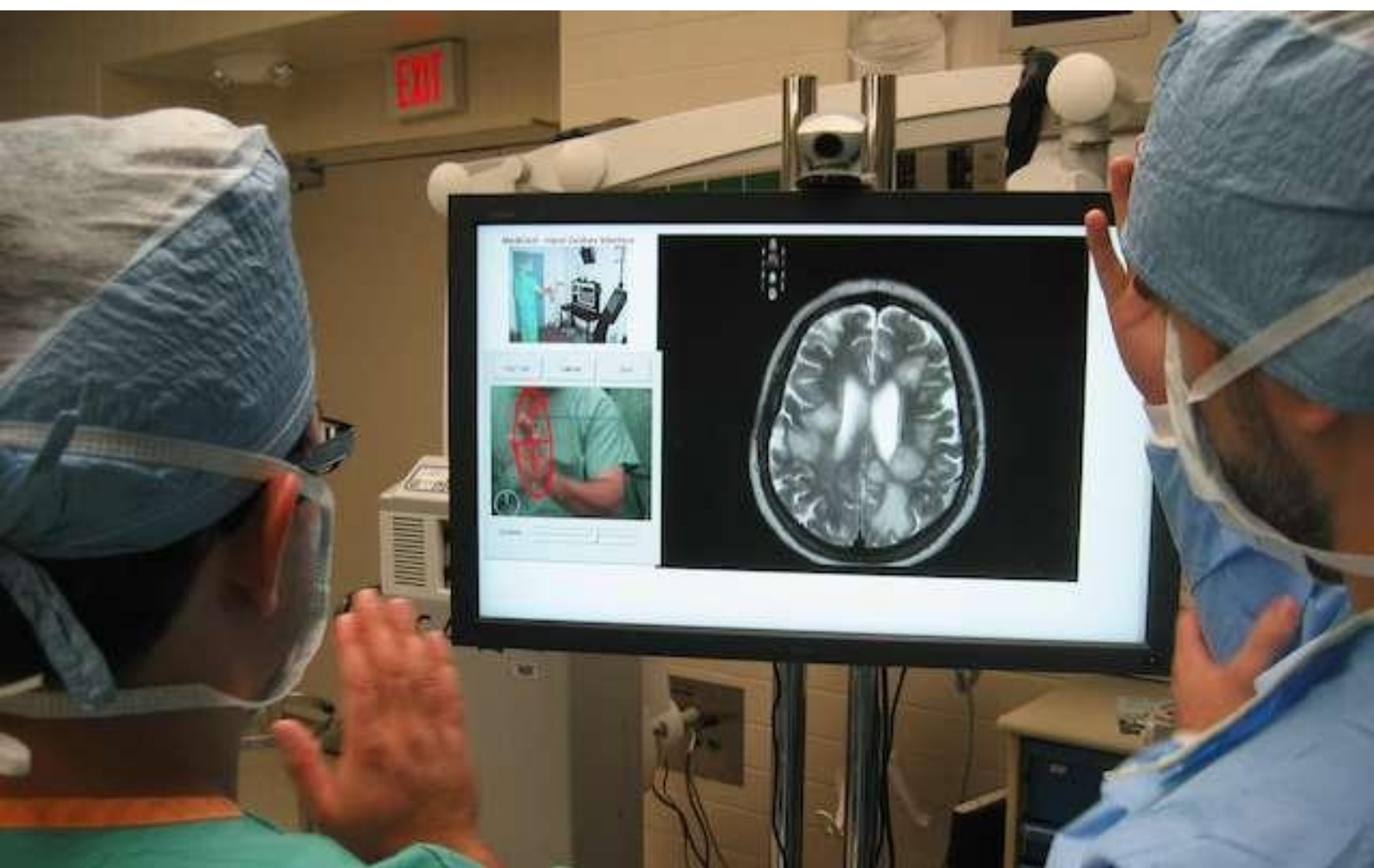


# About photo



# About photo



# Access webcam



# Gestures



Zero

Oae

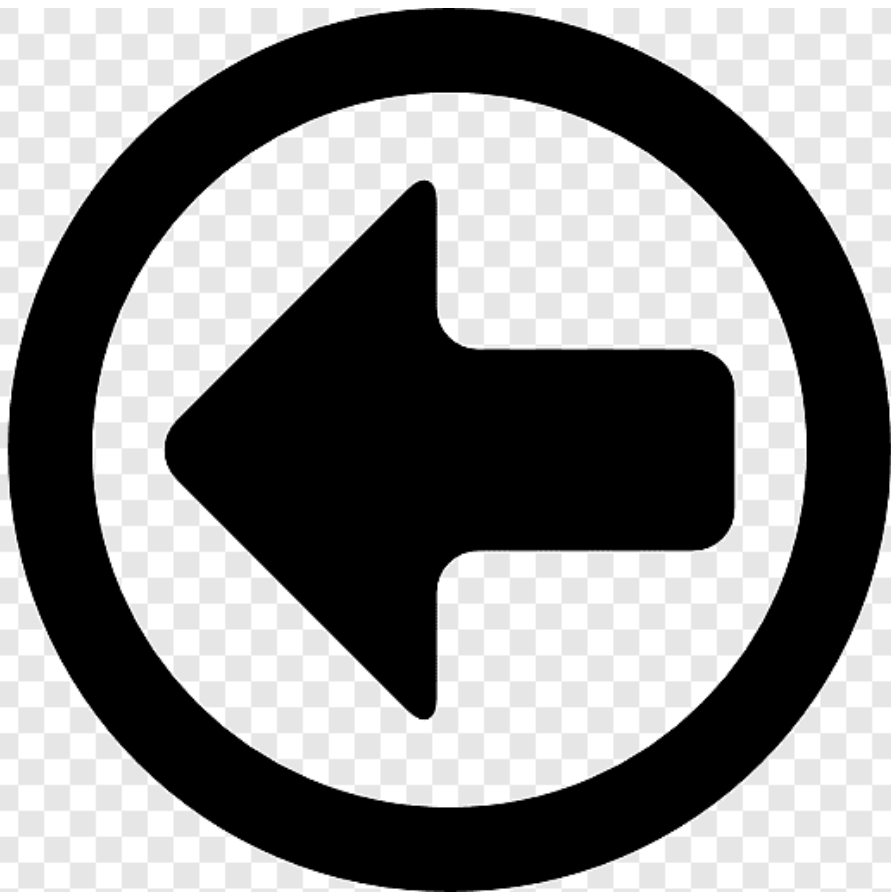
Ta•o



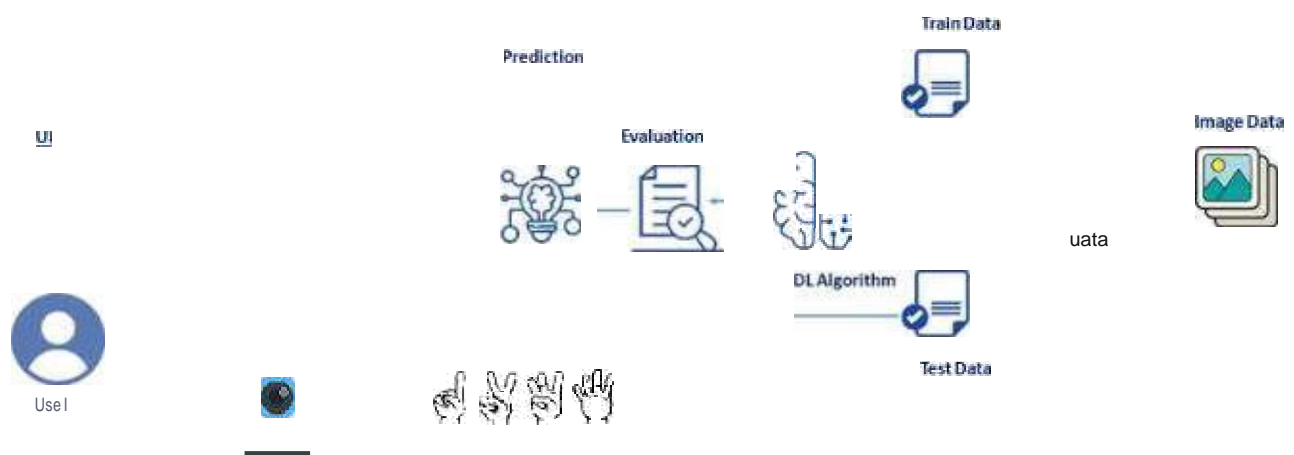
Three



Go back



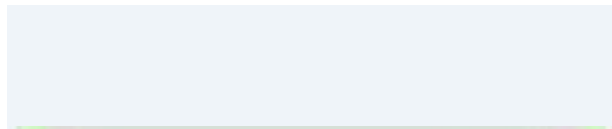
# Technical Architecture



Tool icon



# Upload image



DE drag and drDp them here



User photo



# About html

```
<!DOCTYPE html>
<html lang="en">

<head>
  <!-- Required Meta Tags -->
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
  <title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>
</head>

<body style="overflow-x: hidden; background-color: #e3e6e4;">
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>

  <nav class="navbar bg-dark">
    <div class="container-fluid">
      <a class="navbar-brand" href="https://smartinternz.com/guided-project/a-
gesture-based-tool-for-sterile-browsing-of-radiology-images-cnn-and-open-cv"
target="_blank" style="color:white">
        
        IBM Nalaiya Thiran - PNT2022TMID53060
      </a>
      <ul class="nav nav-pills">
        <li class="nav-item">
          <a class="nav-link" href="#scrollspyHeading1" style="color:white" >Sign
Up</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#scrollspyHeading2" style="color:white">Sign
```

```
In</a>
    </li>
</ul>
</div>
</nav>

<div class="container-fluid text-center" style="margin: 40px;">
    <div class="jumbotron text-center">
        <h1>A Gesture Based Tool for Sterile Browsing of Radiology
Images</h1>
    </div>
</div>
```

```
<div class="container">
<div class="col d-flex justify-content-center">
<div class="card justify-content-center" style="width: 80%;">
    
    <div class="card-body">
        <p class="card-text" align="justify">Humans are able to recognize body
and sign language easily. This is possible due to the combination of vision and
synaptic interactions that were formed along brain development. In order to
replicate this skill in computers, some problems need to be solved: how to
separate objects of interest in images and which image capture technology and
classification technique are more appropriate, among others.</p>
        <p class="card-text" align="justify">In this project Gesture based Desktop
automation, first the model is trained pre trained on the images of different hand
gestures, such as a showing numbers with fingers as 1,2,3 and 4. This model uses
the integrated webcam to capture the video frame. The image of the gesture
captured in the video frame is compared with the Pre-trained model and the
gesture is identified. If the gesture predicts is 1 then images is blurred; 2 image is
resized; 3 image is rotated etc.</p>
    </div>
</div>
</div>
```

```
</div>
```

```
<div class="d-flex justify-content-center" style="margin: 20px;">
```

```
<div class="row" style="width: 50%;">
```

```
<div class="col-sm-6" id="scrollspyHeading1">
```

```
<div class="card">
```

```
<div class="card-body">
```

```
<h5 class="card-title">Sign Up</h5>
```

```
<p class="card-text">Don't have an account? Sign up below!</p>
```

```
<a class="btn btn-primary" href="{{url_for('register')}}">Sign Up</a>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<div class="col-sm-6" id="scrollspyHeading2">
```

```
<div class="card">
```

```
<div class="card-body">
```

```
<h5 class="card-title">Sign In</h5>
```

```
<p class="card-text">Existing User? Sign in here!</p>
```

```
<a class="btn btn-primary" href="{{url_for('login')}}">Sign in</a>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</body>
```

```
</html>
```

## Change\_password.html

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```

<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
<title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>
</head>
<body style="background-color: #f0f5f2;">
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>
  { % from "registration_form_helper.html" import render_field % }
  { % include "message_flash.html" % }

  <nav class="navbar navbar-expand-lg navbar-dark bg-dark" style="padding:
10px">
    <a class="navbar-brand">{ { session.username } }'s Account</a>
    <button class="navbar-toggler" type="button" data-toggle="collapse" data-
target="#navbarText" aria-controls="navbarText" aria-expanded="false" aria-
label="Toggle navigation">
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarText">
      <ul class="navbar-nav mr-auto">
        <li class="nav-item">
          <a class="nav-link" href="{ { url_for('landingpage') } }">Home</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="{ { url_for('help') } }">Help</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="{ { url_for('predict') } }">Gesture Prediction</a>
        </li>
      </ul>
    </div>
  </nav>

```

```

<div class="card text-white bg-dark mb-3 mx-auto" style="max-width: 80%;
margin-top: 5%;">
  <div class="card-header">Account Settings</div>
  <div class="card-body">
    <h5 class="card-title">Change Password</h5>
    <p class="card-text">Change your account's password here. Use the first
text box to enter the new password. Confirm it by typing in the same password in
the text box below.</p>

    <form class="form-group" method="post" action="">
      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.new_password, class="form-control") }}
      </div>

      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.new_confirm, class="form-control") }}
      </div>
      <div class="card-footer text-center">
        <p><input type="submit" value="Submit" class="btn btn-primary"
style="margin-top: 20px;"></p>
      </div>
    </form>
  </div>
</div>

</body>
</html>

```

## Help.html

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">

```

```

<meta http-equiv="X-UA-Compatible" content="IE=edge">
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
<title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>
</head>
<body style="overflow-x: hidden; background-color: #e3e6e4;">

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>

<nav class="navbar navbar-expand-lg navbar-dark bg-dark" style="padding:
10px">
<a class="navbar-brand">{{ session.username }}'s Account</a>
<button class="navbar-toggler" type="button" data-toggle="collapse" data-
target="#navbarText" aria-controls="navbarText" aria-expanded="false" aria-
label="Toggle navigation">
<span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse" id="navbarText">
<ul class="navbar-nav mr-auto">
<li class="nav-item">
<a class="nav-link" href="{{ url_for('landingpage') }}">Home</a>
</li>
<li class="nav-item">
<a class="nav-link" href="{{ url_for('predict') }}">Gesture Prediction</a>
</li>
</ul>
</div>
</nav>

<div class="row justify-content-center" style="margin-top: 20px;">
<div class="card" style="width: 80%;">


```

```
<div class="card-body">
  <h5 class="card-title">Step I</h5>
  <p class="card-text">First, you need to allow the application to access your
webcam. The application uses this video stream from the webcam to capture and
map hand gestures.</p>
</div>
</div>
</div>
```

```
<div class="row justify-content-center" style="margin-top: 20px;">
  <div class="card" style="width: 80%;">
    
    <div class="card-body">
      <h5 class="card-title">Step II</h5>
      <p class="card-text">Second, you need to upload an image. You can do so
by clicking on the upload image icon. This image will be modified according to
the recognized hand gestures.</p>
    </div>
  </div>
</div>
```

```
<div class="row justify-content-center" style="margin-top: 20px; margin-
bottom: 20px;">
  <div class="card" style="width: 80%;">
    
    <div class="card-body">
      <h5 class="card-title">Step III</h5>
      <p class="card-text">Finally, you can run the deep learning model for
gesture recognition! All you need to do is to click the `Predict` button on the
page.</p>
    </div>
  </div>
```



```

</div>

<div class="d-flex justify-content-center">
  <a id="back-to-top" href="#" class="btn btn-dark btn-lg back-to-top"
role="button" style="margin-bottom: 20px;">Scroll to Top</a>
</div>

</body>
</html>

```

## Landingpage.html

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
  <title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>
</head>
<body style="background-color: #e3e6e4;">
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>
  <div class="container-fluid">
    <div class="row flex-nowrap">
      <div class="col-auto col-md-3 col-xl-2 px-sm-2 px-0 bg-dark">
        <div class="d-flex flex-column align-items-center align-items-sm-start
px-3 pt-2 text-white min-vh-100">
          <a class="d-flex align-items-center pb-3 mb-md-0 me-md-auto text-
white text-decoration-none">
            <span class="fs-5 d-none d-sm-inline">Menu</span>

```

```
</a>
<ul class="nav nav-pills flex-column mb-sm-auto mb-0 align-items-
center align-items-sm-start" id="menu">
  <li>
    <a href="{ {url_for('help')}}" class="nav-link px-0 align-
middle">
      <i class="fs-4 bi-people"></i> <span class="ms-1 d-none d-
sm-inline">Help</span> </a>
    </li>
    <li>
      <a href="{ {url_for('predict')}}" class="nav-link px-0 align-
middle">
        <i class="fs-4 bi-people"></i> <span class="ms-1 d-none d-
sm-inline">Gesture Prediction</span> </a>
      </li>
      <li>
        <a href="{ {url_for('signout')}}" class="nav-link px-0 align-
middle">
          <i class="fs-4 bi-people"></i> <span class="ms-1 d-none d-
sm-inline">Sign Out</span> </a>
        </li>
      </ul>
      <hr>
      <div class="dropdown pb-4" data-toggle="tooltip" title="Account
Settings">
        <a href="{ {url_for('changepass')}}" class="d-flex align-items-
center text-white text-decoration-none" id="dropdownUser1" \aria-
expanded="false">
          
          <span class="d-none d-sm-inline mx-
1">{ {session.name}}</span>
        </a>
      </div>
</div>
```

```

</div>

<div class="col py-3" style="margin-top: 20px;">
  <div class="card">
    <h5 class="card-header">Welcome!</h5>
    <div class="card-body">
      <h5 class="card-title">Hi <small>{{ session.username }}</small>!
Weclome back to the application!</h5>
      <p class="card-text">Number of accesses to the application(All
Time): <small>{{ session.number_of_access }}</small></p>
      <p class="card-text">Latest Session:
<small>{{ session.last }}</small></p>
      <a href="{{ url_for('help') }}" class="btn btn-primary">Get to know
how to use the application</a>
    </div>
  </div>
  <h4 style="margin-top: 40px;">
    Technical Architecture
    <small class="text-muted">Learn how different parts of our
application interact!</small>
  </h4>
  
</div>
</div>
</div>

</body>
</html>

```

## Login.html

```

<!DOCTYPE html>
<html lang="en">

```

```

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
  <title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>

  <style>
    .bottom-left {
      margin-top: 5%;
      margin-left: 2%;
    }
  </style>

</head>

<body style="background-color: #e3e6e4;">
  {% include 'message_flash.html' %}
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>
  <div class="container-fluid" style="width: 80%; margin-top: 30px;">
    <div class="card text-center" >
      <div class="card-header">
        <ul class="nav nav-tabs card-header-tabs">
          <li class="nav-item">
            <a class="nav-link active" href="{{ url_for('login') }}">Sign In</a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href="{{ url_for('register') }}">Sign Up</a>
          </li>
        </ul>
      </div>
      <div class="card-body">
        <h5 class="card-title">Sign In to your Account</h5>

```

```

    <form class="form-group" method="post" action="">
      <div class="form-group" style="padding: 10px;">
        <label>Email</label>
        <input type="text" name="email" class="form-control"
value="{{ request.form.email }}">
      </div>
      <div class="form-group" style="padding: 10px;">
        <label>Password</label>
        <input type="password" name="password" class="form-control"
value="{{ request.form.password }}">
      </div>
      <p><input type="submit" value="Submit" class="btn btn-primary"
style="margin-top: 20px;"></p>
    </form>
  </div>
</div>
<a type="button" class="btn btn-primary bottom-left"
href="{{ url_for('about') }}">
  <svg xmlns="http://www.w3.org/2000/svg" width="16" height="16"
fill="currentColor" class="bi bi-arrow-return-left" viewBox="0 0 16 16">
    <path fill-rule="evenodd" d="M14.5 1.5a.5.5 0 0 1 .5.5v4.8a2.5 2.5 0 0 1 -2.5
2.5H2.707l3.347 3.346a.5.5 0 0 1 -.708.708l-4.2-4.2a.5.5 0 0 1 0-.708l4-4a.5.5 0 1
1 .708.708L2.707 8.3H12.5A1.5 1.5 0 0 0 14 6.8V2a.5.5 0 0 1 .5-.5z"/>
  </svg> Go Back</a>
</body>
</html>

```

## Message\_flash.html

```

{% with messages = get_flashed_messages (with_categories=true) %}
  {% if messages %}
    {% for category, message in messages %}
      <div class="alert alert-{{ category }}">{{ message }}</div>
    {% endfor %}
  {% endif %}
{% endwith %}

```

```

        {% endfor %}
    {% endif %}
{% endwith %}

{% if error %}
<div class="alert alert-danger">{{ error }}</div>
{% endif %}

{% if msg %}
<div class="alert alert-success">{{ msg }}</div>
{% endif %}

```

## Prediction.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
    <title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>
</head>
<body style="overflow-x: hidden; background-color: #e3e6e4;">
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>
    {% include "message_flash.html" %}

    <nav class="navbar navbar-expand-lg navbar-dark bg-dark" style="padding:
10px">
        <a class="navbar-brand">{{ session.username }}'s Account</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-

```

```
target="#navbarText" aria-controls="navbarText" aria-expanded="false" aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse" id="navbarText">
    <ul class="navbar-nav mr-auto">
        <li class="nav-item">
            <a class="nav-link" href="{ {url_for('landingpage')}}">Home</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="{ {url_for('help')}}">Help</a>
        </li>
    </ul>
</div>
</nav>
```

```
<div class="card mx-auto" style="width: 80%; margin-top: 10%;">
    <form class="form-group" action="predict" method="post"
enctype="multipart/form-data">
        <ul class="list-group">
            <li class="list-group-item">
                <b>Step I: Access Webcam</b>
                <p>Click the checkbox below to enable the application to access your
camera.

                <div class="form-check">
                    <input class="form-check-input" type="checkbox"
value="checked" name="video" id="video">Allow this application to access my
camera

                </div>
            </li>
            <li class="list-group-item">
                <b>Step II: Upload Image</b>
                <p>Upload an image from your computer to the application by
clicking on the `Choose File` buttom below.</p>
                <input type="file" class="form-control" id="userfile"
```

```

name="userfile" style="margin-top: 10px; margin-bottom: 10px; width: 30%;"/>
    </li>
    <li class="list-group-item mx-auto"><p><input type="submit"
value="Predict!" class="btn btn-primary" style="margin-top: 20px;"></p></li>
    </ul>
</form>
</div>
</body>
</html>

```

## Registration.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css">
    <title>A Gesture Based Tool for Sterile Browsing of Radiology Images</title>
    <style>
        .bottom-left {
            margin-top: 2%;
            margin-left: 2%;
        }
    </style>
</head>

<body style="background-color: #e3e6e4">
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.min.js"></scri
pt>
    { % from "registration_form_helper.html" import render_field % }
    { % include "message_flash.html" % }

```



```

<div class="container" style="width: 80%; margin-top: 30px;" >
  <div class="card">
    <div class="card-header text-center" style="font-weight: bold;">
      Registration Page
    </div>
    <form method="post" action="">
      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.name, class="form-control") }}
      </div>

      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.email, class="form-control") }}
      </div>

      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.username, class="form-control") }}
      </div>

      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.password, class="form-control") }}
      </div>

      <div class="form-group" style="padding: 10px;">
        {{ render_field(form.confirm, class="form-control") }}
      </div>
      <div class="card-footer text-center">
        <p><input type="submit" value="Submit" class="btn btn-primary"
style="margin-top: 20px;"></p>
      </div>
    </form>
  </div>
</div>

<a type="button" class="btn btn-primary bottom-left"
href="{{ url_for('about') }}">
  <svg xmlns="http://www.w3.org/2000/svg" width="16" height="16"

```

```
fill="currentColor" class="bi bi-arrow-return-left" viewBox="0 0 16 16">
    <path fill-rule="evenodd" d="M14.5 1.5a.5.5 0 0 1 .5.5v4.8a2.5 2.5 0 0 1-
2.5 2.5H2.707l3.347 3.346a.5.5 0 0 1-.708.708l-4.2-4.2a.5.5 0 0 1 0-.708l4-4a.5.5
0 1 1 .708.708L2.707 8.3H12.5A1.5 1.5 0 0 0 14 6.8V2a.5.5 0 0 1 .5-.5z"/>
    </svg> Go Back</a>

</body>
</html>
```

## Registration\_form\_helper.html

```
{% macro render_field(field) %}
  {{ field.label }}
  {{ field(**kwargs)|safe }}
  {% if field.errors %}
    {% for error in field.errors %}
      <span class="help-inline" style="color:red">{{ error }}</span>
    {% endfor %}
  {% endif %}
{% endmacro %}
```