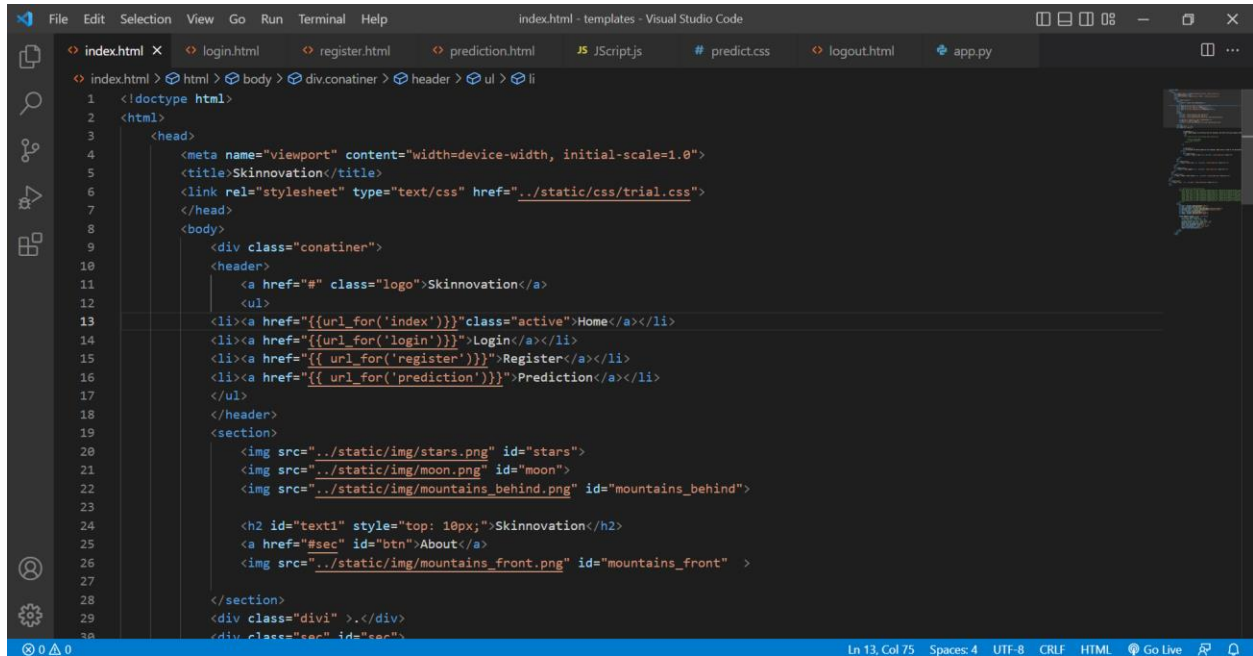


## APPLICATION BUILDING

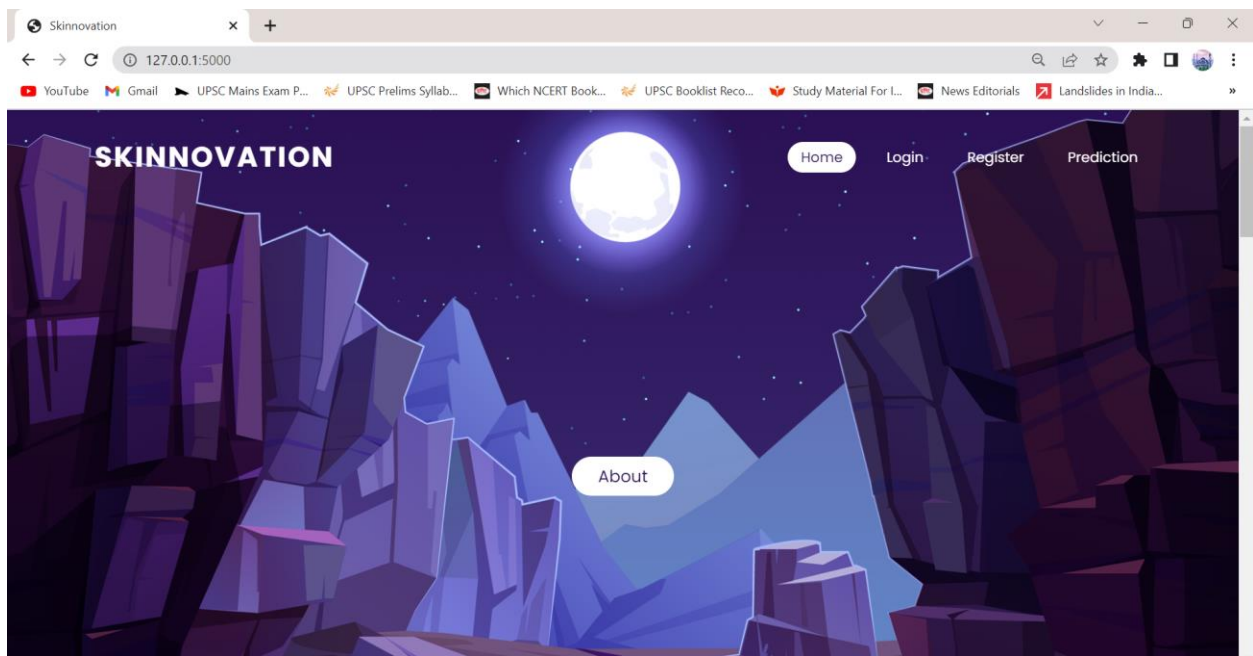
Team ID	PNT2022TMID00624
Project Name	AI-Based Localization and Classification of Skin Disease with Erythema

### Build HTML Pages:



```
1 <!doctype html>
2 <html>
3   <head>
4     <meta name="viewport" content="width=device-width, initial-scale=1.0">
5     <title>Skinnovation</title>
6     <link rel="stylesheet" type="text/css" href="../static/css/trial.css">
7   </head>
8   <body>
9     <div class="conatiner">
10      <header>
11        <a href="#" class="logo">Skinnovation</a>
12        <ul>
13          <li><a href="{{url_for('index')}}" class="active">Home</a></li>
14          <li><a href="{{url_for('login')}}">Login</a></li>
15          <li><a href="{{url_for('register')}}">Register</a></li>
16          <li><a href="{{url_for('prediction')}}">Prediction</a></li>
17        </ul>
18      </header>
19      <section>
20        
21        
22        
23
24        <h2 id="text1" style="top: 10px;">Skinnovation</h2>
25        <a href="#sec" id="btn">About</a>
26        
27
28      </section>
29      <div class="div1"> </div>
30      <div class="sec" id="sec">
```

### Index:



Skinnovation x +

127.0.0.1:5000


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## Problem

Now a day's people are suffering from skin diseases, More than 125 million people suffering from Psoriasis also skin cancer rate is rapidly increasing over the last few decades especially Melanoma is most diversifying skin cancer. If skin diseases are not treated at an earlier stage, then it may lead to complications in the body including spreading of the infection from one individual to the other. The skin diseases can be prevented by investigating the infected region at an early stage. The characteristic of the skin images is diversified so that it is a challenging job to devise an efficient and robust algorithm for automatic detection of skin disease and its severity. Skin tone and skin colour play an important role in skin disease detection. Colour and coarseness of skin are visually different. Automatic processing of such images for skin analysis requires quantitative discriminator to differentiate the diseases.

## Solution

To overcome the above problem we are building a model which is used for the prevention and early detection of skin cancer, psoriasis. Basically, skin disease diagnosis depends on the different characteristics like colour, shape, texture etc. Here the person can capture the images of skin and then the image will be sent the trained model. The model analyses the image and detect whether the person is having skin disease or not.




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what happens ?



Report Generation ✕

A Detailed report containing information regarding the detected disease is generated

What's Final result ?



## Register:

Skinnovation

127.0.0.1:5000/register

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SKINNOVATION

Home Login Register Prediction

### Registration

**First Name**

**Enter Email ID**

**Password**

Register

Already have an Account? [Login Here](#)

## Login:

Login & Register

127.0.0.1:5000/login

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### Sign in

Email

Password

SIGN IN

### NEW HERE?


Signup to make a journey with us...

SIGN UP

## Prediction:

Nowadays people are suffering from skin diseases, More than 125 million people suffering from Psoriasis also skin cancer rate is rapidly increasing over the last few decades especially Melanoma is most diversifying skin cancer. If skin diseases are not treated at an earlier stage, then it may lead to complications in the body including spreading of the infection from one individual to the other. The skin diseases can be prevented by investigating the infected region at an early stage.

The characteristic of the skin images is diversified so that it is a challenging job to devise an efficient and robust algorithm for automatic detection of skin disease and its severity. Skin tone and skin colour play an important role in skin disease detection. Colour and coarseness of skin are visually different. Automatic processing of such images for skin analysis requires quantitative discriminator to differentiate the diseases.



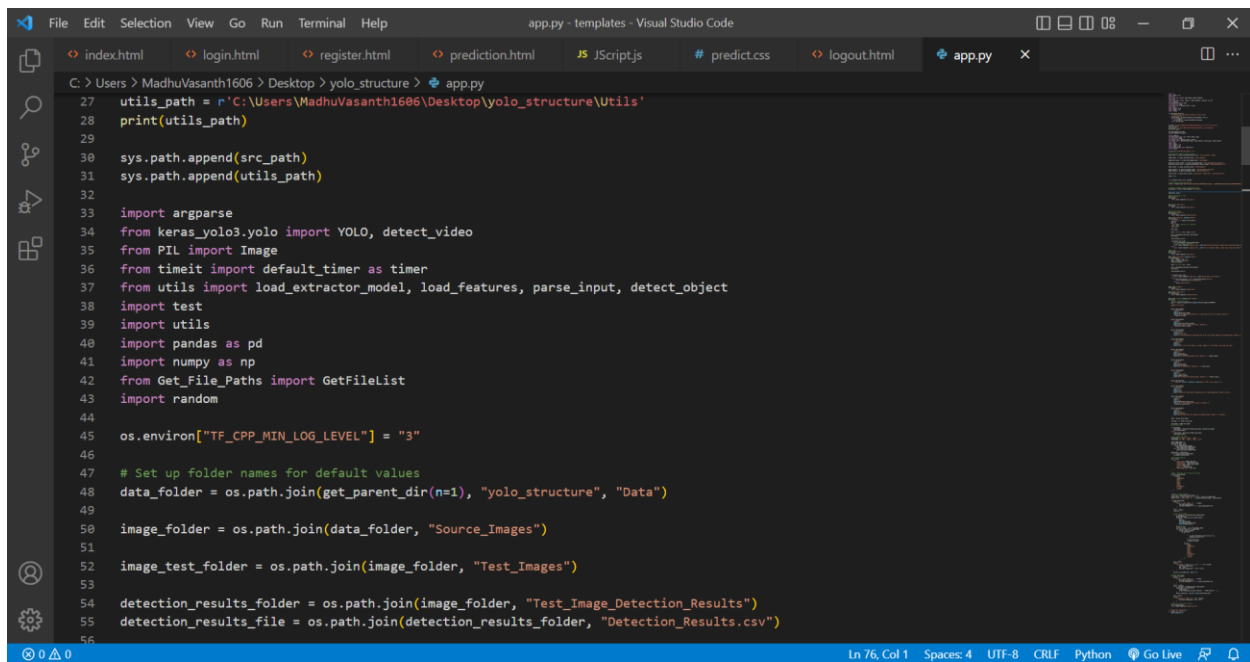
Click Me! For a Demo  
**prediction**

## Build Python code:

```
File Edit Selection View Go Run Terminal Help
app.py - templates - Visual Studio Code

index.html login.html register.html prediction.html JS JScript.js # predict.css logout.html app.py x

C:\Users\MadhuVasanth1606\Desktop\yolo_structure> app.py
1 import re
2 import numpy as np
3 import os
4 from flask import Flask, app,request,render_template
5 import sys
6 from flask import Flask, request, render_template, redirect, url_for
7 import argparse
8 from tensorflow import keras
9 from PIL import Image
10 from timeit import default_timer as timer
11 import test
12 import pandas as pd
13 import numpy as np
14 import random
15
16 def get_parent_dir(n=1):
17     """ returns the n-th parent directory of the current
18     working directory """
19     current_path = os.path.dirname(os.path.abspath(__file__))
20     for k in range(n):
21         current_path = os.path.dirname(current_path)
22     return current_path
23
24
25 src_path = r'C:\Users\MadhuVasanth1606\Desktop\yolo_structure\2_Training\src'
26 print(src_path)
27 utils_path = r'C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Utils'
28 print(utils_path)
29
30 sys_path.append(src_path)
```

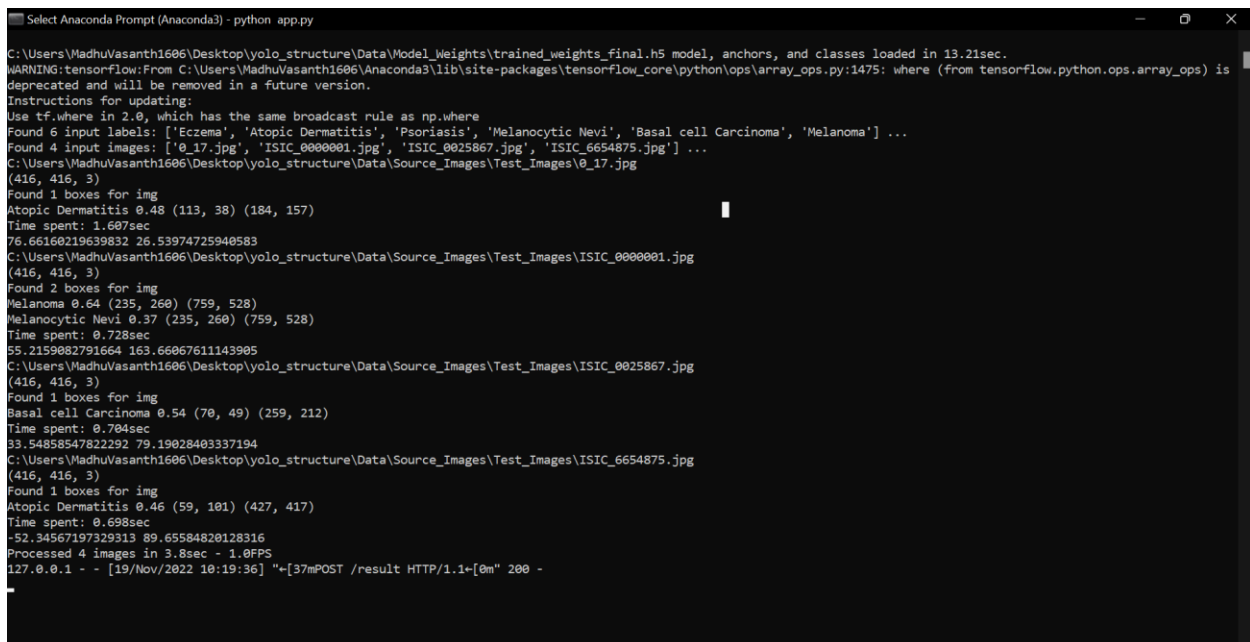


```
File Edit Selection View Go Run Terminal Help
app.py - templates - Visual Studio Code

index.html login.html register.html prediction.html JScript.js # predict.css logout.html app.py x

C:\Users\MadhuVasanth1606\Desktop\yolo_structure> app.py
27 utils_path = r'C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Utils'
28 print(utils_path)
29
30 sys.path.append(src_path)
31 sys.path.append(utils_path)
32
33 import argparse
34 from keras_yolo3.yolo import YOLO, detect_video
35 from PIL import Image
36 from timeit import default_timer as timer
37 from utils import load_extractor_model, load_features, parse_input, detect_object
38 import test
39 import utils
40 import pandas as pd
41 import numpy as np
42 from Get_File_Paths import GetFileList
43 import random
44
45 os.environ["TF_CPP_MIN_LOG_LEVEL"] = "3"
46
47 # Set up folder names for default values
48 data_folder = os.path.join(get_parent_dir(n=1), "yolo_structure", "Data")
49
50 image_folder = os.path.join(data_folder, "Source_Images")
51
52 image_test_folder = os.path.join(image_folder, "Test_Images")
53
54 detection_results_folder = os.path.join(image_folder, "Test_Image_Detection_Results")
55 detection_results_file = os.path.join(detection_results_folder, "Detection_Results.csv")
56
```

## Run the Application:



```
Select Anaconda Prompt (Anaconda3) - python app.py

C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Data\Model_Weights\trained_weights_final.h5 model, anchors, and classes loaded in 13.21sec.
WARNING:tensorflow:From C:\Users\MadhuVasanth1606\Anaconda3\lib\site-packages\tensorflow_core\python\ops\array_ops.py:1475: where (from tensorflow.python.ops.array_ops) is
deprecated and will be removed in a future version.
Instructions for updating:
Use tf.where in 2.0, which has the same broadcast rule as np.where
Found 6 input labels: ['Eczema', 'Atopic Dermatitis', 'Psoriasis', 'Melanocytic Nevus', 'Basal cell Carcinoma', 'Melanoma'] ...
Found 4 input images: ['0_17.jpg', 'ISIC_0000001.jpg', 'ISIC_0025867.jpg', 'ISIC_6654875.jpg'] ...
C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Data\Source_Images\Test_Images\0_17.jpg
(416, 416, 3)
Found 1 boxes for img
Atopic Dermatitis 0.48 (113, 38) (184, 157)
Time spent: 1.607sec
76.66160219639832 26.53974725940583
C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Data\Source_Images\Test_Images\ISIC_0000001.jpg
(416, 416, 3)
Found 2 boxes for img
Melanoma 0.64 (235, 260) (759, 528)
Melanocytic Nevus 0.37 (235, 260) (759, 528)
Time spent: 0.728sec
55.2159082791664 163.66067611143905
C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Data\Source_Images\Test_Images\ISIC_0025867.jpg
(416, 416, 3)
Found 1 boxes for img
Basal cell Carcinoma 0.54 (70, 49) (259, 212)
Time spent: 0.784sec
33.54898547022292 79.19028403337194
C:\Users\MadhuVasanth1606\Desktop\yolo_structure\Data\Source_Images\Test_Images\ISIC_6654875.jpg
(416, 416, 3)
Found 1 boxes for img
Atopic Dermatitis 0.46 (59, 101) (427, 417)
Time spent: 0.698sec
-52.34567197329313 89.65584820128316
Processed 4 images in 3.8sec - 1.0FPS
127.0.0.1 - - [19/Nov/2022 10:13:36] "POST /result HTTP/1.1" 200 -
```