

Sprint-3

Application Building

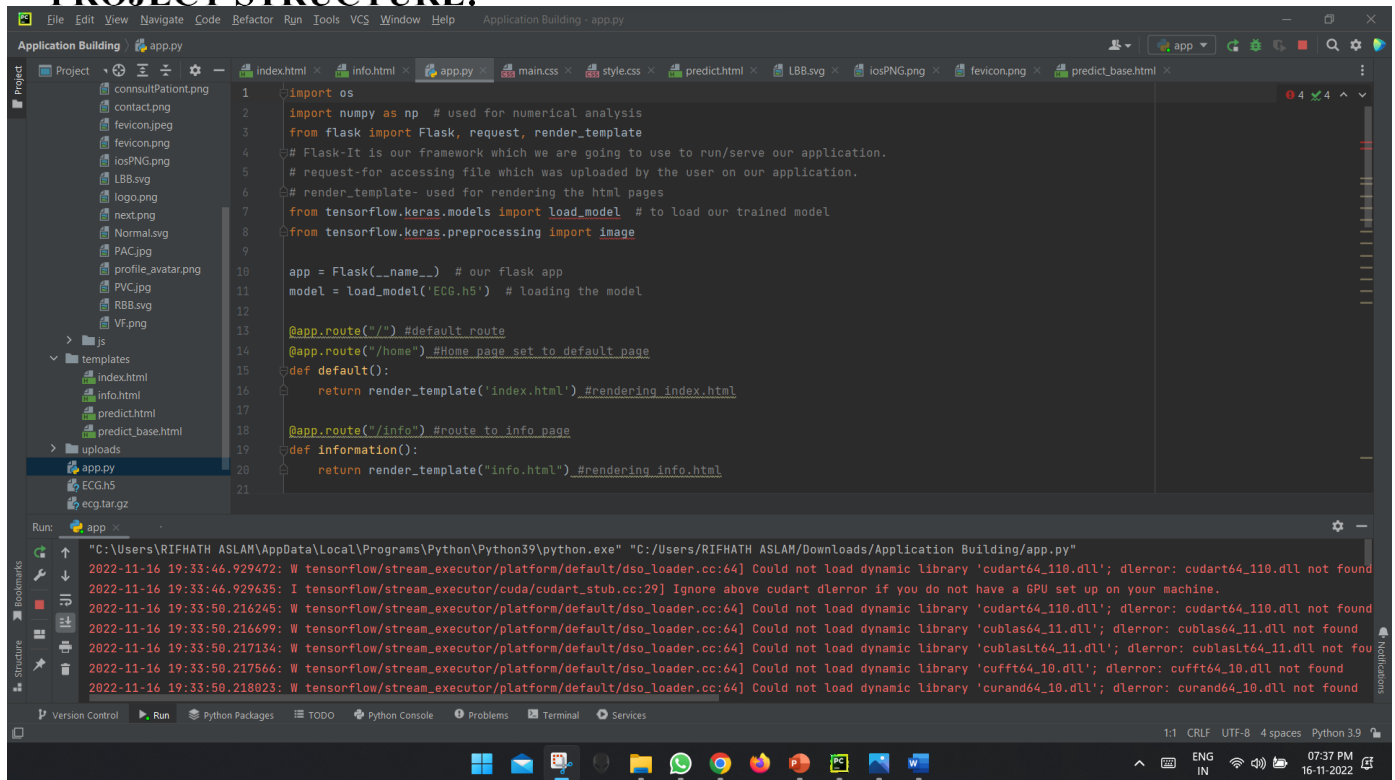
BUILD THE PYTHON CODE

Date	11Nov2022
TeamID	PNT2022TMID02236
ProjectName	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation

TASK:

Build the python code.

PROJECT STRUCTURE:



```
1 import os
2 import numpy as np # used for numerical analysis
3 from flask import Flask, request, render_template
4 # Flask-It is our framework which we are going to use to run/serve our application.
5 # request-for accessing file which was uploaded by the user on our application.
6 # render_template- used for rendering the html pages
7 from tensorflow.keras.models import load_model # to load our trained model
8 from tensorflow.keras.preprocessing import image
9
10 app = Flask(__name__) # our flask app
11 model = load_model('ECG.h5') # loading the model
12
13 @app.route("/") #default route
14 @app.route("/home") #Home page set to default page
15 def default():
16     return render_template('index.html') #rendering index.html
17
18 @app.route("/info") #route to info page
19 def information():
20     return render_template("info.html") #rendering info.html
21
```

Run: app

"C:\Users\RIFHATH ASLAM\AppData\Local\Programs\Python\Python39\python.exe" "C:\Users\RIFHATH ASLAM\Downloads\Application Building\app.py"

2022-11-16 19:33:46.929472: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cudart64_110.dll'; dLError: cudart64_110.dll not found

2022-11-16 19:33:46.929635: I tensorflow/stream_executor/cuda/cudart_stub.cc:29] Ignore above cudart dLError if you do not have a GPU set up on your machine.

2022-11-16 19:33:50.216245: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cudart64_110.dll'; dLError: cudart64_110.dll not found

2022-11-16 19:33:50.216699: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cublas64_11.dll'; dLError: cublas64_11.dll not found

2022-11-16 19:33:50.217134: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cublasLt64_11.dll'; dLError: cublasLt64_11.dll not found

2022-11-16 19:33:50.217566: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cufft64_10.dll'; dLError: cufft64_10.dll not found

2022-11-16 19:33:50.218023: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'curand64_10.dll'; dLError: curand64_10.dll not found

APP.PY:

```
import os
import numpy as np # used for numerical analysis
```



```
from flask import Flask, request, render_template

# Flask-It is our framework which we are going to use to run/serve our
application.

# request-for accessing file which was uploaded by the user on our
application.

# render_template- used for rendering the html pages

from tensorflow.keras.models import load_model # to load our trained
model

from tensorflow.keras.preprocessing import image

app = Flask(__name__) # our flask app
model = load_model('ECG.h5') # loading the model

@app.route("/") #default route
@app.route("/home") #Home page set to default page
def default():
    return render_template('index.html') #rendering index.html

@app.route("/info") #route to info page
def information():
    return render_template("info.html") #rendering info.html

@app.route("/about") #route to about us page
def about_us():
    return render_template('about.html') #rendering about.html

@app.route("/contact") #route to contact us page
```

```

def contact_us():
    return render_template('contact.html') #rendering contact.html

@app.route("/upload") #default route
def test():
    return render_template("predict.html") #rendering contact.html

@app.route("/predict",methods=["GET","POST"]) #route for our
prediction
def upload():
    if request.method == 'POST':
        f = request.files['file'] # requesting the file
        basepath = os.path.dirname('__file__') # storing the file directory
        filepath = os.path.join(basepath, "uploads", f.filename) # storing the
file in uploads folder
        f.save(filepath) # saving the file

        img = image.load_img(filepath, target_size=(64, 64)) # load and
reshaping the image
        x = image.img_to_array(img) # converting image to array
        x = np.expand_dims(x, axis=0) # changing the dimensions of the
image

        preds = model.predict(x) # predicting classes
        pred = np.argmax(preds, axis=1) # predicting classes
        print("prediction", pred) # printing the prediction

```

```
index = ['Left Bundle Branch Block', 'Normal', 'Premature Atrial  
Contraction',
```

```
'Premature Ventricular Contractions', 'Right Bundle Branch  
Block', 'Ventricular Fibrillation']
```

```
result = str(index[pred[0]])
```

```
return result # returning the result
```

```
return None
```

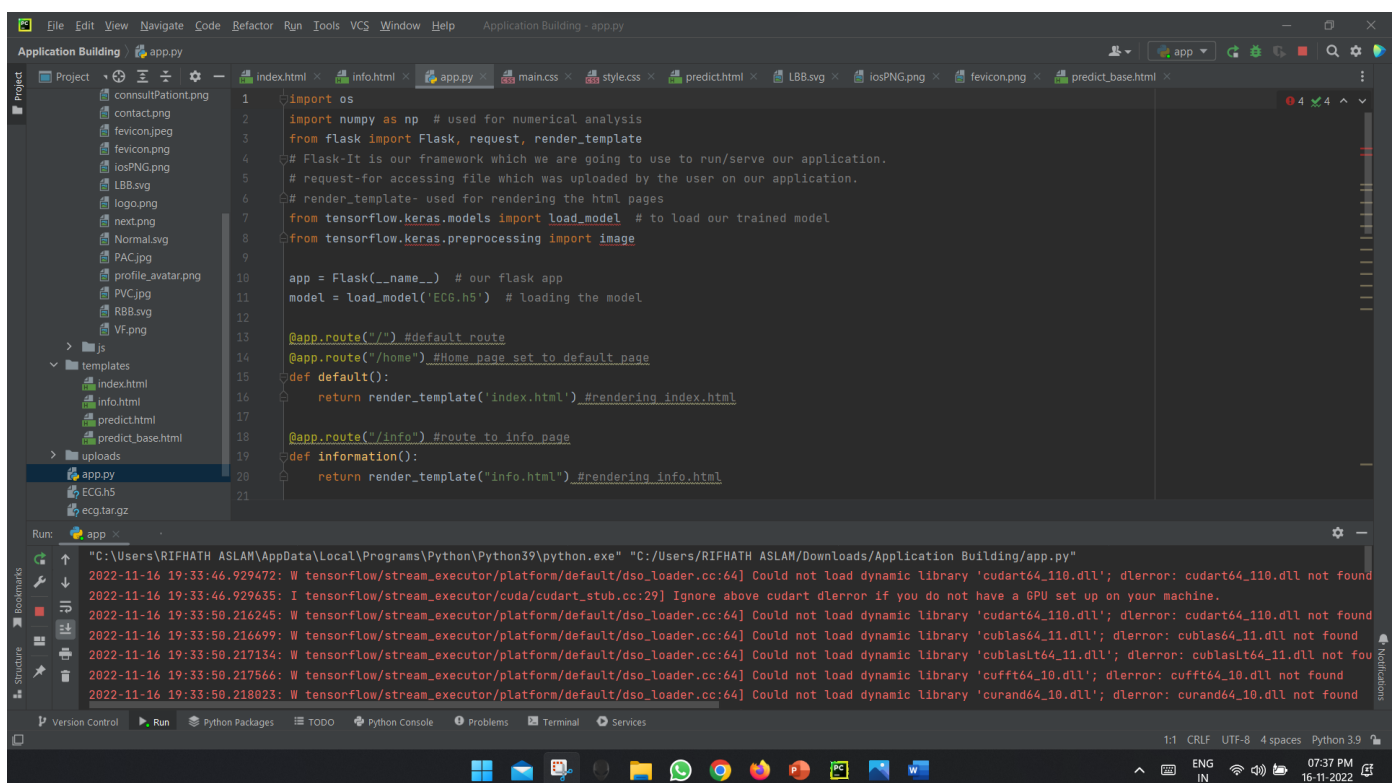
```
# port = int(os.getenv("PORT"))
```

```
if __name__ == "__main__":
```

```
    app.run(debug=False) # running our app
```

```
# app.run(host='0.0.0.0', port=8000)
```

APP.PY(SCREEN SHOT):



The screenshot shows a code editor with the following Python code in `app.py`:

```
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2 import numpy as np # used for numerical analysis
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```

The output console shows the following messages:

```
"C:\Users\RIFHATH ASLAM\AppData\Local\Programs\Python\Python39\python.exe" "C:\Users\RIFHATH ASLAM\Downloads\Application Building\app.py"
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