Date	19 November 2022
Team ID	PNT2022TMID29843
Project Name	Flight delay prediction model using machine learning

Index, Result and About pages:

Index.html:

```
<!DOCTYPE html>
<head>
</head>
<link rel="stylesheet" type="text/css" href="{{ url_for('static', filename=
'css/main.css') }}" />

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

<body>
  <form name="register" class="form-group" action="/prediction" method="post">
   <center>

    <ul>
      <li style="color:white;font-weight: bolder;font-size: 45px;">Flight Delay
Prediction
      </li>
      <li style="float:right"><a class="active" href=" {{ url_for('index')
}}">Home</a></li>
      <li style="float:right"><a class="active" href="{{ url_for('logout') }}">Log
out</a></li>
      <li style="float:right"><a class="active" href="{{ url_for('about')
}}">About</a></li>
    </ul>
    <table>
     <tr>
      <td class="col-25"> <label>Enter Flight Number</label></td>
      <td class="col-75"> <input class="cols" type="text" placeholder="Enter Flight
Number" required name="name">
      </td>
     </tr>
     <tr>
      <td class="col-25"><label>Month</label></td>
      <td class="col-75"><input class="cols" type="text" placeholder="Month"
```

```html
required name="month"></td>
    </tr>
    <tr>
     <td class="col-25"><label> Day of month</label></td>
     <td class="col-75"> <input class="cols" type="text" placeholder="Day of month" required name="dayofmonth"><br>
     </td>
    </tr>
    <tr>
     <td class="col-25"><label>Day of week</label></td>
     <td class="col-75"> <input class="cols" type="text" placeholder="Day of week" required name="dayofweek"><br>
     </td><br>
    </tr>
    <tr>
     <td class="col-25"><label>Origin</label></td>
     <td class="col-75">
      <div class="select">
       <select id="country" required name="origin" placeholder="select origin">
        <option value="" disabled selected>Select origin</option>
        <option value="alt" selected style="color: black;">ATL - Hartsfield-Jackson Atlanta International
        </option>
        <option value="dtw" style="color: black;">DTW - Detroit Metropolitan Wayne County</option>
        <option value="Sea" style="color: black;">SEA - Seattle-Tacoma International</option>
        <option value="msp" style="color: black;">MSP - Minneapolis−Saint Paul International</option>
        <option value="jfk" style="color: black;">JFK - John F. Kennedy International</option>
       </select>
      </div>
     </td>
    </tr>

    <tr>
     <td class="col-25"><label>Destination</label></td>
     <td class="col-75">
      <select id="region" required name="destination">
       <option value="alt" selected style="color: black;">ATL - Hartsfield-Jackson Atlanta International</option>
       <option value="dtw" style="color: black;">DTW - Detroit Metropolitan Wayne County</option>
       <option value="sea" style="color: black;">SEA - Seattle-Tacoma International</option>
```

```html
      <option value="msp" style="color: black;">MSP - Minneapolis-Saint Paul
International</option>
        <option value="jfk" style="color: black;">JFK - John F. Kennedy
International</option>
      </select>
     </td>
    <tr>
     <td class="col-25"><label>Scheduled Departure Time</label> </td>
     <td class="col-75"><label>Hour : </label>
      <input placeholder="00" class="cols" type="text" required name="depthr" />
      <label>Minutes : </label>
      <input placeholder="00" class="cols" type="text" required name="deptmin"
/>
     </td>
    </tr>
    <tr>
     <td class="col-25"><label>Actual Departure Time </label> </td>
     <td class="col-75"><label>Hour : </label>
      <input placeholder="00" class="cols" type="text" required name="actdepthr"
/>
      <label>Minutes : </label>
      <input placeholder="00" class="cols" type="text" required
name="actdeptmin" />
     </td>
    </tr>
    <tr>
     <td class="col-25"><label>Scheduled Arrival Time </label> </td>
     <td class="col-75"><label>Hour : </label>
      <input placeholder="00" class="cols" type="text" required name="arrtimehr"
/>
      <label>Minutes : </label>
      <input placeholder="00" class="cols" type="text" required
name="arrtimemin" />
     </td>
    </tr>


   </table>
   <center> <br><button class="glow-button" type="submit"
name="Predict">Predict</button></center>
  </form>
  <p>{{y}}</p>
  </center>
</body>
</html>
```

Result.html:

```html
<html>
    <head>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
crossorigin="anonymous">
        <link rel="stylesheet" href="{{url_for('static',filename='css/main.css')}}">
        <link rel="stylesheet" href="../static/style.css">


    </head>
    <body>


        <h1 class="results"> {{y}} {{z}}</h1>


    </body>
</html>
```

About.html:

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

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    <link rel="stylesheet" href="../static/style.css">

</head>

<body>


    <ul>
        <li style="color:white;font-weight: bolder;font-size: 45px;">Flight Delay
Prediction
        </li>
        <li style="float:right"><a class="active" href=" {{ url_for('index')
}}">Home</a></li>
        <li style="float:right"><a class="active" href="{{ url_for('logout') }}">Log
out</a></li>
        <li style="float:right"><a class="active" href="{{ url_for('about')
}}">about</a></li>
```

```html
    </ul>
    <div class="back">
        <p class="about">Flight Delay Prediction Model Using Machine Learning
            Over the last twenty years, air travel has been increasingly preferred among
travelers, mainly because of
            its speed and in some cases comfort. This has led to phenomenal growth in air
traffic and on the ground. An
            increase in air traffic growth has also resulted in massive levels of aircraft
delays on the ground and in
            the air. These delays are responsible for large economic and environmental
losses. The main objective of the
            model is to predict flight delays accurately in order to optimize flight
operations and minimize delays.

            Using a machine learning model, we can predict flight arrival delays. The
input to our algorithm is rows of
            feature vector like departure date, departure delay, distance between the two
airports, scheduled arrival
            time etc. We then use decision tree classifier to predict if the flight arrival will
be delayed or not. A
            flight is considered to be delayed when difference between scheduled and
actual arrival times is greater
            than 15 minutes. Furthermore, we compare decision tree classifier with
logistic regression and a simple
            neural network for various figures of merit.</p>

    </div>

</body>

</html>
```

Style.css:

```css
label {
    font-size: 25px;
    color: #ffffff;
}

body {
    background-image: url('1.jpg');
    background-repeat:no-repeat ;
    background-size: cover;
    background-position: center;
```

```css
    background-attachment: fixed;
    background-size: 100% 100%;
    font-family: 'Poppins', sans-serif;

}

h1 {
    text-align: center;
    color: white;
    font-family: 'Trebuchet MS', 'Lucida Sans Unicode', 'Lucida Grande', 'Lucida
Sans', Arial, sans-serif
}

.cols {
    width: 470px;
    height: 25px;
    border: none;
    font-size: large;
    background-color: white;
    margin: 5px;
    box-sizing: border-box;
}

table {
    align-items: center;
    margin-left: 10px;
}

input {
    color: rgb(0, 0, 0);
}

th {
    font-size: 1.39em;
    text-align: center;
    color: #fdfdfd;
}

input[type=text],
select {
    width: 100%;
    border: 0px solid rgb(91, 78, 78);
    border-radius: 20px;
    margin: 8px 0;
    outline: none;
```

```css
        padding: 8px;
        box-sizing: border-box;
        transition: .5s;
        padding: 17px;


}
.back {
        background-color: rgba(139, 139, 139, 0.289);
        width: 90%;
        margin: 60px auto;
        text-align: center;

        padding: 30px 20px 20px 30px;
        border-radius: 10px;
        box-shadow: 0px 30px 50px 0px rgba(0, 0, 0, 0.695);

}
.about{
        font-size: 30px;
       color: white;
        font-family: 'Trebuchet MS', 'Lucida Sans Unicode', 'Lucida Grande', 'Lucida Sans',
Arial, sans-serif;
       font-weight: 900;
   }

input[type=text]:focus {
        border-color: white;
        box-shadow: 0 0 30px white;


}

select:focus {
        border-color: rgb(255, 255, 255);
        box-shadow: 0 0 30px white;
}

#region,
#country {
        width: 100%;
        padding: 11px;
        border: 0px solid #000000;
        border-radius: 20px;
        font-family: cursive;
        font-size: medium;
        background-color: white;
        margin: 5px;
```

```css
    box-sizing: border-box;

}

.col-25 {
    float: left;
    margin-left: 150px;
    width: 30%;
    margin-top: 8px;
    font-family: cursive;
}

.col-75 {
    margin-left: 100px;
    width: 30%;
    float: left;
    margin-top: 8px;
    font-family: cursive;
    color: #000000;
}

ul {
    list-style-type: none;
    margin: 0;
    padding: 0;
    overflow: hidden;
}

li {
    float: left;
}

li a {
    display: block;
    color: #ffffff;
    text-align: center;
    font-size: 20px;
    padding: 14px 16px;
    text-decoration: none;
    font-family: cursive;
}

li a:hover {
    background-color: rgb(0, 0, 0);
    width: auto;
    border-radius: 5px;
```

```css
}

button {

    font-size: 20px;
    text-decoration: none;
    color: rgba(255, 255, 255, 0.8);
    padding: 10px 30px 10px 30px;
    border-radius: 20px;
    font-weight: normal;
    text-transform: uppercase;
    transition: .5s;
    background-color: transparent;
    margin: 40px;
    outline: none;
    box-sizing: border-box;
    box-shadow: 0 0 20px black;
    border: 0px;
}

.glow-button:hover {
    box-shadow: 0 0 50px white;
}

table {
    margin-top: 50px;
}
.results{

    margin-top: 17%;
    margin-right: 60%;
    color: white;
    font-family: 'Poppins', sans-serif;
}
```