UI Documentation

Visualization App

By

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GitHub: https://github.com/dineshbellamkonda12/Data-Visualization-Tool-Web-Based-.git

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Chapter- 1: Home Page

Home Page:

The Home Page features a bar chart that visualizes data sourced from the backend Django Database.

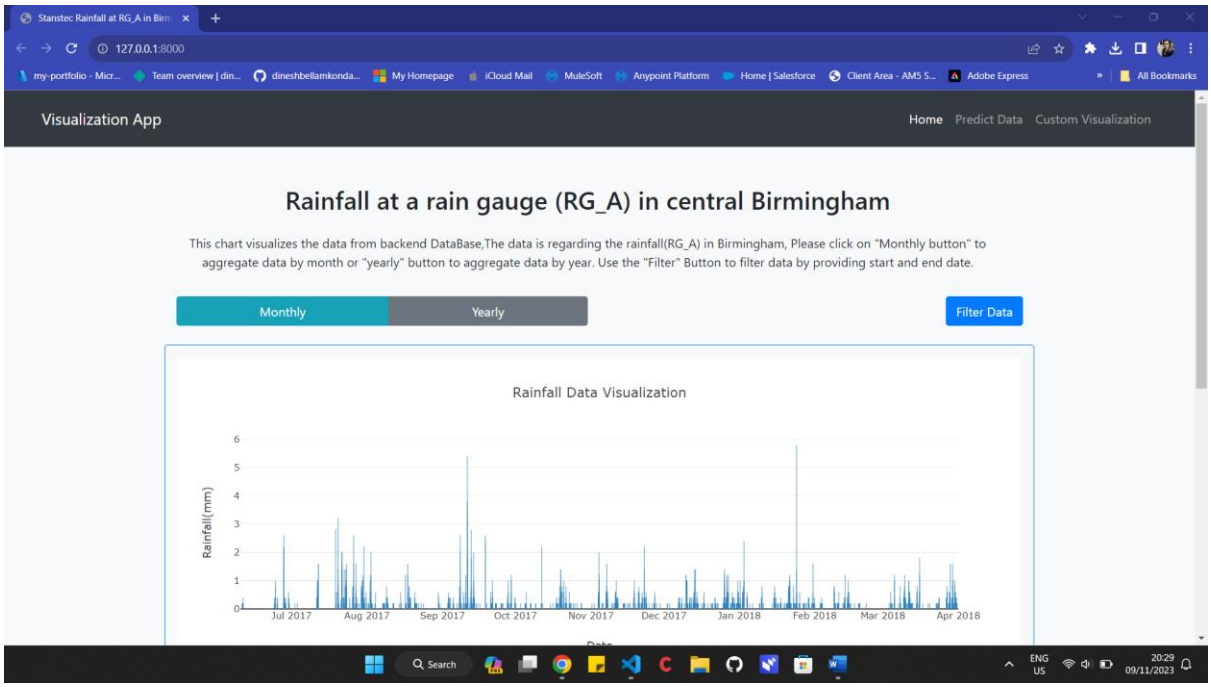

Figure 1: Home Page

Use the Monthly and Yearly buttons to display aggregated data bar chart by month or year.

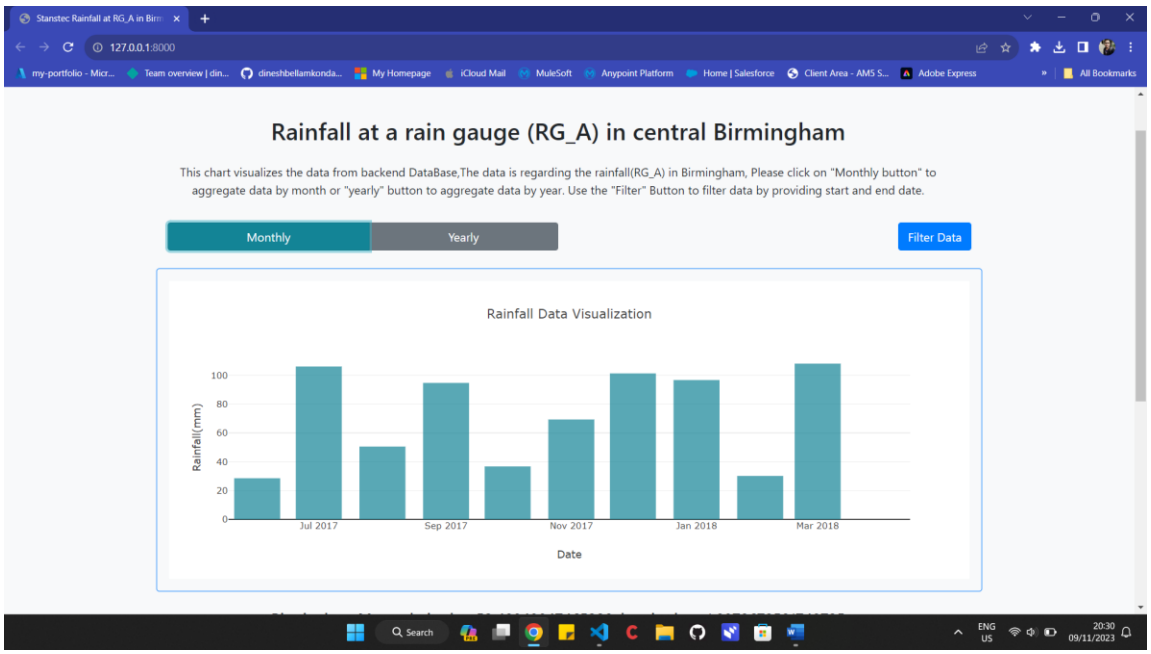

Figure 2: Aggregated Data by Month

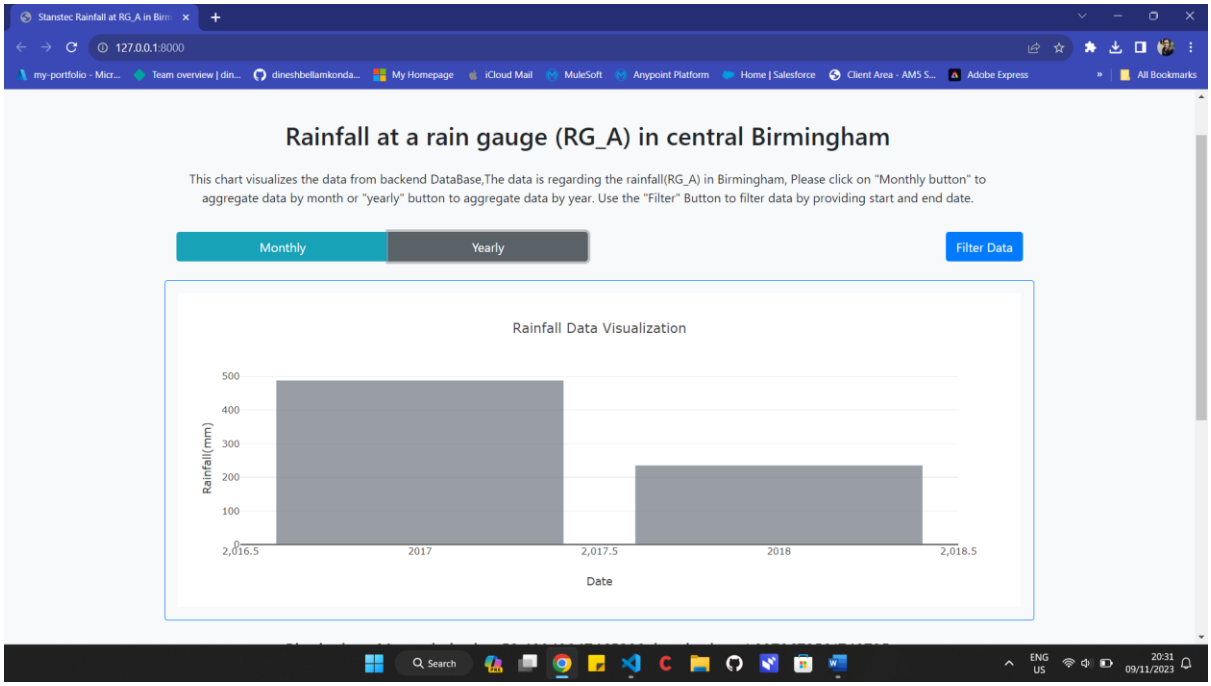

Figure 3: Aggregated Data by year

Utilize the "Filter Data" button on the left to open a modal, enabling data filtration within the chart. Select the start and end dates and times, then click on "Filter Data.".

Let's Filter the data from 2017-11-01 to 2017-12-01, Select start date and end date and click on "Filter Data" button.

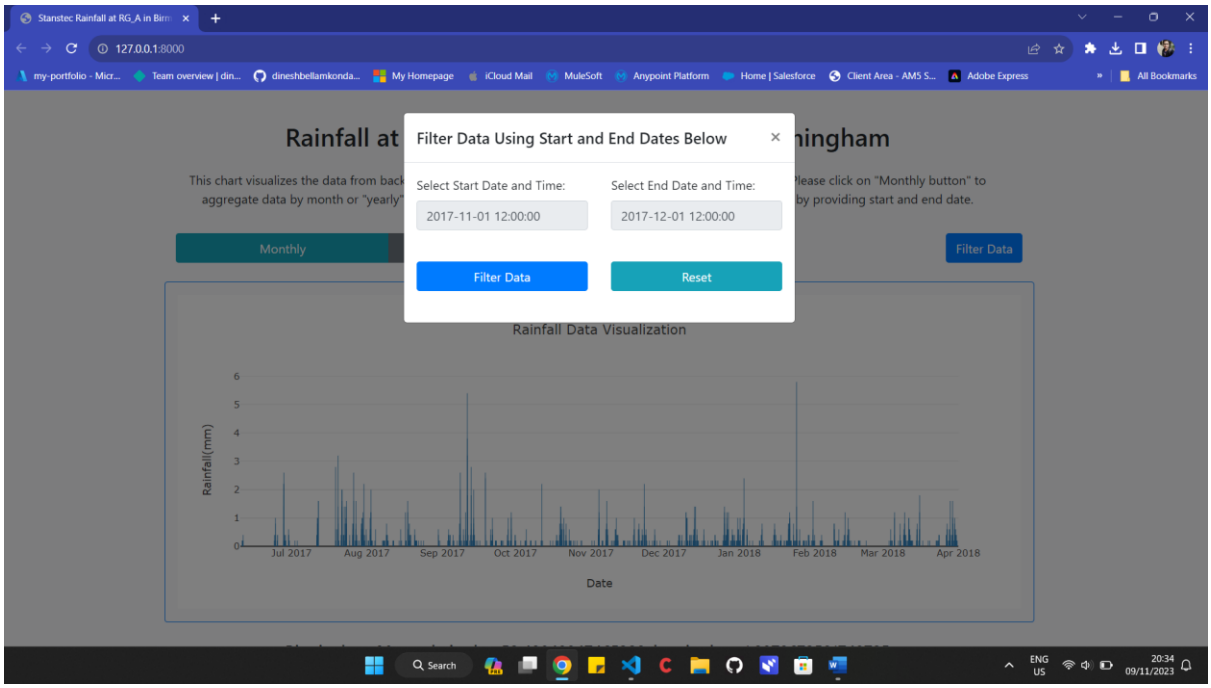

Figure 4: Options to filter data

The Filtered Data is shown as below.

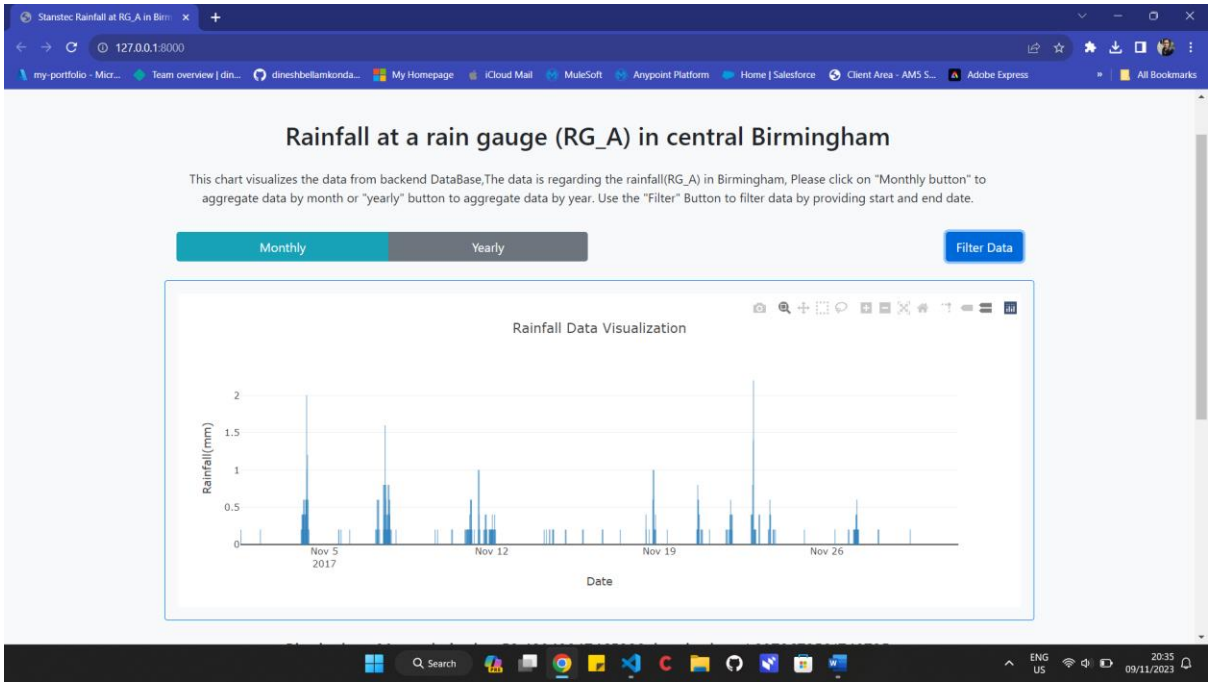

Figure 5: Filtered Data Based on selected start and end date.

The home page also shows the map which allows you to visualize temperature and precipitation of the Birmingham location.

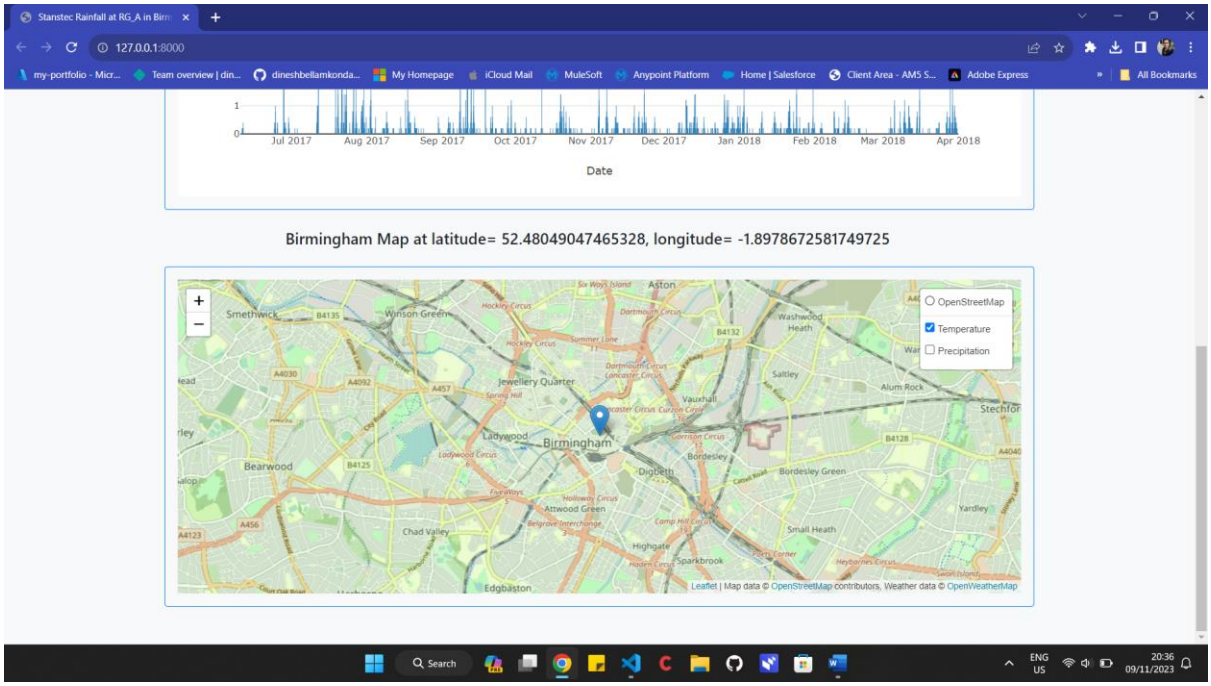

Figure 6: Map showing Birmingham location.

Chapter- 2: Predicting Data Page

The Predicting Data Page offers the following options. The data is retrieved from the backend database and is predicted using a linear regression machine learning model. Please note that the data may not be entirely accurate, as machine learning models require more historical data for accurate future rainfall predictions.

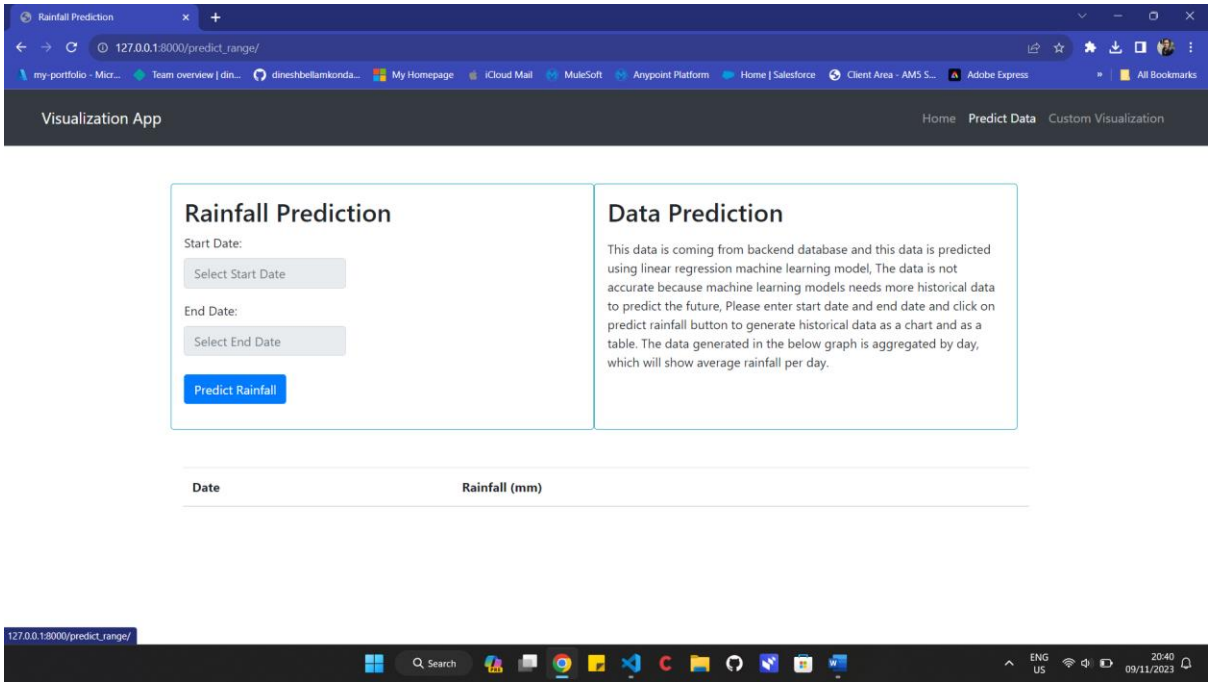

Figure 7: Predicting Data Page.

Please enter start date and end date and click on predict rainfall button to generate historical data as a chart and as a table. The data generated in the below graph is aggregated by day, which will show average rainfall per day.

Let's generate future data from year 2030 to 2040. Enter the start and end date as below and click on Predict Rainfall

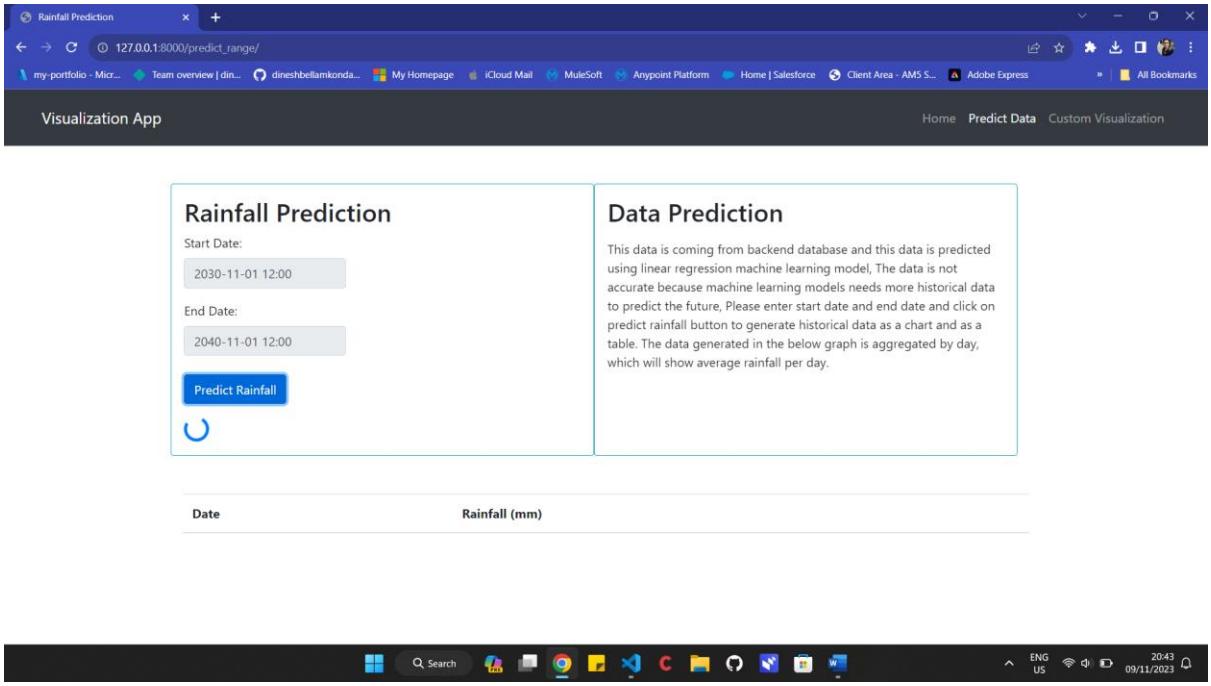

Figure 8: Predicting Data Page (Enter Start Date and Time).

The predicted data will be displayed as bar chart as below.

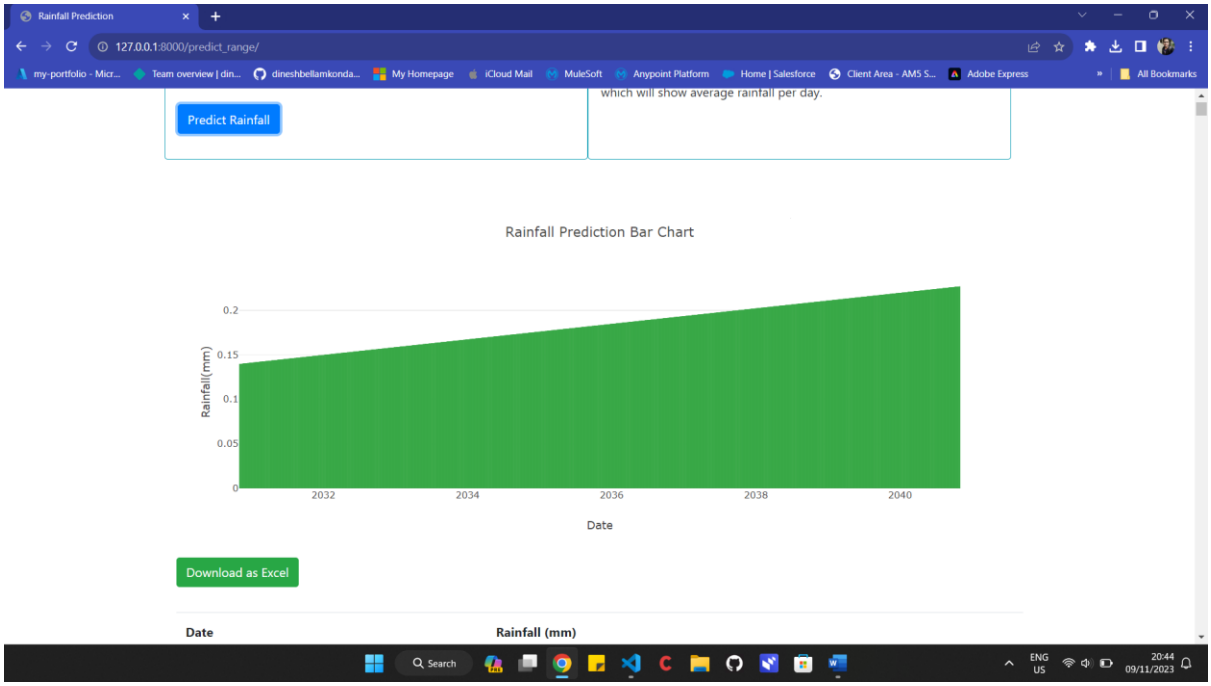

Figure 9: Predicted Data Bar Chart.

Furthermore, the predicted data will be displayed in a table format, which can be downloaded as an Excel file.

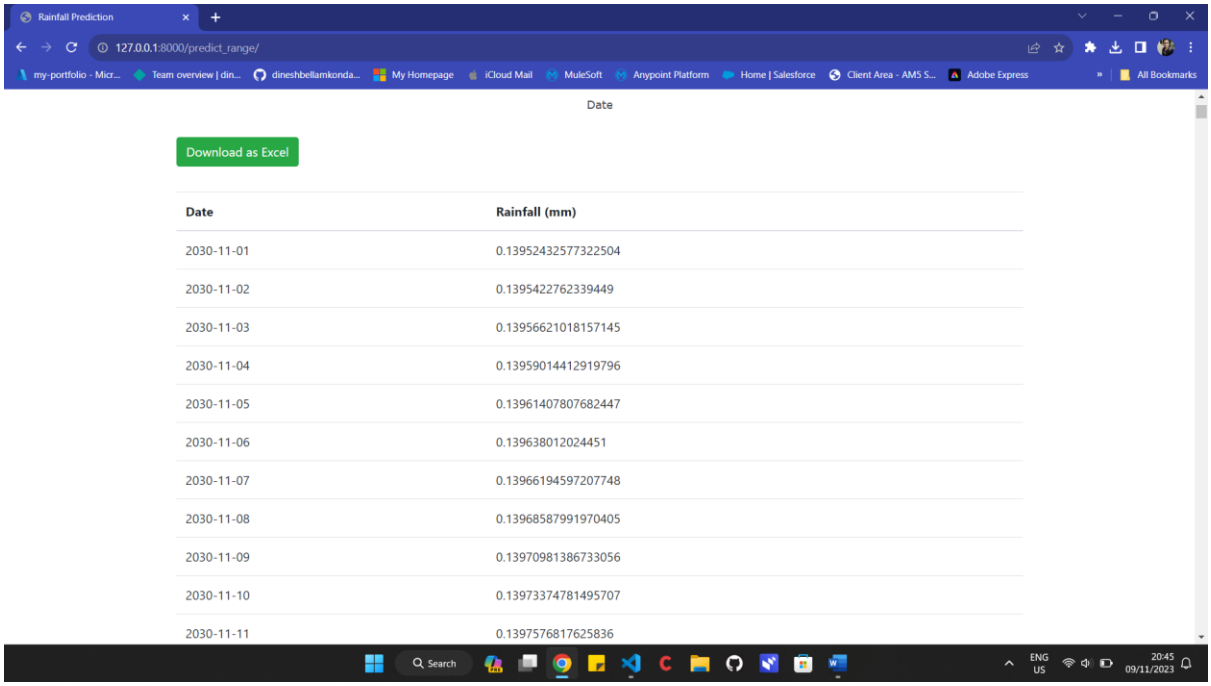

Figure 10: Predicted Data table.

Chapter- 3: Custom Visualization Page

The “Custom Visualization Page” enables the uploading of custom Excel data, which will be used to generate a bar chart. Select the desired file and click on "Generate Chart" to create the bar chart.

Choose file and click on generate chart to generate a bar chart.

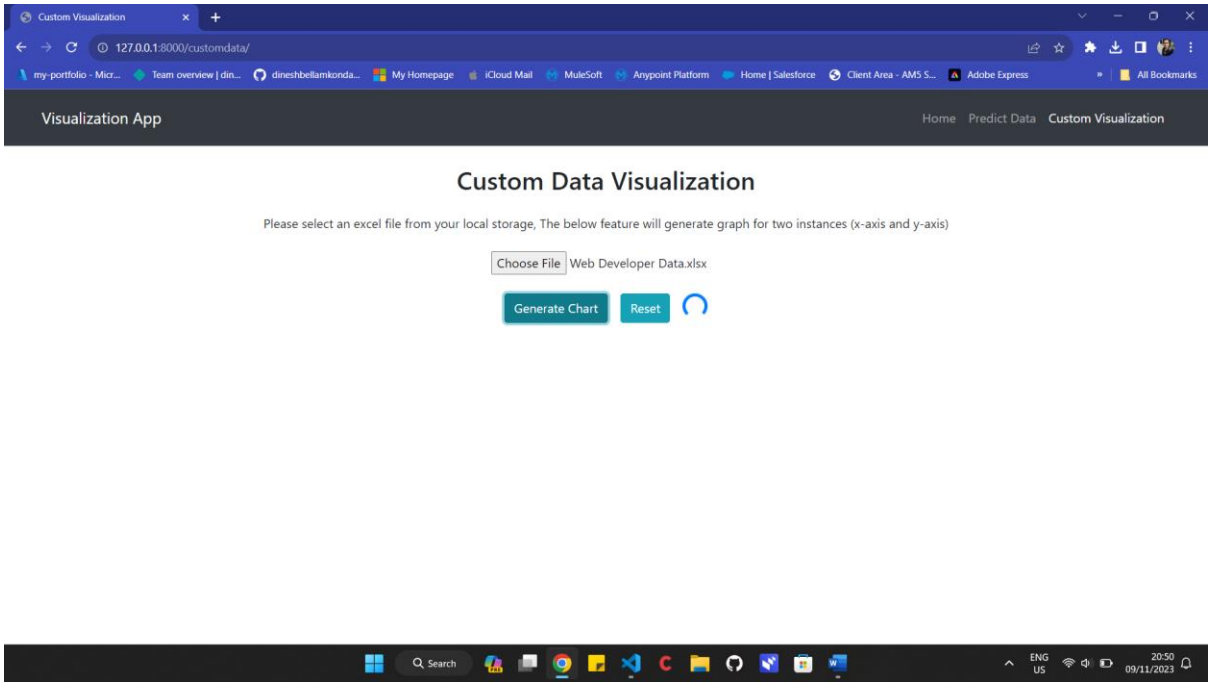

Figure 11: Custom Data Visualization Page.

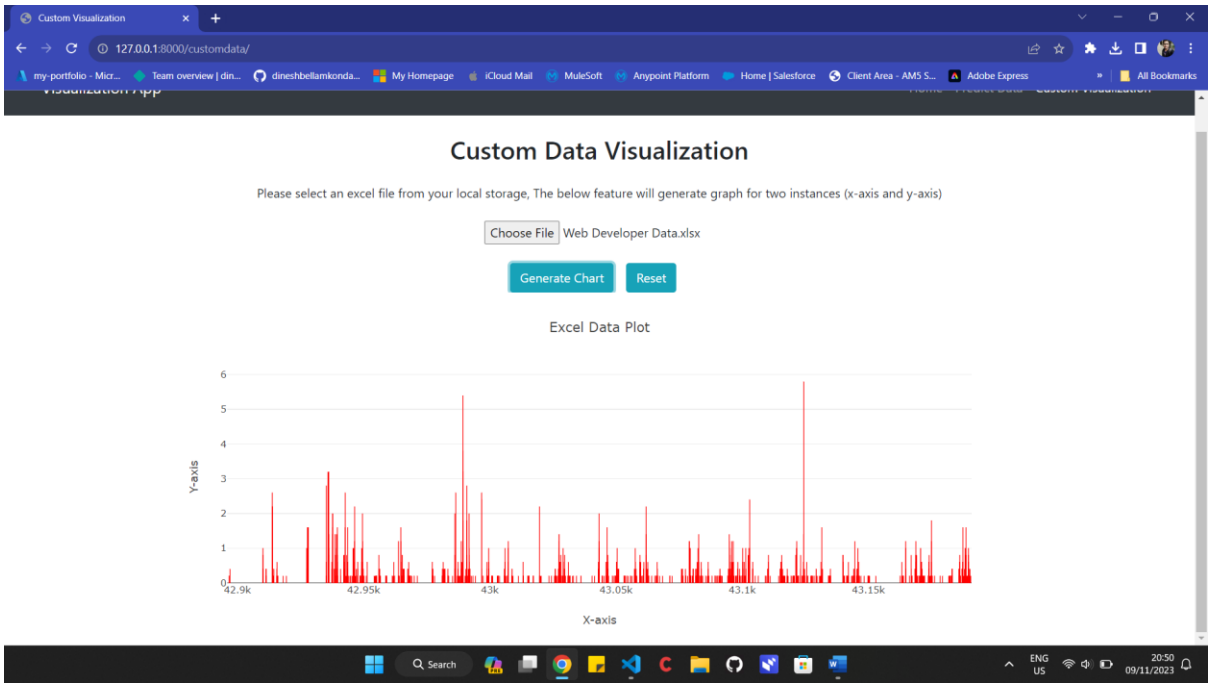

Figure 12: Displayed Bar chart based on the uploaded excel sheet.