**Face Recognition Model**

App.py

from flask import Flask, render\_template, request, redirect, url\_for

import os

import face\_recognition

app = Flask(\_\_name\_\_)

# Dictionary to store user details

users = {}

def register\_user(username, face\_encoding):

    users[username] = {'face\_encoding': face\_encoding}

def recognize\_user(face\_encoding):

    for username, user\_data in users.items():

        known\_encoding = user\_data['face\_encoding']

        # Compare the input face encoding with the known face encoding

        result = face\_recognition.compare\_faces([known\_encoding], face\_encoding)

        if result[0]:

            return username

    return None

@app.route('/')

def index():

    return render\_template('index.html')

@app.route('/signup', methods=['GET', 'POST'])

def signup():

    if request.method == 'POST':

        username = request.form['username']

        # Get the face encoding from the uploaded image

        file = request.files['image']

        file\_path = os.path.join('uploads', file.filename)

        file.save(file\_path)

        image = face\_recognition.load\_image\_file(file\_path)

        face\_encoding = face\_recognition.face\_encodings(image)[0]

        # Register the user

        register\_user(username, face\_encoding)

        return redirect(url\_for('login'))

    return render\_template('signup.html')

@app.route('/login', methods=['GET', 'POST'])

def login():

    if request.method == 'POST':

        # Get the face encoding from the uploaded image

        file = request.files['image']

        file\_path = os.path.join('uploads', file.filename)

        file.save(file\_path)

        image = face\_recognition.load\_image\_file(file\_path)

        face\_encoding = face\_recognition.face\_encodings(image)[0]

        # Recognize the user

        username = recognize\_user(face\_encoding)

        if username:

            return render\_template('login\_success.html', username=username)

        else:

            return render\_template('login\_failure.html')

    return render\_template('login.html')

if \_\_name\_\_ == '\_\_main\_\_':

    # Create the uploads folder if it doesn't exist

    os.makedirs('uploads', exist\_ok=True)

    app.run(debug=True)

index.html  
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Face Recognition Web App</title>

</head>

<body>

    <h1>Welcome to the Face Recognition Web App</h1>

    <p><a href="{{ url\_for('signup') }}">Sign Up</a></p>

    <p><a href="{{ url\_for('login') }}">Login</a></p>

</body>

</html>

Login.html  
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Login</title>

</head>

<body>

    <h1>Login</h1>

    <form method="POST" enctype="multipart/form-data">

        <label for="image">Upload Your Face Image:</label>

        <input type="file" id="image" name="image" accept="image/\*" required>

        <br>

        <input type="submit" value="Login">

    </form>

</body>

Login\_failure.html  
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Login Failure</title>

</head>

<body>

    <h1>Login Failure</h1>

    <p>Invalid credentials. Please try again.</p>

</body>

</html>

Login\_sucess.html  
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Login Success</title>

</head>

<body>

    <h1>Login Successful</h1>

    <p>Welcome, {{ username }}!</p>

</body>

</html>

Signup.html  
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Sign Up</title>

</head>

<body>

    <h1>Sign Up</h1>

    <form method="POST" enctype="multipart/form-data">

        <label for="username">Username:</label>

        <input type="text" id="username" name="username" required>

        <br>

        <label for="image">Upload Your Face Image:</label>

        <input type="file" id="image" name="image" accept="image/\*" required>

        <br>

        <input type="submit" value="Sign Up">

    </form>

</body>

</html>

Output:



  




