

Identification of Crime Prone Areas

User Manual

by

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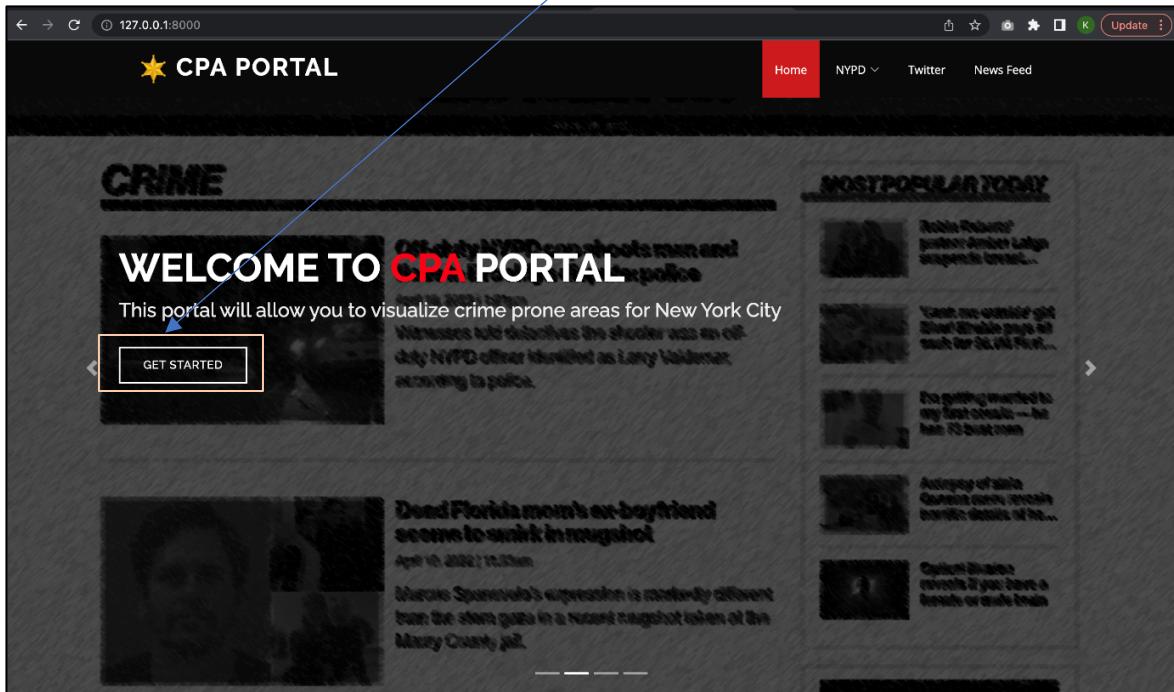
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Guide: Dr. Irfan Siddavatam

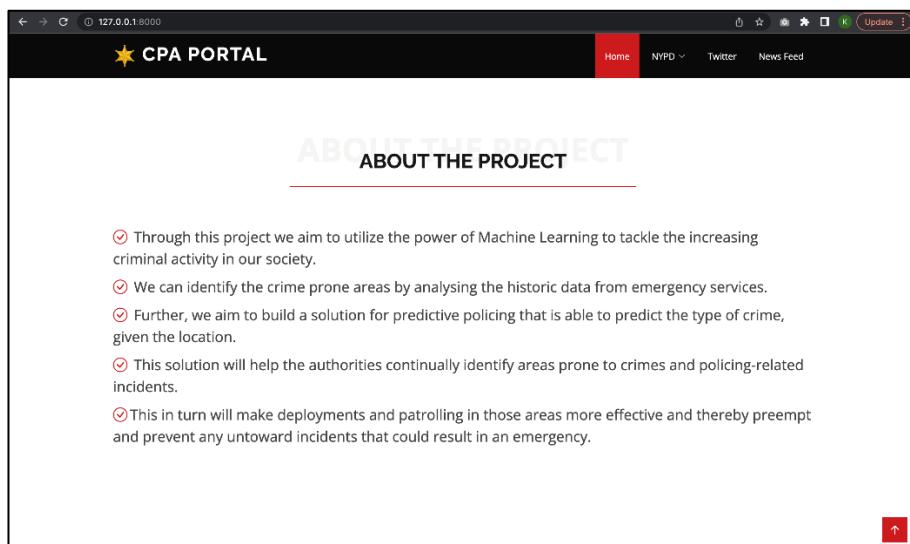
Group ID: 16

Homepage

1. Access the Crime Prone Areas Website
 - Open the browser and enter the following url: 127.0.0.1:8000
2. The homepage is a Landing page which has a continuously running carousel in the background.
3. The user can either scroll down or click on **GET STARTED** button to interact with the website.



4. After clicking on the “GET STARTED” button, we have an **ABOUT THE PROJECT** page which highlights the features of this portal and our Aim in building this project.



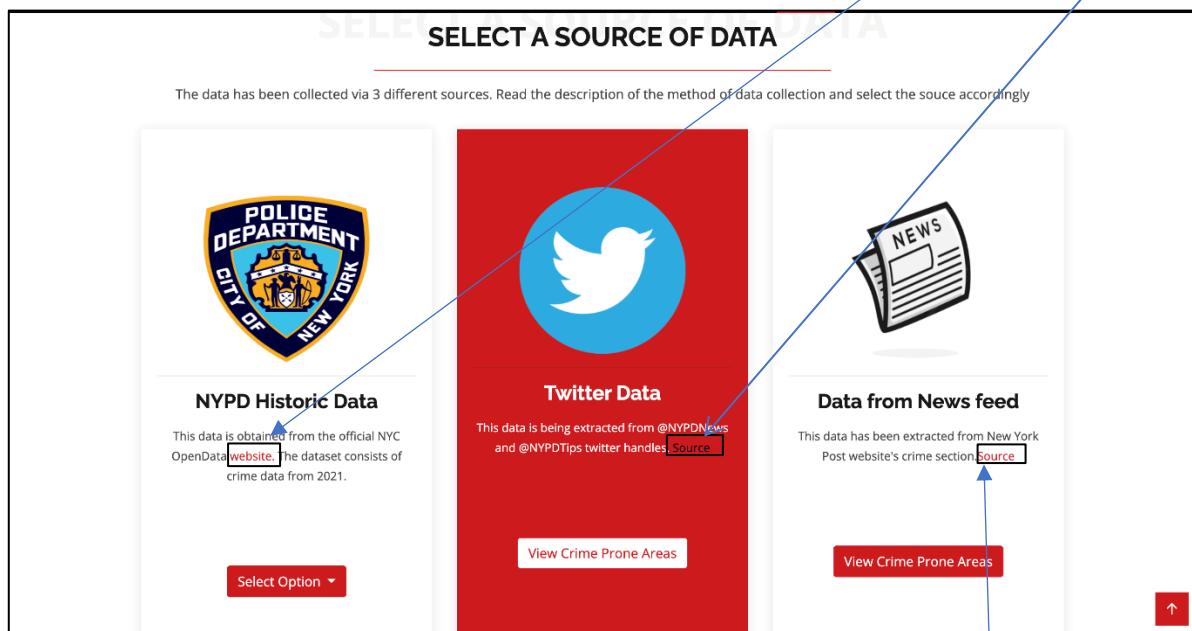
On further scrolling down the user is provided with 3 Options for visualizing Crime Prone areas, which are the highlights of this project.

1. NYPD Historic Data

- The user is provided with 2 options, **LOCATION as Input** or **TYPE of CRIME** as input.
- **Location as Input:** Highlights the Major Crime hotspots found in the entire city of New York.
- **Crime as Input:** Highlight borough wise crime stats for a particular type of crime
- The user can also visit the website from which the dataset was sourced using this link on the webpage.

2. Twitter Data

- The user can view the crime statistics collected and parsed from twitter.
- The details of the twitter handle from which we have parsed the data is on this link

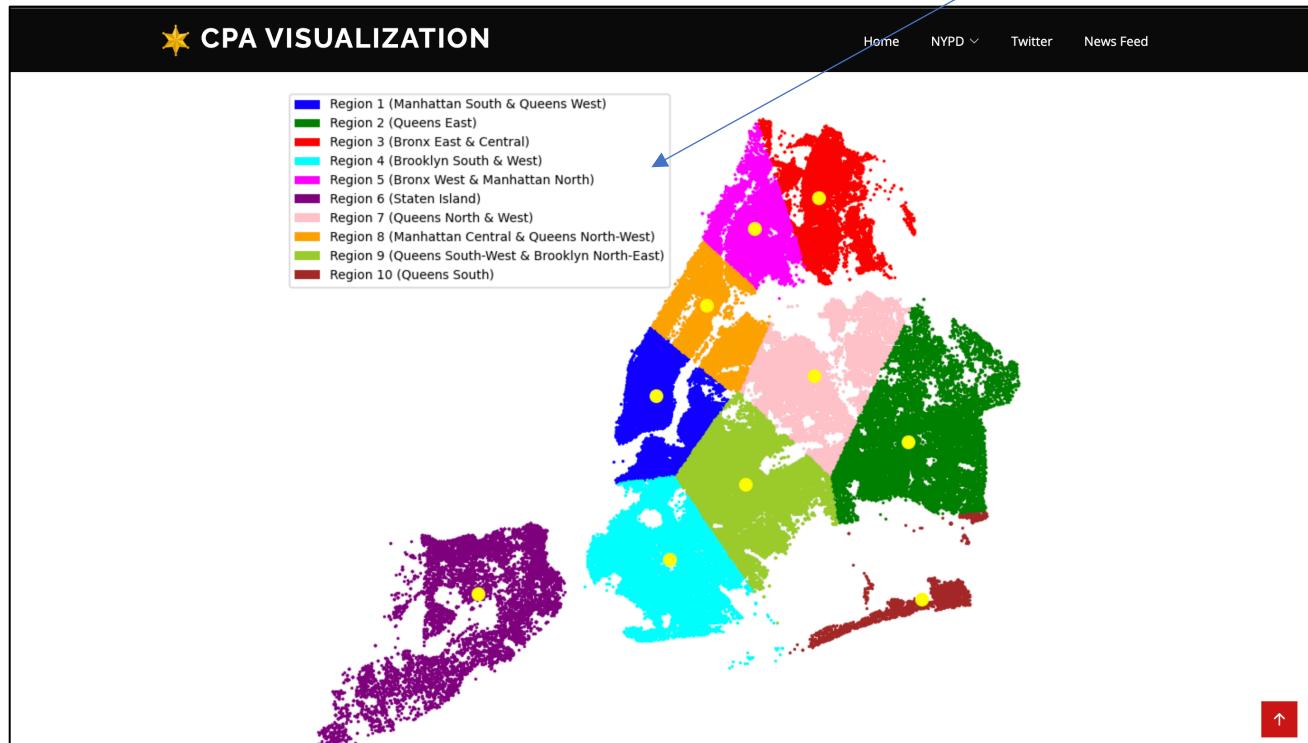


3. Data from News feed

- User can view the crime prone areas and other statistics which we have collected from the RSS feed provided by **NY POST**.
- The link for the source is also provided & can be accessed from this link

NYPD: Analyze data using Location as input

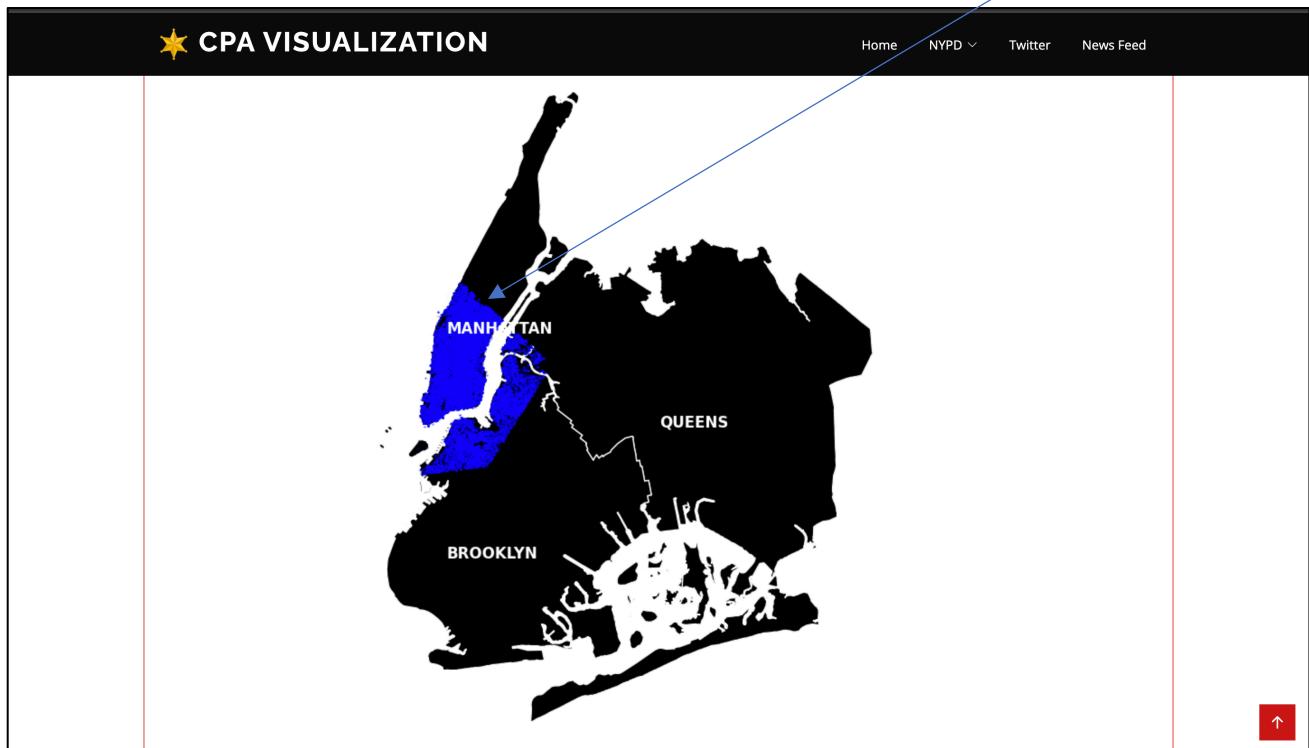
1. User can access this page through the navigation bar under NYPD option or else by selecting the source of data as NYPD historic data and location option on Home page.
2. The user will be able to view the results of k-means clustering algorithm that consists of different regions represented by unique colours.



3. When the user scrolls down he/she will be able to see visualizations and statistics of individual regions by choosing a particular region in the dropdown.

The screenshot shows a dropdown menu with the text "SELECT A REGION IN NY CITY TO VIEW ITS CRIME STATISTICS". Below the menu is a red button labeled "Region 1" and a red "SUBMIT" button.

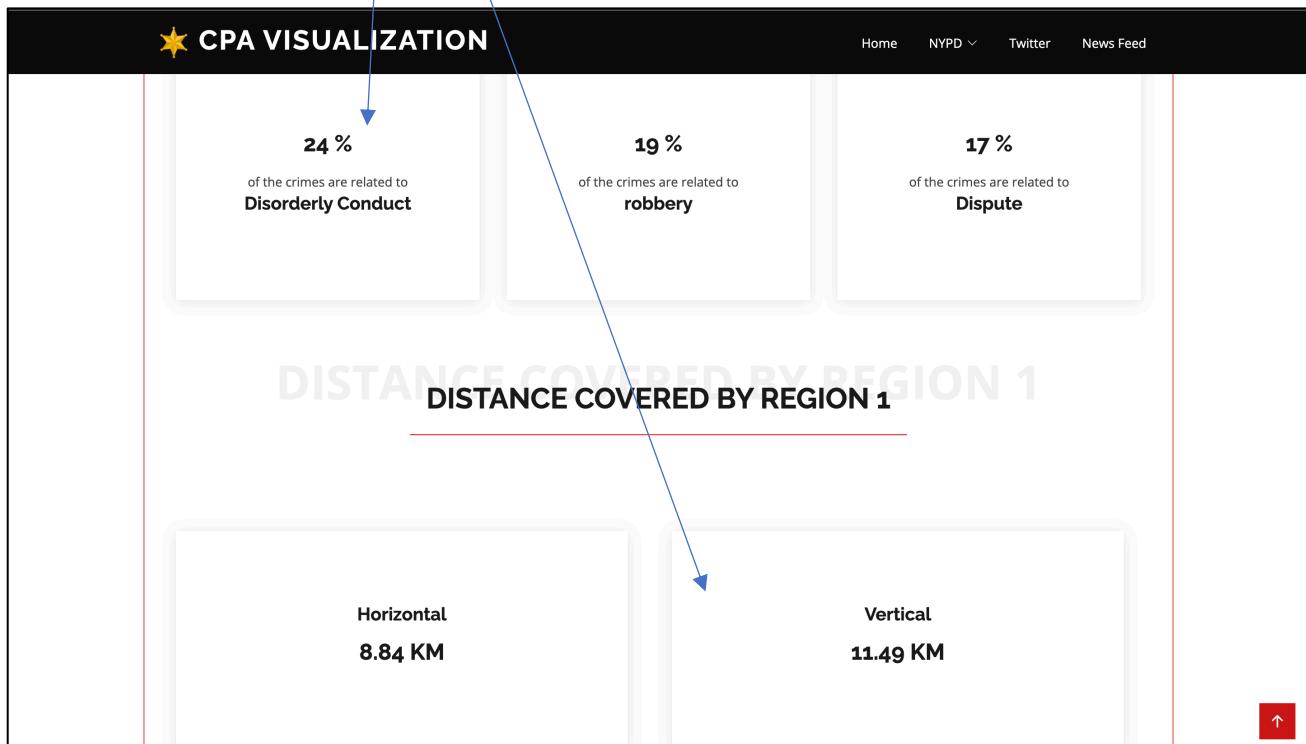
4. For example, if the user selects Region 1 then he/she will be able to view spread of crime in region 1.



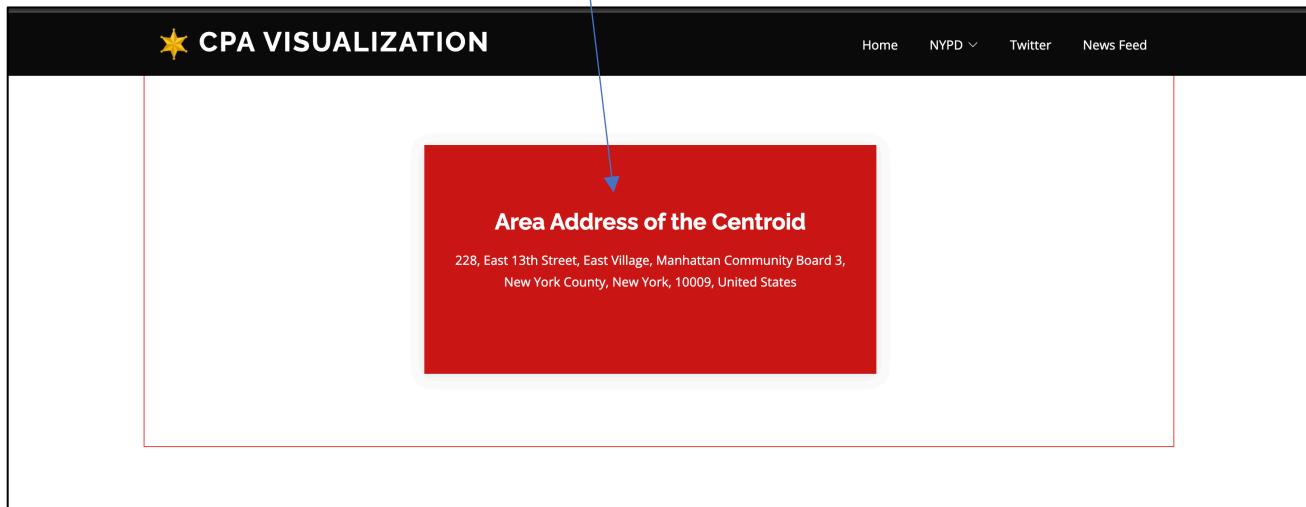
5. The user will be able to view total number of crimes in region one along with the percent of total crimes that lies in region one.
6. Also, Top 3 crimes in the region can able be seen along with the total number



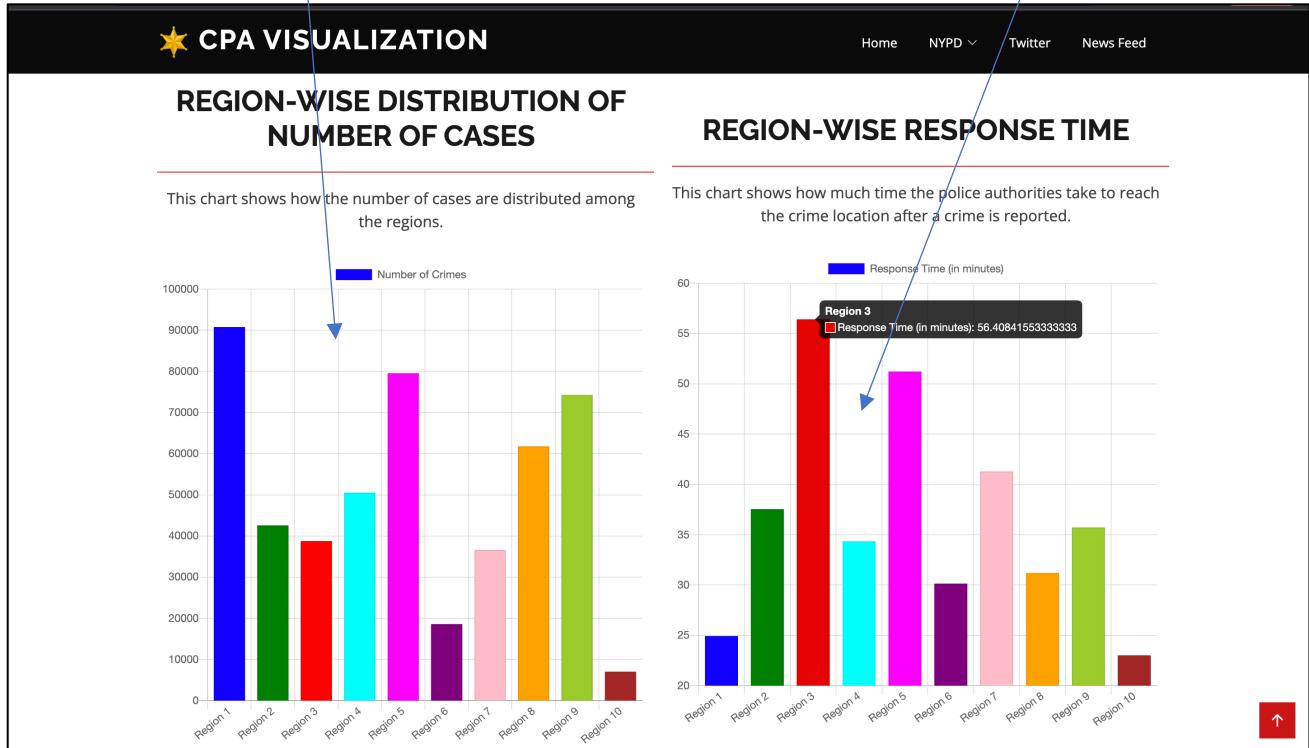
7. It also shows the percent of each crime from the top 3 crimes in that region along with the horizontal and vertical distance covered by region 1.



8. The user will be able to view the address of the centre of the region



9. On further scrolling, the user will be able to view 2 graphs. The first graph depicts a bar graph of total number of crimes in each region while the second graph depicts the average response time of New York police department to crimes in each region.



NYPD: Analyze data using Type of Crime as input

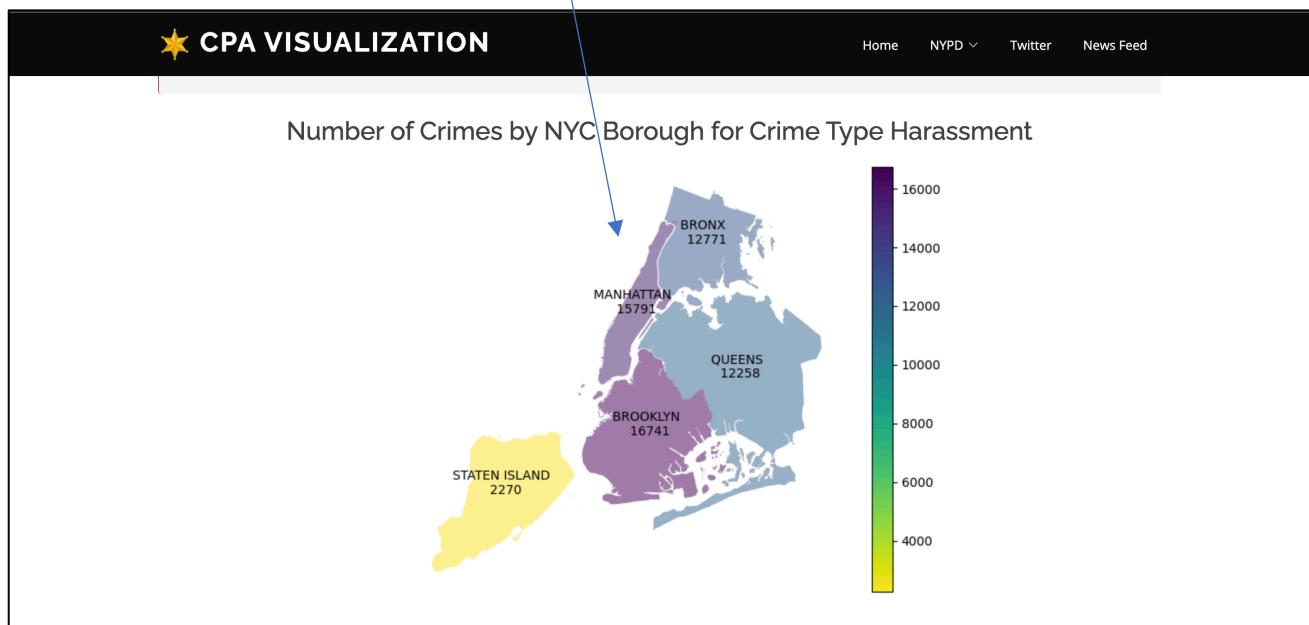
1. User can access this page through the navigation bar under NYPD option or else by selecting the source of data as NYPD historic data and Type of crime on Home page.
2. The user will be able to select any crime from the 10 crime types to view its visualizations and statistics.

The screenshot shows the CPA Visualization homepage. At the top, there's a black header bar with the title "★ CPA VISUALIZATION". On the right side of the header are links for "Home", "NYPD", "Twitter", and "News Feed". Below the header, the main content area has a large, semi-transparent watermark-like text "SELECT A TYPE OF CRIME" centered. Underneath this text, a sub-header "SELECT A TYPE OF CRIME" is displayed in bold. A descriptive sentence follows: "We have classified the data into 10 unique crime types. You can see statistics for each crime type through below tabs." Below this sentence is a horizontal row of ten tabs, each representing a crime type: Larceny, Harassment, Trespassing, Robbery, Dispute, Assault, Disorderly Conduct, Shooting, Explosion, and Other. The "Larceny" tab is highlighted with a white background and a thin border, while the others are in a standard grey font.

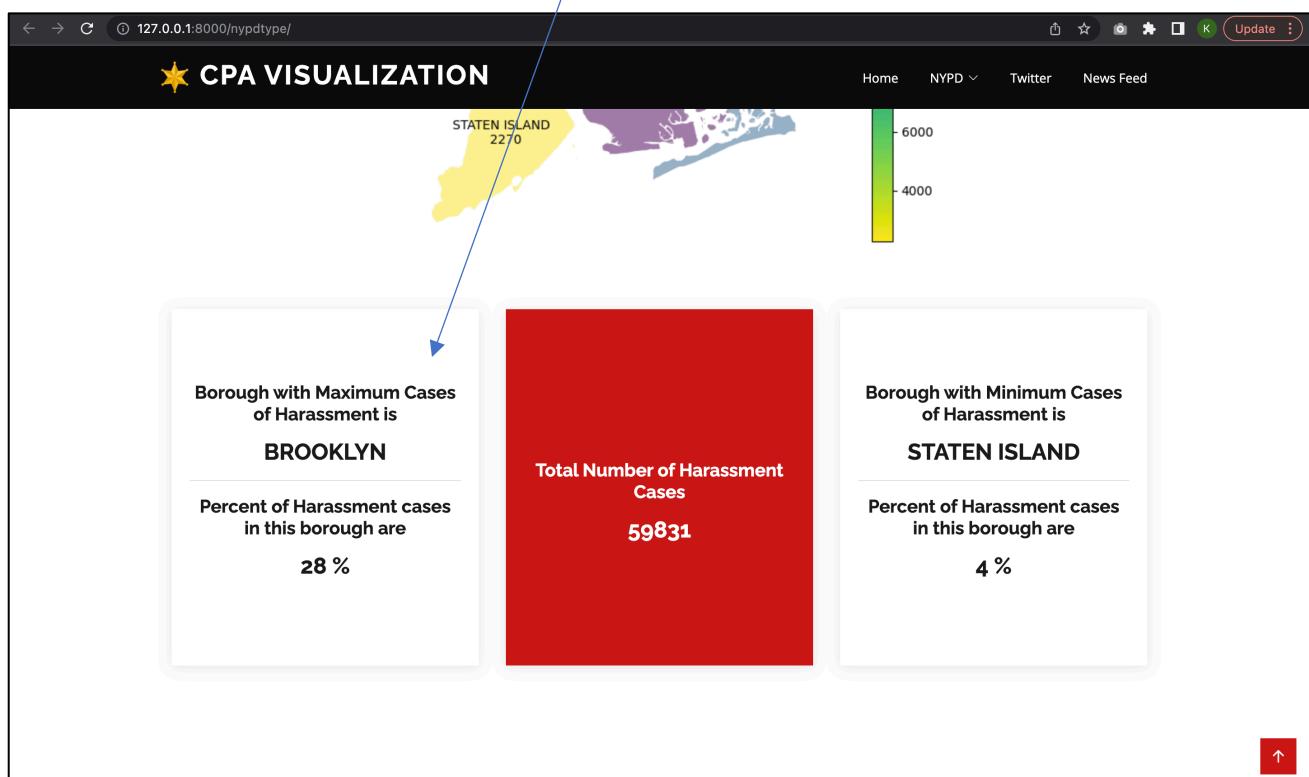
3. Furthermore, as the user selects one crime type, suppose harassment, then we will be able to view the definition of that crime along with the subsets of the crimes that are covered.

This screenshot shows the CPA Visualization page after selecting the "Harassment" tab. The interface remains largely the same with the "★ CPA VISUALIZATION" header and the "SELECT A TYPE OF CRIME" watermark. The "Harassment" tab is now active, indicated by a white background and a thin border. Below the tab, the word "Harassment" is displayed in a large, bold, black font. Underneath "Harassment", the word "noun" is shown in a smaller, italicized font. A descriptive sentence follows: "behaviour that annoys or upsets someone". At the bottom of the section, a line of text reads "Harassment Includes: verbal harassment | physical harassment | sexual harassment | indoor | outdoor". The other tabs (Larceny, Trespassing, Robbery, Dispute, Assault, Disorderly Conduct, Shooting, Explosion, Other) are visible but inactive.

4. The user will also be able to view the heatmap of New York city contained the total crime of Harassment present in each borough.



5. Furthermore, the user will be able to view borough with maximum and minimum cases of harassment along with its respective percentage. Also, the total number of cases of Harassment.



Twitter Data

1. When the user lands on this page, he/she will be able to view the information of the twitter handles from which the tweets were extracted. They can even visit the handles using the buttons.
2. The dataset created using extracting tweets were published on Kaggle. Links to those are also given for the users to see.

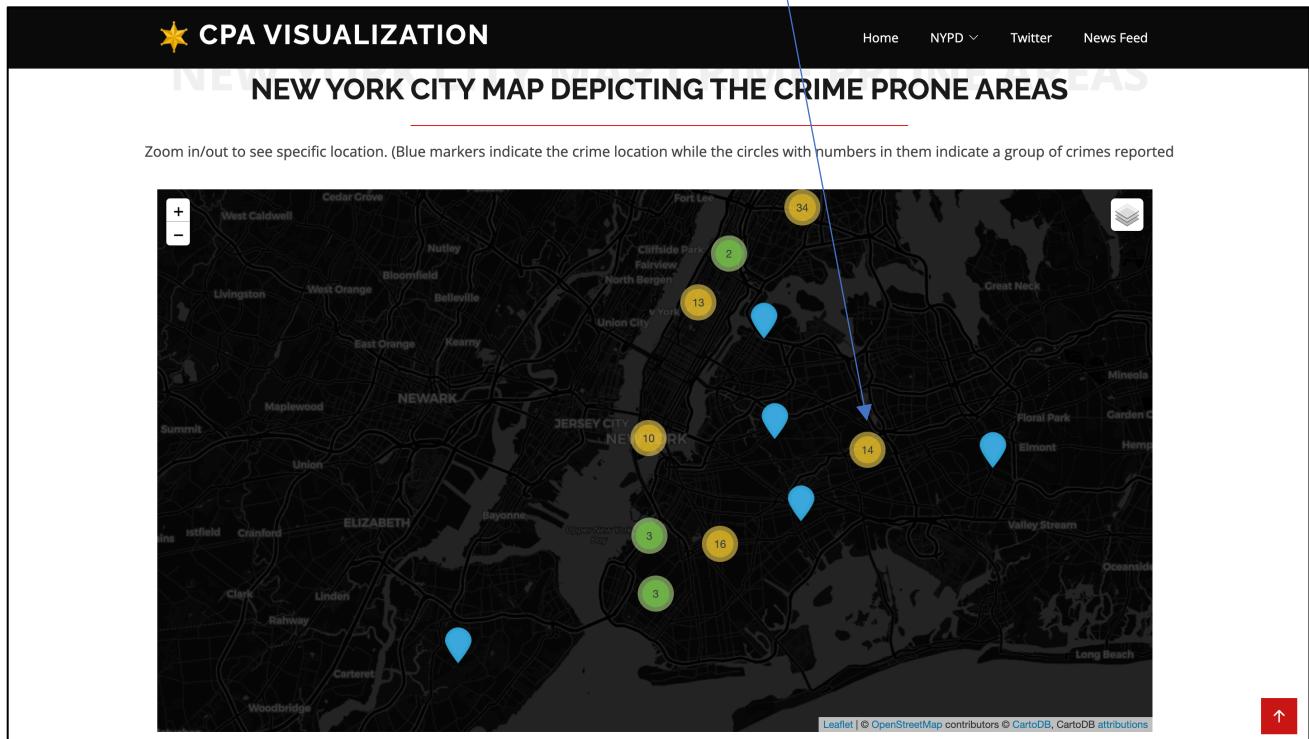
The screenshot shows a web page titled "★ CPA VISUALIZATION". At the top right are navigation links: Home, NYPD, Twitter, and News Feed. Below the title, there are two main sections. The left section is for "NYPD News" (@NYPDnews), featuring the New York City Police Department logo. It includes a description of the account as the official Twitter account of the New York City Police Dept., mentioning latest updates of crimes and wanted criminals. It states that 200 latest tweets have been extracted from the feed. A red box highlights the link "Access the dataset [here](#)". A blue arrow points from the "Visit Handle" button at the bottom to the "here" link. The right section is for "NYPD Crime Stoppers" (@NYPDTips), featuring a logo with a "DB" monogram. It describes the account as handled by the NYPD, where the public can send anonymous tips for up to \$3500 reward. It also mentions 200 latest tweets extracted. A red box highlights the link "Access the dataset [here](#)". A blue arrow points from the "Visit Handle" button at the bottom to the "here" link. A small upward arrow is in the bottom right corner of the page.

3. After scrolling down, the user will be able to see the total crimes that were extracted along with the number of crimes that were classified as crime and non-crime tweets.

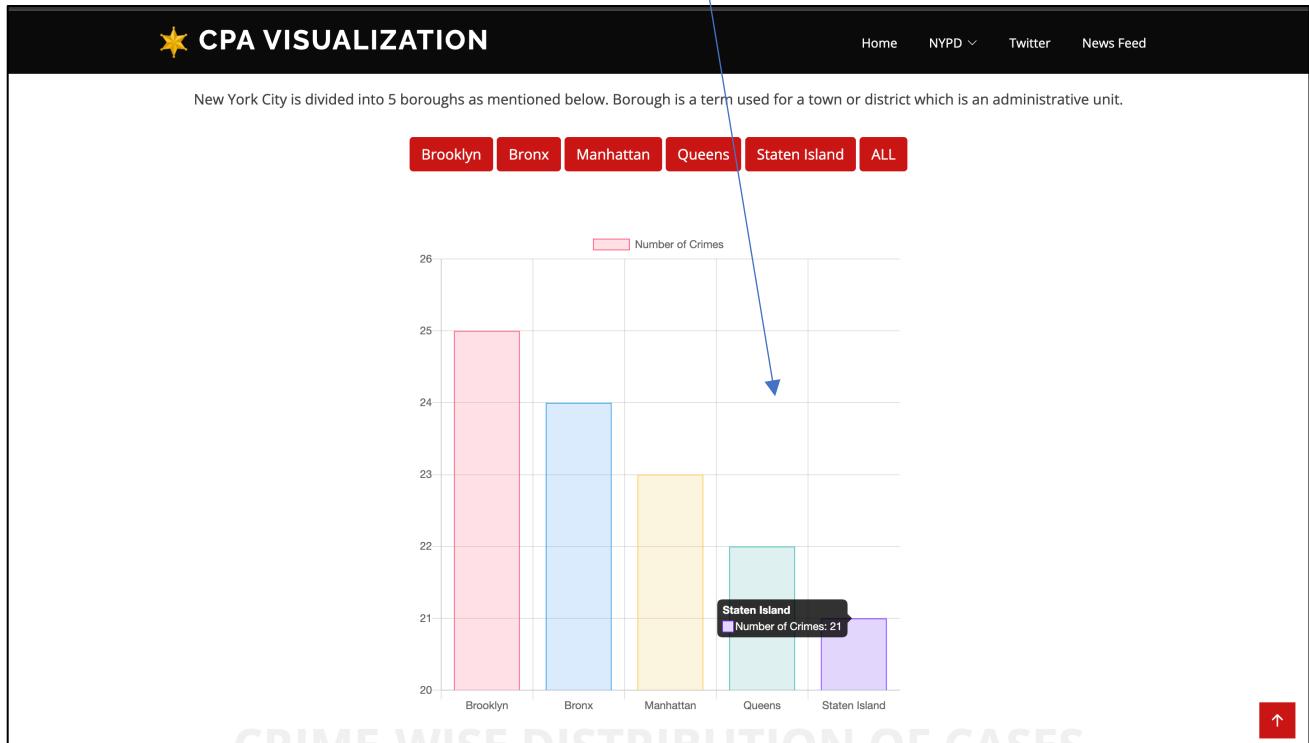
The screenshot shows a web page titled "★ CPA VISUALIZATION". At the top right are navigation links: Home, NYPD, Twitter, and News Feed. Below the title, there are three cards with statistics. The first card on the left says "Total Tweets 400". The second card in the middle says "Tweets related to crime 278". The third card on the right says "Tweets not related to crime 122". A blue arrow points from the "Visit Handle" button at the top of the previous page to the "Tweets related to crime" card here.

Tweet Type	Count
Total Tweets	400
Tweets related to crime	278
Tweets not related to crime	122

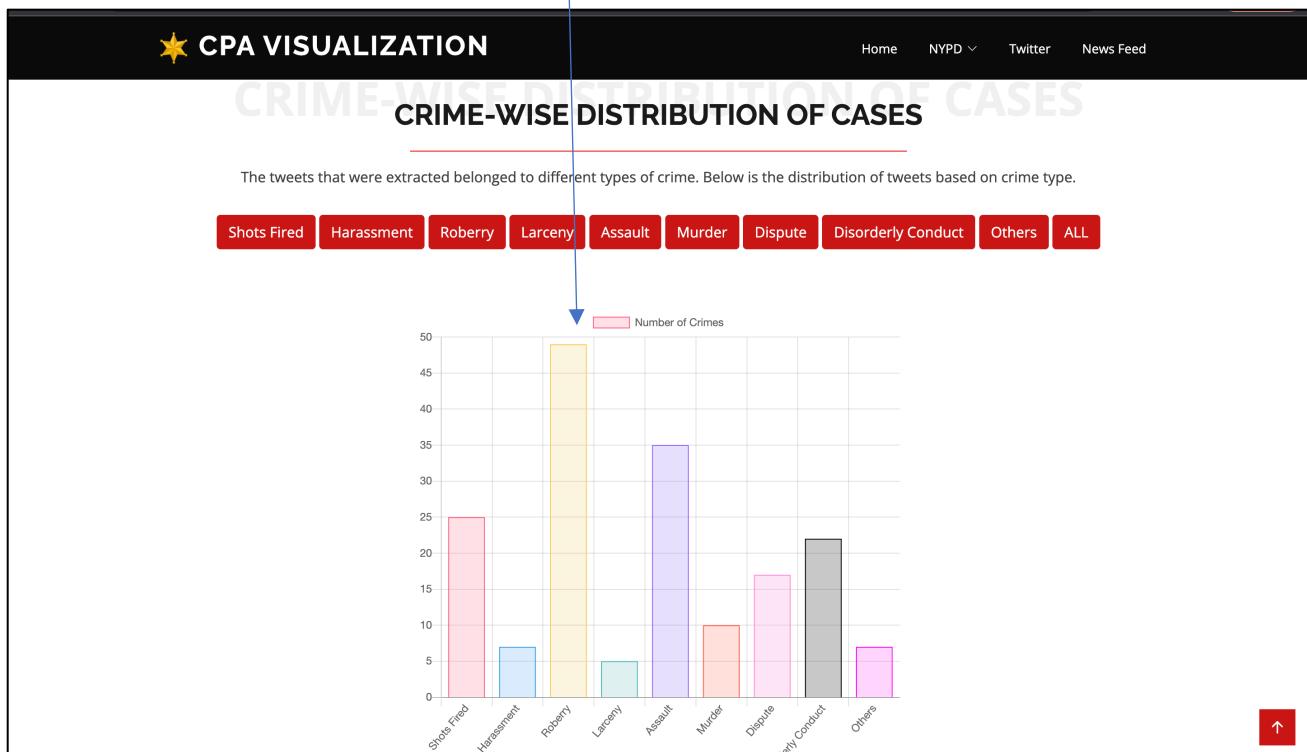
4. The user will also be able to view crime prone areas using a folium map which is dynamic, meaning as the user zooms in the points of crimes will get scattered to get a clear view as the user zooms out the point will get clustered into one another.



5. Furthermore, the user will be able to view a bar graph depicting the total number of crimes found in each borough.



6. Also, they could view the total number of tweets found for each crime type with the help of bar graph.



News Feed

1. Data source, we have used RSS feed from the NY Post to extract crime related news articles. The user can visit the NY post using this button

The screenshot shows a browser window with the URL 127.0.0.1:8000/newsfeed/. The page title is "CPA PORTAL". Below it, a large heading says "NEWS FEED ARE EXTRACTED FROM THE FOLLOWING SOURCE". A red box highlights the "New York Post" logo, which is a red square with white text. Below the logo, the text "New York Post" is displayed. A blue arrow points from the text "The user can visit the NY post using this button" to the "Visit the Site" button. The button is a red rectangle with white text.

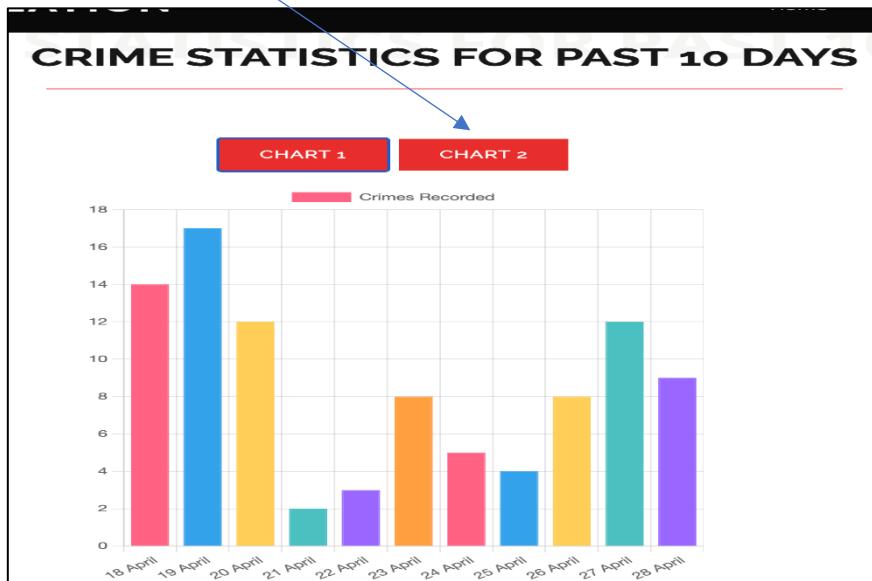
NEWS FEED ARE EXTRACTED FROM THE FOLLOWING SOURCE

New York Post

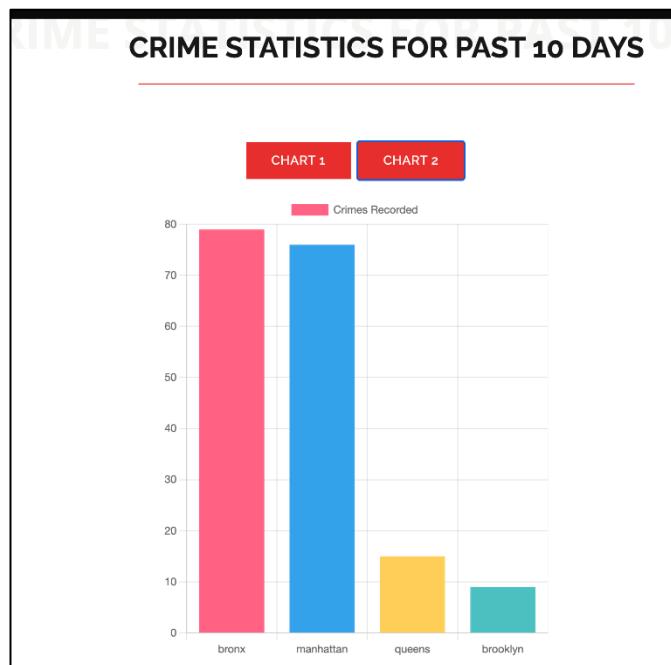
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Visit the Site

2. This Graph shows the number of crimes occurred for the past 10 days. The user can switch to the second chart by clicking Chart 2



3. This Graph shows the number of crimes occurred borough wise.



4. All the coordinates are then mapped onto the map of New York which the user can view.
- Number show on the Cluster is number of coordinates within that area
 - The area the cluster covers can be viewed by hovering over the cursor over the cluster

