MAIN APP.py:

Coding:

```
import flask
from flask import Flask
from flask import render_template
from flask import request
from flask import redirect
from flask import url_for
import pickle
import numpy as np


app=Flask(__name__, static_url_path='/static/images/',
static_folder='/static/images/')

model = pickle.load(open('Best_Model.pkl', 'rb'))

@app.route('/',methods=['GET'])
def Home():
    return render_template('homepage.html')

@app.route('/nochance')
def result():
    return render_template("NoChance.html")

@app.route('/chance')
def result1():
    return render_template("Chances.html")



@app.route('/prediction', methods=['POST','GET'])
def prediction():
    if request.method == "GET":
        return render_template("prediction.html")
    age = request.form["age"]
    gender = request.form["Gender"]
    totalbilirubin = request.form['totalbilirubin']
    directbilirubin = request.form['directbilirubin']
    alkalinephosphotase = request.form['alkalinephosphotase']
    alamine = request.form['alamine']
    aspartate = request.form['aspartate']
    totalproteins = request.form['totalproteins']
    albumin = request.form['albumin']
    albuminandglobulin = request.form['albuminandglobulin']
```

```
    data = [(float(age),  float(gender),float(totalbilirubin),
float(directbilirubin), float(alkalinephosphotase),
    float(alamine), float(aspartate), float(totalproteins), float(albumin),
float(albuminandglobulin))]

    model = pickle.load(open('Best_Model.pkl', 'rb'))

    prediction = model.predict(data)[0]
    print(prediction)
    if (prediction == 1):
        return render_template('Chances.html')
    else:
        return render_template('NoChance.html')


if __name__ == '__main__':
    app.run(debug=True, port=8080, use_reloader=False)
```

Index Page:

HTML Coding:

```
<!DOCTYPE html>
<html>

<head>
    <meta charset="utf-8">
<style>
    body {
    background-image:
url('https://png.pngtree.com/thumb_back/fh260/background/20220217/pngtree-
fresh-wind-hand-painted-illustration-background-for-preventing-liver-disease-
image_946993.jpg');
    background-repeat: no-repeat;
    background-attachment: fixed;
    background-size: cover;
}
</style>
    <title>HOME PAGE</title>

    <link  rel="stylesheet" href="/css/style.css" type="text/css" />

</head>

<body>

    <section id="main">
```

```
        <centre>
            <nav>

            <span class="menu-space"></span>
            <h2>Liver Patient Analysis</h2>
            <ul class="menu">

                <li><a
href="C:\Users\wecome\Documents\Liver_disease\templates\Homepage2.html">Home</
a></li>
                <li><a
href="C:\Users\wecome\Documents\Liver_disease\templates\prediction.html">Predi
ction</a></li>
             </ul>
             </nav>
        </centre>
    </section>

    <div class="content">

        <div class="main-text">

            <h3>Introduction</h3>
            <p style="font-size: large";>
                 <p style="color:rgb(1, 1, 1)">
                 <strong>
                 Liver diseases avert the normal function of the liver.
                 Mainly due to the large amount of alcohol consumption liver
disease arises. Early prediction of liver disease using classification
algorithms is an efficacious task that can help the doctors to diagnose the
disease within a short duration of time.
                 Discovering the existence of liver disease at an early stage
is a complex task for the doctors.
                 The main objective of this project is to analyze the
parameters of various classification algorithms and compare their predictive
accuracies so as to find out the best classifier for determining the liver
disease.
                 With a growing trend of sedentary and lack of physical
activities, diseases related to liver have become a common encounter nowadays.
                 In rural areas the intensity is still manageable, but in
urban areas, and especially metropolitan areas the liver disease is a very
common sighting nowadays.
                 Liver diseases cause millions of deaths every year. Viral
hepatitis alone causes 1.34 million deaths every year.
                 Problems with liver patients are not easily discovered in an
early stage as it will be functioning normally even when it is partially
damaged.
```

```
                An early diagnosis of liver problems will increase patients
survival rate.
                Liver failures are at high rate of risk among Indians.
                It is expected that by 2025 India may become the World
Capital for Liver Diseases.
                The widespread occurrence of liver infection in India is
contributed due to deskbound lifestyle, increased alcohol consumption and
smoking.
                There are about 100 types of liver infections.
                With such alarming figures, it is necessary to have a concern
towards tackling these diseases.
                Afterall, we cannot expect a developed and prosperous nation,
with unhealthy youths.
                </strong>
                </p>

            |</p>
        </div>
    </div>

</body>

</html>
```

Home Page:

HTML Coding:

```
<Html>
<head>
<style>

body {
background-image: url('https://media.istockphoto.com/id/1414176792/photo/top-
view-photo-of-pink-silk-ribbon-symbol-of-breast-cancer-awareness-and-
stethoscope-on.jpg?s=612x612&w=0&k=20&c=7sjsU3Xu_kmxV349N-
_LxWEAjYC8cBWkAFvW5lF3WfA=');
background-repeat: no-repeat;
background-attachment: fixed;
background-size: cover;
}

</style>
</head>
<body>

<title>home </title>
<h1><b>LIVER DISEASE </b></h1></head>
```

```
<body>
<h3><b>SYMTOMS:</b></h3>
<p> 1.Skin and eyes that appear yellowish (jaundice)<br>
    2.Abdominal pain and swelling<br>
    3.Swelling in the legs and ankles<br>
    4.Itchy skin<br>
    5.Dark urine color<br>
    6.Pale stool color<br>
    7.Chronic fatigue<br>
    8.Nausea or vomiting<br>
    9.Loss of appetite<br>
    10.Tendency to bruise easily<br>
</p><br>

<h3><b>TOTAL BILIRUBIN: </b></h3>
<p> This is a blood test that measures the amount of a substance called
bilirubin.
    This test is used to find out how well your liver is working.
    It is often part of a panel of tests that measure liver function.
    A small amount of bilirubin in your blood is normal, but a high level may
be a sign of liver disease.
</p>

<h3><b>DIRECT_BILIRUBIN:</b></h3>
<p> In the liver, bilirubin is changed into a form that your body can get rid
of.
    This is called conjugated bilirubin or direct bilirubin.
    This bilirubin travels from the liver into the small intestine.
    A very small amount passes into your kidneys and is excreted in your
urine.
    This bilirubin also gives urine its distinctive yellow color.
</p><br>

<h3><b>ALKALINE_PHOSPHOTASE:</b></h3>
<p>An alkaline phosphatase level test (ALP test) measures the amount of
alkaline phosphatase enzyme in your bloodstream.
</p><br>

<h3><b>ALBUMIN:</b></h3>
<p> An albumin blood test is used to check your general health and to see how
well your liver and kidneys are working.
    If your liver is damaged or you're not well nourished, your liver may not
make enough albumin.
</p><br>
</body>
</html>
```

Prediction Page:

HTML Coding:

```
<html>
<head>
<title>  LIVER PATIENT PREDICTION </title>

<h1> Prediction page: </h1>

</head>

<style>
.one{
  text-align: center;
}
body{
  background-color: gold;
}
</style>

<body>
  <div class="container">
    <h2 class='container-heading'><span class="heading_font">Liver Disease
Prediction</span></h2>
</div>
<centre>
<img
src="C:\Users\wecome\Documents\Liver_disease\static\images\liver.jpg"  width="
200" height="100"/>


<br>
<div class = "ml-container">
<form  action="{{url_for('prediction')}}"  method="POST" >
<br>
<br>
<label> Age: </label>
<input id="first" name="age" required="require" size="20"/> <br>
<br>
<label for="Gender" required="require">Choose Gender:</label>
<select id="Gender" name="Gender">
  <option value="0">Female</option>
  <option value="1">Male</option>
</select><br>
<br>
<label> Total_Bilirubin: </label>
<input id="second" name="totalbilirubin" required="require" size="20"/> <br>
<br>
```

```
<label> Direct_Bilirubin: </label>
<input id="third" name="directbilirubin" required="require" size="20"/> <br>
<br>

<label> Alkaline_Phosphotase: </label>
<input id="fourth" name="alkalinephosphotase" required="require" size="20"/>
<br> <br>

<label> Alamine_Aminotransferase: </label>
<input id="fifth" name="alamine" required="require" size="20"/> <br> <br>

<label> Aspartate_Aminotransferase: </label>
<input id="sixth" name="aspartate" required="require" size="20"/> <br> <br>

<label> Total_Proteins: </label>
<input id="seventh" name="totalproteins" required="require" size="20"/> <br>
<br>

<label> Albumin: </label>
<input id="eigth" name="albumin" required="require" size="20"/> <br> <br>

<label> Albumin_and_Globulin_Ratio: </label>
<input id="ninth" name="albuminandglobulin" required="require" size="20"/>
<br> <br>

<button id="sub" type="submit">Predict</button>


</form>
</div>
</centre>
<style>
body{
  font-family: Arial, Helvetica,sans-serif;
    text-align: center;
    margin: 0;
    padding: 0;
    width: 100%;
  height: 100%;
  display: flex;
  flex-direction: column;
}
.container-heading{
  margin:0;
}
.heading_font{
  color: black;
  font-family: 'Pacifico', cursive;
```

```
  font-size: 50px;
  font-weight: normal;
}
  #first{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #second{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #third{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #fourth{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #fifth{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #sixth{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #seventh{
    border-radius: 14px;
    height: 25px;
```

```
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #eigth{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }
  #ninth{
    border-radius: 14px;
    height: 25px;
    width: 150px;
    font-size: 20px;
    text-align: center;
  }

  #sub{
    width: 120px;
    height: 43px;
    text-align: center;
    border-radius: 14px;
    font-size: 18px;
  }
</style>
</body>
</html>
```

RESULT:

No Chance:

Coding:

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

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Liver Disease Result</title>
</head>

<body>

    <div class="container">
```

```
        <form action="{{ url_for('prediction')}}" method="post">
            <h2 class='container-heading'><span class="heading_font">Liver
Disease Prediction</span></h2>

        <br><br><br><br><br><br><br>

        <!-- Result -->
        <div class="results">
                <h1><span class='safe'>😇 Congratulation! 😇<br><br>You DON'T
have LIVER DISEASE.</span></h1>
        </div>
        </form>

    </div>


<style>

/* Color */
body{
    font-family: Arial, Helvetica,sans-serif;
    text-align: center;
    margin: 0;
    padding: 0;
    width: 100%;
    height: 100%;
    display: flex;
    flex-direction: column;
}


/* Heading Font */
.container-heading{
    margin: 0;
}

.heading_font{
    color: black;
    font-family: 'Pacifico', cursive;
    font-size: 50px;
    font-weight: normal;
}
</style>
</body>
</html>
```

Chance:

Coding:

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

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Liver Disease Result</title>
</head>

<body>

    <div class="container">
        <form action="{{ url_for('prediction')}}" method="post">
            <h2 class='container-heading'><span class="heading_font">Liver
Disease Prediction</span></h2>

        <br><br><br><br><br><br><br>

        <!-- Result -->
        <div class="results">
                <h1><span class='danger'>Oops! ☹<br><br>You have LIVER
DISEASE <br><br>Please Consult a Doctor.</span></h1>

        </div>
        </form>

    </div>
    <div>
            <br><br> <br><br><br><br><br><br><br><br>

    </div>


<style>

/* Color */
body{
    font-family: Arial, Helvetica,sans-serif;
    text-align: center;
    margin: 0;
    padding: 0;
    width: 100%;
    height: 100%;
    display: flex;
    flex-direction: column;
```

```
}


/* Heading Font */
.container-heading{
    margin: 0;
}

.heading_font{
    color: black;
    font-family: 'Pacifico', cursive;
    font-size: 50px;
    font-weight: normal;
}
</style>
</body>
</html>
```