

Flask Web App for Auto Colorization of Gray-Scale face Images

Assignment
Week 4 Assignment

Prepared by:
Aly Medhat Moslhi

Submitted to:
Data Glacier Internship Program

Patch No.:
LISUM11

July 26, 2022

Libraries:

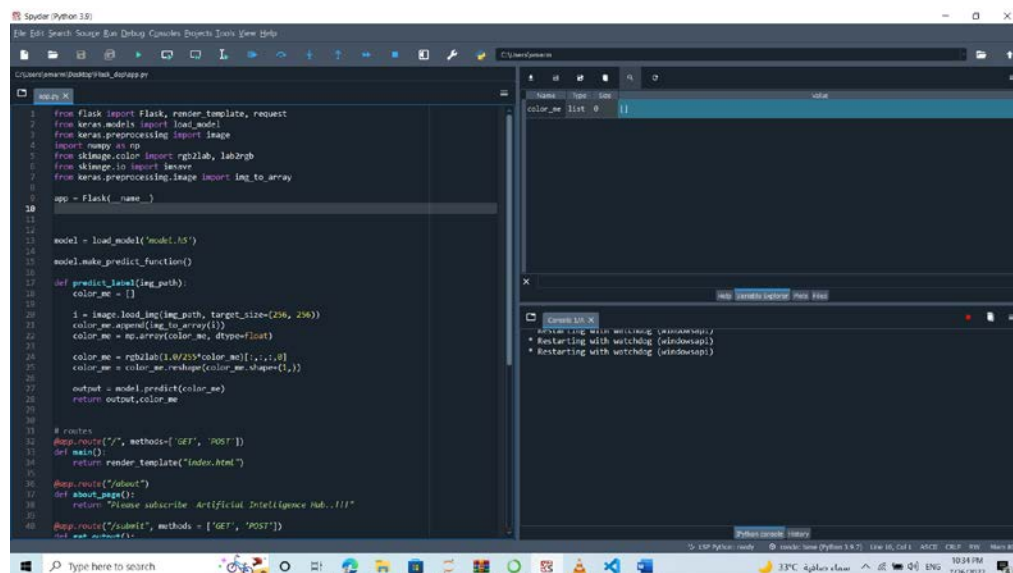
- Python 3
- Flask
- Tensorflow
- Keras
- Numpy

Dataset:

[Famous people faces | Kaggle](#)

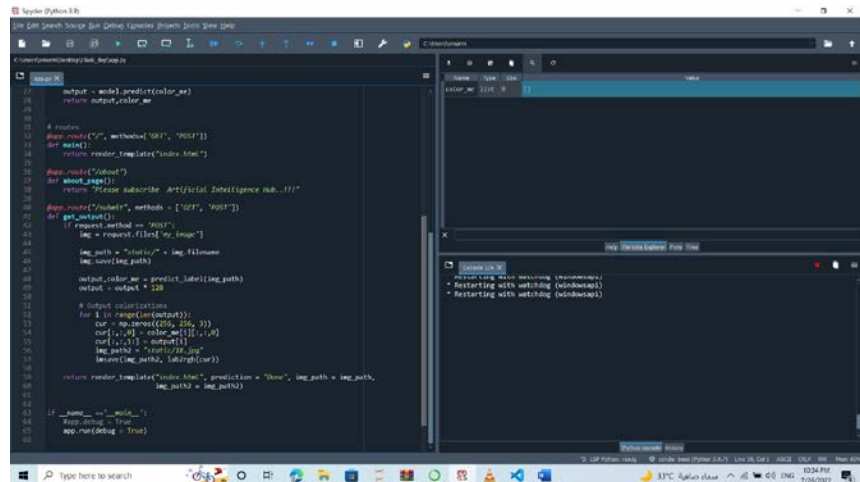
Deployment Steps:

- **Python:**

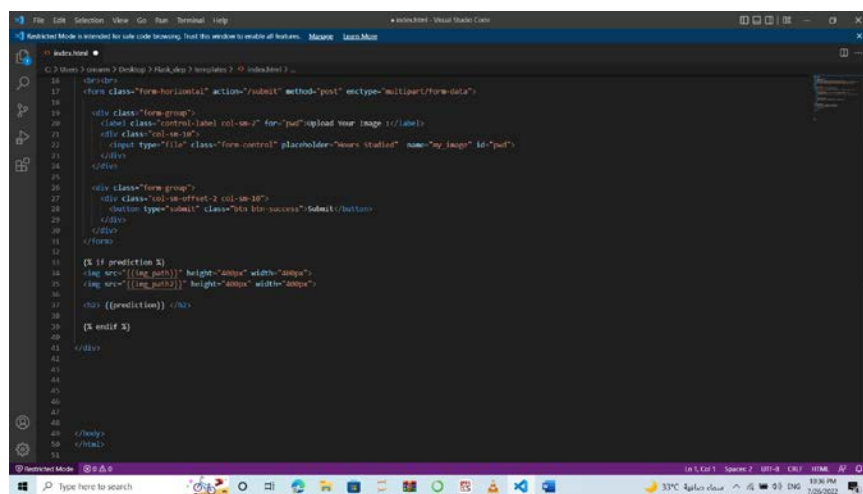
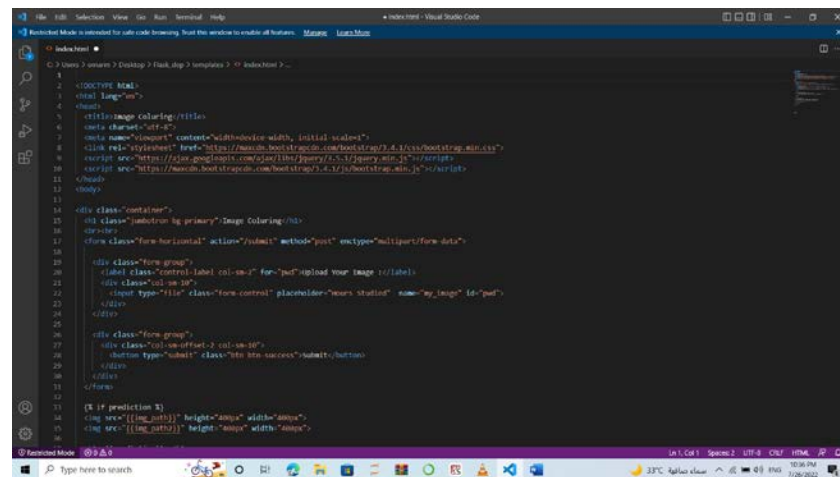


The screenshot shows the Spyder Python IDE with a Flask application code. The code imports necessary libraries (Flask, Keras, NumPy, skimage) and defines a Flask app. It includes a route for the root URL that renders an index.html template. A route for '/predict' is defined, which takes an image path as input, loads the image, preprocesses it, and uses a pre-trained Keras model to predict the color. The output is rendered as an HTML response. The code also includes a route for '/about' and a route for '/submit'.

```
1 from flask import Flask, render_template, request
2 from keras.models import load_model
3 from keras.preprocessing import image
4 import numpy as np
5 from skimage.color import rgb2lab, lab2rgb
6 from skimage.io import imsave
7 from keras.preprocessing.image import img_to_array
8
9 app = Flask(__name__)
10
11
12 model = load_model('model.h5')
13
14 model.make_predict_function()
15
16 def predict_image(img_path):
17     color_me = []
18
19     i = image.load_img(img_path, target_size=(256, 256))
20     color_me = image_to_array(i)
21     color_me = np.array(color_me, dtype=float)
22     color_me = rgb2lab(1.0/255*color_me[:,:,:])
23     color_me = color_me.reshape((color_me.shape[0],))
24
25     output = model.predict(color_me)
26     return output, color_me
27
28
29 # routes
30 @app.route('/', methods=['GET', 'POST'])
31 def main():
32     return render_template("index.html")
33
34 @app.route('/about')
35 def about_page():
36     return "Please subscribe Artificial Intelligence Hub..!!!"
37
38 @app.route('/submit', methods=['GET', 'POST'])
39 def submit_image():
```



HTML and CSS:



Results:

