

Sprint-3

Application Building

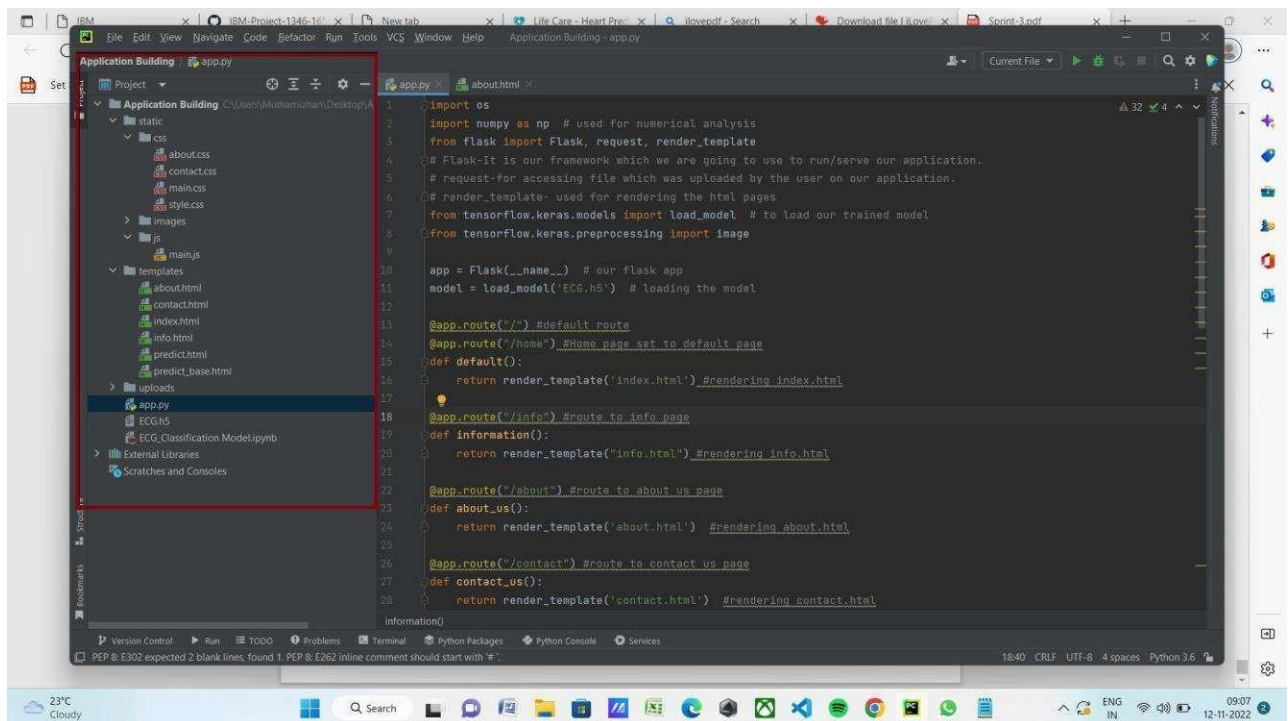
BUILD THE PYTHON CODE

Date	11 Nov 2022
TeamID	PNT2022TMID28062
ProjectName	Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation

TASK:

Build the python code.

PROJECT STRUCTURE:



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
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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

```

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        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 # resturing the result

return None

```

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# 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):

