

APPLICATION BUILDING

login.html :

```
1  <!DOCTYPE html>
2  <html lang="en">
3    <head>
4      <title>Title</title>
5      <!-- Required meta tags -->
6      <meta charset="utf-8" />
7      <meta
8        name="viewport"
9        content="width=device-width, initial-scale=1, shrink-to-fit=no"
10     />
11
12     <!-- Bootstrap CSS v5.0.2 -->
13     <link
14       rel="stylesheet"
15       href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
16       integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC"
17       crossorigin="anonymous"
18     />
```

```
20  <link
21    rel="shortcut icon"
22    href="img/android-chrome-192x192.png"
23    type="image/x-icon"
24  />
25  <!-- Custom CSS -->
26  <link rel="stylesheet" href={{-url_for('static', filename='css/login.css')}}
27  />
28  </head>
29  <body>
30    <div class="container">
31      <section id="formHolder">
32        {% if error %}
33        <div class="alert alert-danger" role="alert">{{ error }}</div>
34        {% endif %} {% if success %}
35        <div class="alert alert-success" role="alert">{{ success }}</div>
36        {% endif %}
```

```

38 <div class="row">
39   <div class="col-sm-6 brand">
40     <a href="/" class="logo">Home</a>
41
42     <div class="heading">
43       <h2>
44         <img src={{ url_for('static', filename="img/logo.png") }} />
45         <br />
46         Health Care System
47       </h2>
48       <br />
49       <br />
50       <p>By Team-16</p>
51     </div>
52
53     <div class="success-msg">
54       <p>Great! You are one of our members now</p>
55       <a href="/" class="profile">Your Profile</a>
56     </div>
57   </div>

```

```

60 <div class="col-sm-6 form">
61   <!-- Signup Form -->
62   <div class="signup form-peice">
63     <form
64       class="signup-form"
65       action="/register"
66       method="post"
67       autocomplete="off"
68     >
69       <div class="form-group">
70         <label for="name">Full Name</label>
71         <input type="text" name="name" id="name" class="name" />
72         <span class="error"></span>
73       </div>
74
75       <div class="form-group">
76         <label for="email">Email Address</label>
77         <input type="email" name="email" id="email" class="email" />
78         <span class="error"></span>
79       </div>

```

```
87 <div class="form-group">
88   <label for="password">Password</label>
89   <input
90     type="password"
91     name="password"
92     id="password"
93     class="pass"
94   />
95   <span class="error"></span>
96 </div>
97
98 <div class="form-group">
99   <label for="passwordCon">Confirm Password</label>
100   <input
101     type="password"
102     name="cpass"
103     id="passwordCon"
104     class="passConfirm"
105   />
106   <span class="error"></span>
107 </div>
```

```

109 <div class="CTA">
110   <input
111     type="submit"
112     value="Signup Now"
113     id="submit"
114     name="reg"
115   />
116   <a href="" class="switch">I have an account</a>
117 </div>
118 </form>
119 </div>
120 <!-- End Signup Form -->
121 <!-- Login Form -->
122 <div class="login form-peice switched">
123   <form
124     class="login-form"
125     action="/login"
126     method="post"
127     autocomplete="off"
128   >

```

```

129   <div class="form-group">
130     <label for="loginemail">Username</label>
131     <input
132       type="text"
133       name="username"
134       id="loginemail"
135       required
136     />
137   </div>
138
139   <div class="form-group">
140     <label for="loginPassword">Password</label>
141     <input
142       type="password"
143       name="password"
144       id="loginPassword"
145       required
146     />
147   </div>

```

```

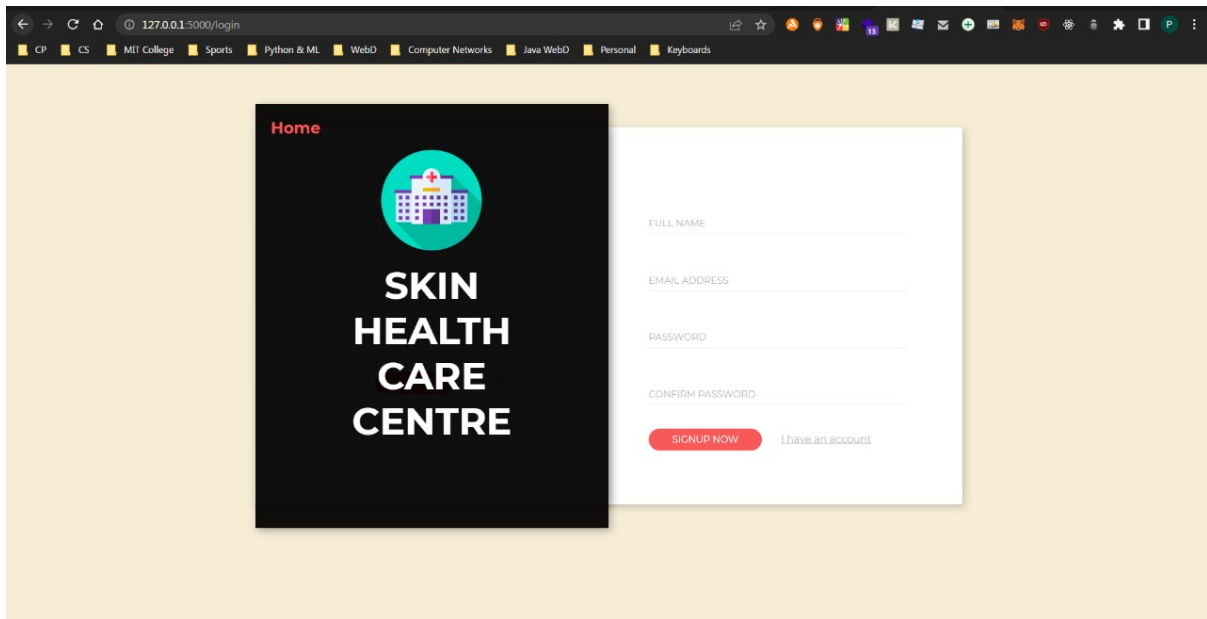
149 <div class="CTA">
150     <input type="submit" value="Login" name="log" />
151     <a href="#" class="switch">I'm New</a>
152 </div>
153 </form>
154 </div>
155 <!-- End Login Form -->
156 </div>
157 </div>
158 </section>
159 </div>
160
161 <!-- Bootstrap JavaScript Libraries -->
162 <script
163     src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
164     integrity="sha384-IQsoLXl5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p"
165     crossorigin="anonymous"
166 ></script>

```

```

167 <script
168     src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
169     integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu0JTxR+EQDz/bgldoEyl4H0zUF0QKbrJ0EcQF"
170     crossorigin="anonymous"
171 ></script>
172
173 <!-- JQuery CDN -->
174 <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
175
176 <!-- Custom JS -->
177 <script src= {{ url_for('static', filename="js/login.js") }}></script>
178 </body>
179 </html>
180

```



skin_consult.html

```
1  <!DOCTYPE html>
2  <html lang="en">
3    <head>
4      <meta charset="UTF-8" />
5      <meta http-equiv="X-UA-Compatible" content="IE=edge" />
6      <meta name="viewport" content="width=device-width, initial-sca
7      <title>Document</title>
8      <link rel="stylesheet" href={{-url_for('static',
9        filename='css/skin_form.css')}}>
10   </head>
11   <body>      You, 6 days ago • Review-2 ...
12     <div class="formbold-main-wrapper">
13       <!-- Author: FormBold Team -->
14       <!-- Learn More: https://formbold.com -->
```

```

11 <body> You, 6 days ago • Review-2 ...
12 <div class="formbold-main-wrapper">
13   <!-- Author: FormBold Team -->
14   <!-- Learn More: https://formbold.com -->
15
16   <div class="formbold-form-wrapper">
17     <form
18       enctype="multipart/form-data"
19       action="/skin_consult"
20       method="POST"
21       class="form_data"
22     >
23       <div class="flex flex-wrap formbold--mx-3">
24         <div class="w-full sm:w-half formbold-px-3">
25           <div class="formbold-mb-5 w-full">
26             <label for="Phone Number" class="formbold-form-label">
27               Full Name
28             </label>

```

```

28 <body>
29 <nav class="navbar navbar-expand-md navbar-dark bg-primary">
30   <a class="navbar-brand" href="#">
31     
32     Skin HealthCare System
33   </a>
34   <button
35     class="navbar-toggler"
36     type="button"
37     data-toggle="collapse"
38     data-target="#navbarNav"
39   >
40     <span class="navbar-toggler-icon"></span>
41   </button>
42   <div class="collapse navbar-collapse" id="navbarNav">
43     <ul class="navbar-nav logout">
44       <li class="nav-item">
45         <a class="nav-link" href="#">Logout</a>
46       </li>
47     </ul>
48   </div>

```



```

51     <div class="heading">
52         Skinnovation - Skin Disease Classification and Localization using
53         Artificial Intelligence
54     </div>
55 </div>
56 <div class="container">
57     <div class="row">
58         <div class="col abt">
59             Now a day's people are suffering from skin diseases, More than 125
60             million people suffering from Psoriasis also skin cancer rate is
61             rapidly increasing over the last few decades especially Melanoma is
62             most diversifying skin cancer. If skin diseases are not treated at an
63             earlier stage, then it may lead to complications in the body including
64             spreading of the infection from one individual to the other. The skin
65             diseases can be prevented by investigating the infected region at an
66             early stage. The characteristic of the skin images is diversified so
67             that it is a challenging job to devise an efficient and robust
68             algorithm for automatic detection of skin disease and its severity.
69             Skin tone and skin colour play an important role in skin disease
70             detection. Colour and coarseness of skin are visually different.
71             Automatic processing of such images for skin analysis requires
72             quantitative discriminator to differentiate the diseases. To overcome

```

```

81     <div class="col">
82         <div class="card upload-card">
83             
88             <div class="card-body">
89                 <p class="card-text" style="text-align:center">
90                     Get Instant Identification of Disease by uploading your image
91                 <div class="d-grid" style="text-align: center;">
92                     <form method="post" action="/result" enctype="multipart/form-data">
93                         <input class="form-control bg-warning" type="file" name="img" id="formFile" style="margin-bottom:1rem"
94                         <button class="btn btn-primary upload-btn" type="submit">SUBMIT</button>
95                     </form>
96                 </div>
97                 </p>
98             </div>
99         </div>
100     </div>
101 </div>
102 </div>

```



```

106 <script
107     src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
108     integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVBnE+IbbVYUew+0rCXAkRkfj"
109     crossorigin="anonymous"
110 ></script>
111 <script
112     src="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/js/bootstrap.bundle.min.js"
113     integrity="sha384-ho+j7jyWK8fNQe+A12Hb8AhRq26LrZ/JpcUGG0n+Y7RsweNrtN/tE3MoK7ZeZDyx"
114     crossorigin="anonymous"
115 ></script>
116
117 <!-- Option 2: jQuery, Popper.js, and Bootstrap JS
118 <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVBnE+IbbVYUew+0rCXAkRkfj"
119 <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js" integrity="sha384-v3FnxRL9o/g4SUYO6KSO/WnHTLTzRxVIaGf3RD5xKWic1nWTZ6pzP4suYoxNblIqc/sR4LQspICV7Yqr4q3yrlz/"
120 <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/js/bootstrap.min.js" integrity="sha384-1xwZ5MczWnn7Uxv8u/Q42e7q46DSgK9IVGa1RpQ2mEzYXYrZ0wylr3VxUHqZduwco6"
121 -->
122 </body>
123 </html>
124

```



Skin HealthCare System

Logout

Skinnovation - Skin Disease Classification and Localization using Artificial Intelligence

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. 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



Get Instant Identification of Disease by uploading your image

Choose File

No file chosen

results.html

```

1  <html lang="en">
2
3  <head>
4      <!-- Required meta tags -->
5      <meta charset="utf-8" />
6      <meta
7          name="viewport"
8          content="width=device-width, initial-scale=1, shrink-to-fit=no"
9      />
10     <link rel="preconnect" href="https://fonts.googleapis.com" />
11     <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
12     <link
13         href="https://fonts.googleapis.com/css2?family=Kalam&family=Pacifico&display=swap"
14         rel="stylesheet"
15     />
16     <!-- Bootstrap CSS -->
17     <link
18         rel="stylesheet"
19         href="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/css/bootstrap.min.css"
20         integrity="sha384-TX8t27EcRE3e/ihU7zmQxVncDAy5uIKz4rEkgIXeMed4M0jlfIDPvg6uqKI2xXr2"
21         crossorigin="anonymous"
22     />

```

```

23     <link rel="stylesheet" href={{url_for('static', filename='css/results.css')}}
24     />
25
26     <title>Market</title>
27 </head>
28 <body>
29     <nav class="navbar navbar-expand-md navbar-dark bg-primary">
30         <a class="navbar-brand" href="#">
31             
32             Skin HealthCare System - Results
33         </a>
34         <button
35             class="navbar-toggler"
36             type="button"
37             data-toggle="collapse"
38             data-target="#navbarNav"
39         >
40             <span class="navbar-toggler-icon"></span>
41         </button>
42         <div class="collapse navbar-collapse" id="navbarNav">
43             <ul class="navbar-nav logout">
44                 <li class="nav-item">

```

```
42 <div class="collapse navbar-collapse" id="navbarNav">
43   <ul class="navbar-nav logout">
44     <li class="nav-item">
45       <a class="nav-link" href="#">Logout</a>
46     </li>
47   </ul>
48 </div>
49 </nav>
50 <div class="bg-success">
51   <div class="heading">
52     Skinnovation - Skin Disease Classification and Localization using
53     Artificial Intelligence
54   </div>
55 </div>
56 {% if imgs %}
57 <div class="container">
58   <div class="row">
59     <div class="col abt">
60   <div class="card upload-card">
61     <img
62     src={{ imgs[0] }}
```

```

61 <img
62     src={{ imgs[0] }}
63     class="card-img-top"
64     alt="..."
65 />
66 <div class="card-body">
67     Original Image
68 </div>
69 </div>
70 </div>
71 <div class="col">
72 <div class="card upload-card">
73 <img
74     src={{ imgs[1] }}
75     class="card-img-top"
76     alt="..."
77 />
78 <div class="card-body">
79     Detection Results
80 </div>
81 </div>

```

```

90 <script
91     src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
92     integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVBnE+IbbVYUew+0rCXaRkfj"
93     crossorigin="anonymous"
94 ></script>
95 <script
96     src="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/js/bootstrap.bundle.min.js"
97     integrity="sha384-ho+j7jyWK8fNQe+A12Hb8AhRq26LrZ/JpcUGGOn+Y7RsweNrtn/tE3MoK7ZeZDyx"
98     crossorigin="anonymous"
99 ></script>
100
101 <!-- Option 2: jQuery, Popper.js, and Bootstrap JS
102 <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH
103 <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js" integri
104 <script src="https://cdn.jsdelivr.net/npm/bootstrap@4.5.3/dist/js/bootstrap.min.js" integri
105 →
106 </body>
107 </html>

```

app.py

```
1  from flask import (
2      Flask,
3      render_template,
4      request,
5      flash,
6      get_flashed_messages,
7      redirect,
8      url_for,
9  )
10 from flask_sqlalchemy import SQLAlchemy
11 from flask_wtf import FlaskForm
12 from wtforms import StringField, PasswordField, SubmitField
13 from wtforms.validators import Length, EqualTo, Email, DataRequired, ValidationError
14 from flask_bcrypt import Bcrypt
15 from flask_login import LoginManager, login_user, login_manager, UserMixin
16 from static.yolo_structure.Inference import Detector
17 from static.yolo_structure.Inference.Detector import n_times
18
19 import DB as db
20
21 app = Flask(__name__)
```

```

25 @app.route("/skin-consult")
26 def market():
27     return render_template("skin_consult.html")
28
29
30 @app.route("/register", methods=["GET", "POST"])
31 def register():
32     if request.method == "POST":
33         if not db.check_document(
34             str(request.form["email"]), str(request.form["password"])
35         ):
36             db.insert_document(
37                 str(request.form["name"]),
38                 str(request.form["email"]),
39                 str(request.form["password"]),
40             )
41             return render_template("skin_consult.html")
42         else:
43             return render_template("login.html", error="User Already Registered")
44     else:
45         return render_template("login.html")

```

```

48 @app.route("/login", methods=["GET", "POST"])
49 def login():
50     if request.method == "GET":
51         return render_template("login.html")
52     else:
53         if db.check_document(
54             str(request.form["username"]), str(request.form["password"])
55         ):
56             return render_template("skin_consult.html")
57         else:
58             return render_template("login.html", error="Incorrect Username or PAssword")
59

```



```

61 @app.route("/result", methods=["GET", "POST"])
62 def result():
63     if request.method == "POST":
64         global n_times
65         n_times += 1
66         print("n times", n_times)
67         print(request.form)
68         img = request.files["img"]
69         path_save = (
70             "D:\\IBM_Assignments\\PyLogin\\static\\yolo_structure\\Data\\Source_Images\\Real_Time_Images\\"
71             + img.filename
72         )
73         path_result = (
74             "D:\\IBM_Assignments\\PyLogin\\static\\yolo_structure\\Data\\Source_Images\\Real_Time_Images_Detection_Result\\"
75             + img.filename
76         )
77         img.save(path_save)

```

```

78         Detector.predict(n_times)
79         original_img = (
80             "../static/yolo_structure/Data/Source_Images/Real_Time_Images/"
81             + img.filename
82         )
83         predicted_img = (
84             "../static/yolo_structure/Data/Source_Images/Real_Time_Images_Detection_Results/"
85             + img.filename
86         )
87         curr_img = img.filename
88         print(
89             "path_save",
90             path_save,
91             "path_res",
92             path_result,
93             "img_file_name",
94             img.filename,
95         )
96         return render_template("results.html", imgs=[original_img, predicted_img])
97     else:
98         return render_template("results.html")

```

```

101 @app.route("/")
102 def home():
103     return render_template("index.html")
104
105
106 if __name__ == "__main__":
107     a = 0
108     app.run()
109

```

database.py

```

1 from cloudant.client import Cloudant
2
3 client = Cloudant.iam(
4     "1ead8cb5-ab6b-4f2e-94cf-05f5c276902f-bluemix",
5     "xpf_6VVXQ9fx0ofkwxQMMdzHzT_bHWx40YgK8D80bLrL",
6     connect=True,
7 )
8 patient_db = client.create_database("users")
9
10
11 def insert_document(name, email, password):
12     data = {"username": email, "name": name, "password": password}
13     patient_db.create_document(data)
14
15
16 def retrieve_document():
17     all_docs = patient_db.all_docs()
18     print(all_docs)

```

```
21 ✓ def check_document(username, password):
22     query_1 = {"username": {"$eq": username}}
23     query_2 = {"password": {"$eq": password}}
24     if (
25         len(patient_db.get_query_result(query_1).all()) > 0
26         and len(patient_db.get_query_result(query_2).all()) > 0
27     ):
28         return True
29     else:
30         return False
31
```