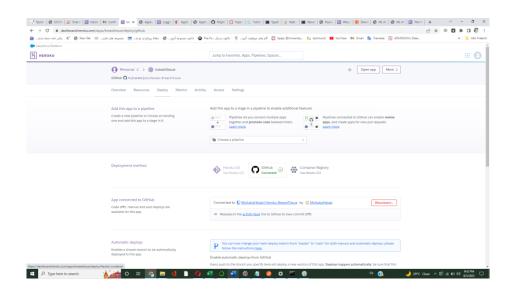
```
<!DOCTYPE html>
<html >
<head>
 <meta charset="UTF-8">
 <title>ML API</title>
         href='https://fonts.googleapis.com/css?family=Pacifico'
                                                                 rel='stylesheet'
type='text/css'>
link
         href='https://fonts.googleapis.com/css?family=Arimo'
                                                                 rel='stylesheet'
type='text/css'>
       href='https://fonts.googleapis.com/css?family=Hind:300'
                                                                 rel='stylesheet'
type='text/css'>
k href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300'
rel='stylesheet' type='text/css'>
<link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">
</head>
<body>
<div class="login">
   <h1>Predict Breat Tissue</h1>
   <!-- Main Input For Receiving Query to our ML -->
  <form action="{{ url_for('predict')}}"method="post">
         <input type="text" name="I0" placeholder="Impedivity (ohm) at zero
frequency" required="required" />
    <input type="text" name="PA500" placeholder="phase angle at 500 KHz"</pre>
required="required" />
         <input type="text" name="HFS" placeholder="high-frequency slope of</pre>
phase angle" required="required" />
```

```
<input type="text" name="DA" placeholder="impedance distance</pre>
between spectral ends" required="required" />
    <input type="text" name="Area" placeholder="area under spectrum"</pre>
required="required" />
        <input type="text" name="A/DA" placeholder="area normalized by DA"</pre>
required="required" />
        <input type="text" name="Max IP" placeholder="maximum of the
spectrum" required="required" />
    <input type="text" name="DR" placeholder="distance between I0 and real
part of the maximum frequency point" required="required" />
   <input type="text" name="P" placeholder="length of the spectral curve"
required="required" />
                                             btn-primary
               type="submit"
                                class="btn
                                                           btn-block
    <but
                                                                        btn-
large">Predict</button>
  </form>
  <br>
  <br>
  {{ prediction_text }}
</div>
         src="/static/images/Original.svg"
                                            style="width:
                                                             300px;position:
absolute;bottom: 8px;left: 8px;" alt="Company Logo"/>
</body>
</html>
```

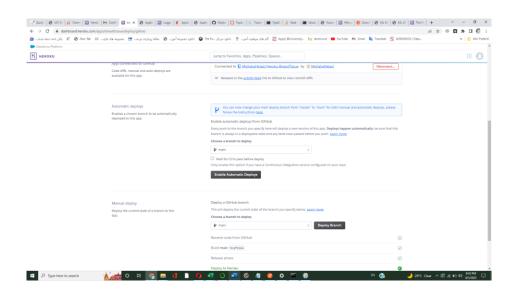
5- Create a new repository named Heroku-BreastTissue and then add all the files here in this repository.



6- Now it is time to connect our repository to the Heroku account.



7- And Finally we have to deploy our application with Heroku.



8- And now we can do predicting with the link provided by Heroku.