FINAL SOURCE CODE

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>Rainfall prediction</title>
    <style>
       .body{
         font-family: Verdana, Geneva, Tahoma, sans-serif;
       }
       h1{
         font-size: 60px;
       }
       h2{
         font-size: 40px;
       }
       label,hr{
         font-weight: bold;
       }
    </style>
  </head>
  <body background="https://wallpaperaccess.com/full/701614.jpg" text="black">
  <div class="login">
    <center><h1>Rainfall Prediction</h1></center>
    <h2>Please enter the following details</h2><hr><br>
    <!-- Main Input For Receiving Query to our ML -->
<form action="{{ url_for('predict')}}"method="post">
</style></head>
<label for="Location">Location:</label>
```

```
<select id="Location" name="Location">
<option value=2>Albury
<option value=4>BadgerysCreek</option>
<option value=10>Cobar</option>
<option value=11>Coffs Harbour
<option value=21>Moree</option>
<option value=24>Newcastle</option> <option value=26>NorahHead</option>
<option value=27>Norfolk Island
<option value=30>Penrith</option>
<option value=34>Richmond</option>
<option value=37>Sydney</option>
<option value=38>SydneyAirport/option> <option value=42>Waggawagga/option>
<option value=45>Williamtown<option> <option value=47>Wollongong
<option value=9>Canberra</option>
<option value=40>Tuggeranong</option> <option value=23>MountGinini</option>
<option value=5>Ballarat</option>
<option value=6>Bendigo</option>
<option value=35>Sale</option>
<option value=19>MelbourneAirport
<option value=18>Melbourne</option>
<option value=20>Mildura</option>
<option value=25>Nhil</option>
<option value=44>Watsonia
<option value=33>Portland</option>
</select>&nbsp;&nbsp;&nbsp;&nbsp;
<!--MINIMUM TEMPERATURE-->
<input type="number" name="MinTemp" id="MinTemp" placeholder="MinTemp">
```

```
<!--MAXIMUM TEMPERATURE-->
<input type="number" name="MaxTemp" id="MaxTemp" placeholder="MaxTemp">
<br>><br>>
<!--RAINFALL-->
<input type="number" name="Rainfall" id="Rainfall" placeholder="Rainfall">
    
<!--WINDGUSTSPEED-->
<input type="number" name="WindGustSpeed" id="WindGustSpeed"</pre>
placeholder="WindGustSpeed">
    
<!--WINDSPEED9am-->
<input type="number" name="WindSpeed9am" id="WindSpeed9am"</pre>
placeholder="WindSpeed9am">
<br>><br>>
<!--WINDSPEED3pm-->
<input type="number" name="WindSpeed3pm" id="WindSpeed3pm"</pre>
placeholder="WindSpeed3pm">
    
<!--HUMIDITY9AM-->
<input type="number" name="Humidity9am" id="Humidity9am"</pre>
placeholder="Humidity9am">
    
<!--HUMIDITY3PM-->
<input type="number" name="Humidity3pm" id="Humidity3pm"</pre>
placeholder="Humidity3pm">
<br>><br>>
```

```
<!--PRESSURE9AM-->
<input type="number" name="Pressure9am" id="Pressure9am" placeholder="Pressure9am">
    
<!--PRESSURE3PM-->
<input type="number" name="Pressure3pm" id="Pressure3pm" placeholder="Pressure3pm">
    
<!--TEMP9AM-->
<input type="number" name="Temp9am" id="Temp9am" placeholder="Temp9am">
<br>><br>>
<!--TEMP3PM-->
<input type="number" name="Temp3pm" id="Temp3pm" placeholder="Temp3pm">
    
<!--DATE-->
<label for="date">Date:</label>
<input type="date" name="year" id="Temp3pm" placeholder="Temp3pm">
    
<br>><br></br>>
<!--RAIN TODAY-->
<label for="raintoday">RainToday:</label>
<select id="raintoday" name="raintoday">
 <option value=1>Yes</option>
 <option value=2>No</option>
</select>
```

<!--WINDGUSTDIRECTION-->

```
<label for="WindGustDir">WindGustDir:</label>
<select id="WindGustDir" name="WindGustDir">
  <option value=14>W<option> <option value=15>WNW<option>
    <option value=0>WSW<option>
    <option value=7>NE<option> <option value=13>NNW<option>
    <option value=10>N<option>
    <option value=2>NNE<option>
    <option value=1>SW<option>
    <option value=6>ENE<option>
    <option value=11>SSE<option>
    <option value=12>S<option>
    <option value=9>NW<option>
    <option value=3>SE<option>
    <option value=8>ESE<option>
    <option value=5>E<option> <option value=4>SSW<option>
</select> &nbsp; &nbsp;
<label for="WindDir9am">WindDir9am:</label>
<select id="WindDir9am" name="WindDir9am">
    <option value=14>W<option> <option value=15>WNW<option>
    <option value=0>WSW<option>
    <option value=7>NE<option> <option value=13>NNW<option>
    <option value=10>N<option>
    <option value=2>NNE<option>
    <option value=1>SW<option>
    <option value=6>ENE<option>
    <option value=11>SSE<option>
    <option value=12>S<option>
    <option value=9>NW<option>
    <option value=3>SE<option>
```

```
<option value=8>ESE<option>
    <option value=5>E<option> <option value=4>SSW<option>
</select> &nbsp;&nbsp;
<label for="WindDir3pm">WindDir3pm:</label>
<select id="WindDir3pm" name="WindDir3pm">
  <option value=14>W<option> <option value=15>WNW<option>
  <option value=0>WSW<option>
  <option value=7>NE<option> <option value=13>NNW<option>
  <option value=10>N<option>
  <option value=2>NNE<option>
  <option value=1>SW<option>
  <option value=6>ENE<option>
  <option value=11>SSE<option>
  <option value=12>S<option>
  <option value=9>NW<option>
  <option value=3>SE<option>
  <option value=8>ESE<option>
  <option value=5>E<option> <option value=4>SSW<option>
  </select> &nbsp; &nbsp;
  <br>
  <br>><br>>
  <button type="submit" class="btn btn-primary btn-block btn-large"
style="height:30px;width:200px">Predict</button>
  </form>
  <hr>
  {{ prediction_text }}
  <br>
  <br>
  <img src="data:image/png;base64,{{url_3}}" alt="Submit Form" height="180"</pre>
width="233" onerror="this.style.display='none""/>
```

```
<img src="data:image/png;base64,{{url_1}}" alt="Submit Form" height="180"</pre>
width="233" onerror="this.style.display='none""/>
  <img src="data:image/png;base64,{{url_4}}" alt="Submit Form" height="180"</pre>
width="233" onerror="this.style.display='none""/>
  <hr>>
  <br>
  <img src="data:image/png;base64,{{url_2}}" alt="Submit Form" height="150"</pre>
width="711" onerror="this.style.display='none"'/>
  </div>
  </body> </html>
login.html
<!DOCTYPE html>
<html>
  <head>
    <title>LOGIN</title>
    <link rel="stylesheet" type="text/css" href="style.css">
    k rel="icon" href="images.jpg" type="image/icon type">
  </head>
  <body>
    <div class="loginbox">
      <img src="avatar.jpg" class="avatar">
      <h1>Login Here</h1>
      <form name="form1" method="POST" enctype="multipart/form-data">
         Username
         <input type="text" name="username" placeholder="Enter Username">
         Password
         <input type="password" name="pass" placeholder="Enter Password">
         <input type="submit" onClick="myFunction()"/>
      </form>
      <script>
```

```
function validation()
{
var id=document.f1.user.value;
var ps=document.f1.pass.value;
if(id.length=="" && ps.length=="") {
alert("User Name and Password fields are empty");
return false;
}
else
if(id.length=="") {
alert("User Name is empty");
return false;
}
if (ps.length=="") {
alert("Password field is empty");
return false;
}
}
</script>
    </div>
  </body>
</html>
signup.html
<!DOCTYPE html>
<html>
  <head>
    <title>SignUp</title>
```

```
<link rel="stylesheet" type="text/css" href="stlye.css">
    k rel="icon" href="images.jpg" type="image/icon type">
  </head>
  <body>
    <div class="sign-up-form">
      <h1>SignUp Now</h1>
      <form method="post" enctype="multipart/form-data" action="index.php" >
         <input type="email" class="input-box" name="email" placeholder="Your Email">
         <input type="text" class="input-box" name="username" placeholder="Your</pre>
UserName">
         <input type="password" class="input-box" name="password" placeholder="Your</pre>
Password">
         <span><input type="checkbox"></span> I agree to the terms of service
         <button type="button" class="signup-btn"><a
href="index.html">SignUp</a></button>
         <hr>>
         OR
         Already have an account?<a href="login.html">Login</a>
      </form>
    </div>
  </body>
  </html>
in.html
<html>
<body>
<?php
include('connection.php');
$username = $_POST['username'];
$password = $_POST['pass'];
//to prevent from mysqli injection
```

```
$username = stripcslashes($username);
$password = stripcslashes($password);
$username = mysqli_real_escape_string($con, $username);
$password = mysqli_real_escape_string($con, $password);
$sql = "select *from reg where username = '$username' and
password = '$password''';
$result = mysqli_query($con, $sql);
$row = mysqli_fetch_array($result, MYSQLI_ASSOC);
$count = mysqli_num_rows($result);
if(scount == 1)
print "<h1>Login successful.</h1>";
}
else
print "<h1>Login failed. Invalid username or password.</h1>";
}
?>
</body>
</html>
chance.html
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Rainfall prediction</title>
</head>
<body
background="https://wnavprd.blob.core.windows.net/images/guide/chri
```

```
s-seufert-cape-cod-rain-beach-1400-110-1.jpg" text="black">
<div class="login">
<center><h1>chances of rain today.</h1></center>
</body>
</html>
nochance.html
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Rainfall prediction</title>
</head>
<body
background="https://cdn.tourradar.com/s3/tour/1500x800/139566_d97b
af8c.jpg" text="black">
<div class="login">
<center><h1>No chances of rain today, enjoy your
outing.</h1></center>
</body>
</html>
server.py
#from crypt import methods
from pyexpat import features, model
import numpy as np
import pickle
#import joblib
#import matplotlib
#import matplotlib.pyplot as plt
```

```
#import time
import pandas
#import os
from flask import Flask, request, isonify, render_template, redirect,
url_for
# Declare a Flask app
app = Flask(__name__,template_folder='template')
model = pickle.load(open("rainfall.pkl",'rb'))
scale = pickle.load(open("scale.pkl",'rb'))
@app.route('/chance/',methods=['GET', 'POST'])
def chance():
return render_template("chance.html")
@app.route('/nochance/',methods=['GET', 'POST'])
def nochance():
return render_template("noChance.html")
@app.route('/predict',methods=["POST","GET"])
def predict():
res = " "
# If a form is submitted
if request.method == "POST":
input_feature=[x for x in request.form.values()]
features_values=[np.array(input_feature)]
names =
[['Location','MinTemp','MaxTemp','Rainfall','WindGustSpeed',
'WindSpeed9am', 'WindSpeed3pm', 'Humidity9am', 'Humadity3pm',
'Pressure9pm', 'Pressure3am', 'Temp9pm', 'Temp3pm', 'RainyTodaty',
'WindGustDir','WindDir9pm','WindDir3pm']]
data = pandas.DataFrame(features_values,columns=names)
data = scale.fit_transform(data)
data = pandas.DataFrame(data,columns=names)
```

```
#Get prediction
prediction = model.predict(data)
else:
prediction = ""
if prediction == 1:
return redirect(url_for('chance'))
elif prediction == 0:
return redirect(url_for('nochance'))
return render_template("index.html", output = res)
#Running the app
if __name__ == "___main___":
app.run(debug = True,host='0.0.0.0',port=80)
```

GitHub link: https://github.com/IBM-EPBL/IBM-Project-7148-1658848463