10.APPENDEX

Model building:

1)Dataset

2)Google colab and Vs code Application Building

1.HTML file (Index file, Predict file)

1.CSS file

2.Mod in pickle format

Source Code:

INDEX.HTML

Home:

```
<!DOCTYPE html>
<html>
<head>
    <title>home Image Page</title>
    <style>
        body, html {
            height: 100%;
            margin: 0;
        }

        .bg-image {
            /* The image used */
            background-image: url('cap.png');

            /* Full height */
            height: 100%;

            /* Center and scale the image nicely */
            background-position: center;
            background-repeat: no-repeat;
            background-size: cover;

            /* Set up the opacity */
            opacity: 0.9;
        }

        .content {
            position: absolute;
            top: 0;
```

```
            left: 0;
            width: 100%;
            height: 100%;
            background: rgba(0, 0, 0, 0); /* Transparent background to see the
image behind */
        }

        h1{
            text-align: center;
            /* Center the text */
            margin: 10% 5%;
            color: rgb(33, 8, 254); /* Text color */
            font-size: 50px;
        }
        p {
            margin: 0 20px; /* Leaves space on the left and right */
            font-size: 30px; /* Increases the font size */
        }
        .top-right-button {
            position: absolute;
            top: 160px;
            right: 100px;
        }

        button {
            padding: 10px 20px;
            background-color: #007bff;
            color: white;
            border: none;
            border-radius: 5px;
            cursor: pointer;
        }

        button:hover {
            background-color: #0056b3;
        }
    </style>
</head>
<body>

<div class="bg-image"></div>

<div class="content">
    <h1>Online Payments Fraud Detection</h1>
    <p>The objective of this article is to predict online payments fraud given
the various parameters. This will be a classification problem since the target
or dependent variable is the fraud (categorical values). The purpose of fraud
of online payments are to separate the available supply of potable online
```

```
payments into classes differing in superiority. We will be using
classification algorithms such as Decision tree, Random forest, SVM, and Extra
tree classifier. We will train and test the data with these algorithms.</p>
    <div class="top-right-button">
        <a href="predict.html"><button style="font-size:
20px;">Predict</button></a>
    </div>
</div>

</body>
</html>
```

Predict:

```
<!DOCTYPE html>
<html>
<head>
    <title>Form with Background Image</title>
    <style>
        body, html {
            height: 100%;
            margin: 0;
            font-family: Arial, sans-serif;
        }

        .bg-image {
            background-image: url('cap.png');
            filter: opacity(0.9);
            height: 100%;
            background-position: center;
            background-repeat: no-repeat;
            background-size: cover;
            position: relative;
        }

        .form-container {
            position: absolute;
            left: 50px;
            top: 50%;
            transform: translateY(-50%);
        }

        label {
            margin-top: 10px;
            display: block;
        }
```

```
        input[type="text"] {
            margin: 5px 0 20px 0;
            padding: 10px;
            width: calc(100% - 22px); /* Adjust input width considering
padding */
            display: block;
        }

        button {
            padding: 10px 20px;
            background-color: #007bff;
            color: white;
            border: none;
            border-radius: 5px;
            cursor: pointer;
        }

        button:hover {
            background-color: #0056b3;
        }
        .top-right-buttons {
        position: absolute;
        top: 20px;
        right: 20px;
    }

    .top-right-buttons a {
        padding: 10px 20px;
        background-color: #007bff;
        color: white;
        text-decoration: none;
        border-radius: 5px;
        margin-left: 10px; /* Space between buttons */
    }

    .top-right-buttons a:hover {
        background-color: #0056b3;
    }

    </style>
</head>
<body>

<div class="bg-image">
    <div class="form-container">
        <form>
            <label for="Step">Step</label>
            <input type="text" id="Step" name="Step">
```

```
            <label for="Type">Step</label>
            <input type="text" id="Type" name="Type">

            <label for="Amount">Amount</label>
            <input type="text" id="Amount" name="Amount">

            <label for="oldbalanceOrig">old balance Orig</label>
            <input type="text" id="oldbalanceOrig" name="oldbalanceOrig">

            <label for="newbalanceOrig">New Balance Orig</label>
            <input type="text" id="newbalanceOrig" name="newbalanceOrig">

            <label for="OldbalanceDest">OldbalanceDest</label>
            <input type="text" id="OldbalanceDest" name="OldbalanceDest">

            <label for="NewbalanceDest">NewbalanceDest</label>
            <input type="text" id="NewbalanceDest" name="NewbalanceDest">

            <a href="submit.html" style="display: inline-block; padding: 10px
20px;background-color: #007bff;  color: white; text-decoration: none; border-
radius: 5px;">Submit</a>
        </form>
    </div>
</div>
<div class="top-right-buttons">
    <a href="home.html">Home</a>
</div>

</body>
</html>
```

Submit:

```
<!DOCTYPE html>
<html>
<head>
    <title>Background Image Page</title>
    <style>
        body, html {
            height: 100%;
            margin: 0;
        }

        .bg-image {
            /* The image used */
            background-image: url('cap.png');
```

```
            /* Full height */
            height: 100%;

            /* Center and scale the image nicely */
            background-position: center;
            background-repeat: no-repeat;
            background-size: cover;

            /* Set up the opacity */
            opacity: 0.6;
        }

        .content {
            position: absolute;
            top: 0;
            left: 0;
            width: 100%;
            height: 100%;
            background: rgba(0, 0, 0, 0); /* Transparent background to see the
image behind */
        }

        h1{
            text-align: center;
            /* Center the text */
            margin: 10% 5%;
            color: rgb(33, 8, 254); /* Text color */
            font-size: 50px;
        }
        p {
            margin: 0 20px; /* Leaves space on the left and right */
            font-size: 30px; /* Increases the font size */
        }
        .top-right-button {
            position: absolute;
            top: 160px;
            right: 100px;
        }
        .top-right-button2{
            position: absolute;
            top: 160px;
            right: 220px;
        }

        button {
            padding: 10px 20px;
            background-color: #007bff;
```

```
            color: white;
            border: none;
            border-radius: 5px;
            cursor: pointer;
        }

        button:hover {
            background-color: #0056b3;
        }
    </style>
</head>
<body>

<div class="bg-image"></div>

<div class="content">
    <h1>Online Payments Fraud Detection</h1>
    <p>The predicted fraud of online payment is.</p>
    <div class="top-right-button">
        <a href="predict.html"><button style="font-size:
20px;">Predict</button></a>
    </div>
    <div class="top-right-button2">
        <a href="home.html"><button style="font-size: 20px;">Home</button></a>
    </div>
</div>

</body>
</html>
```

```
from flask import Flask,render_template,request
#import joblib
import numpy as np
import pandas as pd
import pickle
app=Flask(__name__)
#model=joblib.load('random_forest_model.pkl')
model=pickle.load(open('model.pkl','rb'))
app=Flask(__name__,template_folder='template')
@app.route('/')
```

```
def home():
    return render_template('index.html')
@app.route('/predict', methods=['POST'])
def predict():
  input_feature=[x for x in request.form.values()]
  input_feature=np.transpose(input_feature)
  input_feature=[np.array(input_feature)]
  print(input_feature)
  names=['step', 'type', 'amount',  'oldbalanceOrg', 'newbalanceOrig',
'oldbalanceDest', 'newbalanceDest']
  data=pd.DataFrame(input_feature,columns=names)
  prediction=model.predict(data)
  result=prediction
  #result=int(prediction[0])
  #print(result)
  if result==1:
    result='fraud'
  else:
    result='Not fraud'
  return render_template('result.html', prediction_text='The online payment is:
{}'.format(result))
if __name__=='__main__':
 app.run(debug=True)
```