The Battle of Neighborhoods

Popular Venue and neighborhood crime in Uptown Chicago Community

This presentation is part of Applied Data Science Capstone

Introduction

Project Idea

Chicago uptown is also famous for its ethnic restaurant, so someone may curious about which ethnic restaurants are dominant around this community or are the whole uptown community has same characteristic or they have some dissimilarity. Again few Chicago area are well known for its high crime rate. So this project will find out about crime of the neighborhoods.

For who this project is done?

If you are planning to have trip to Northside Chicago soon, than this project is plan and executed for you. Before reached to your destination if you get chance to read this report than BAM!!! You already know where to go

Data Description

Please go to following links to get the data used in this project

- https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present/ijzp-q8t2

- https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Chicago

- https://www.latlong.net/

- Foursquare API to get top 100 venues of each neighborhood

Name of Chicago Uptown neighborhood

- Buena Park

- Clarendon Park

- Margate Park

- New Chinatown

- Sheridan Park

- Uptown

Method used

In this problem we want to explore if all the six neighborhood at uptown Chicago is same or they can be grouped in a cluster. Clustering is considered an unsupervised learning method since we don't have the ground truth to compare the output of the clustering algorithm to the true labels to evaluate its performance. So here we will use **Kmeans algorithm** which is considered as one of the most used clustering algorithms due to its simplicity.

There is a popular method known as **elbow method** which is used to determine the optimal value of K to perform the K-Means Clustering Algorithm.
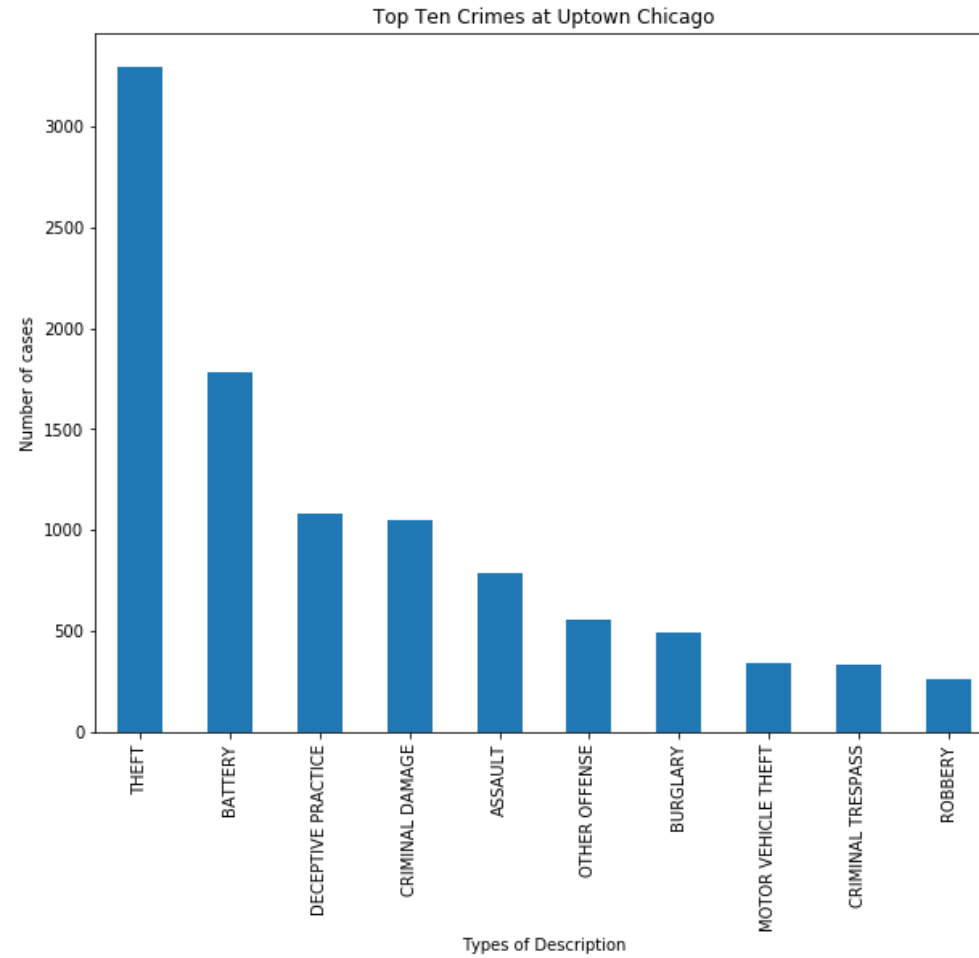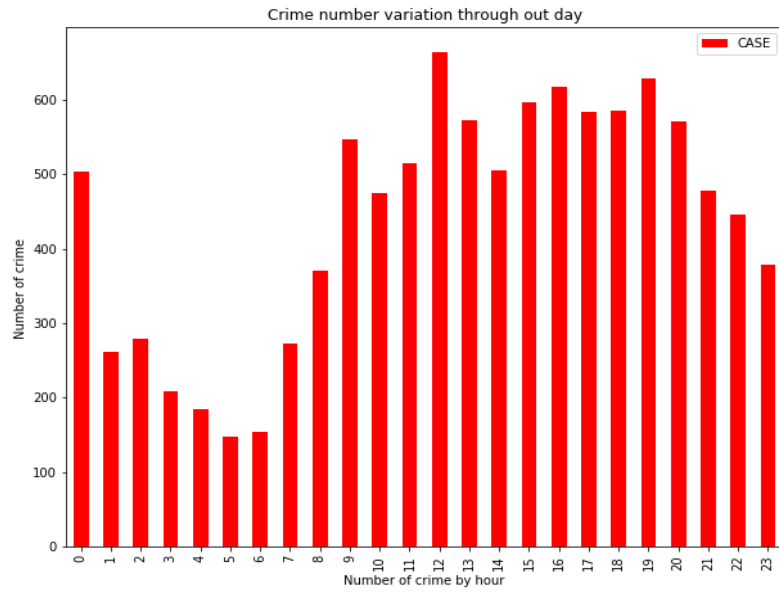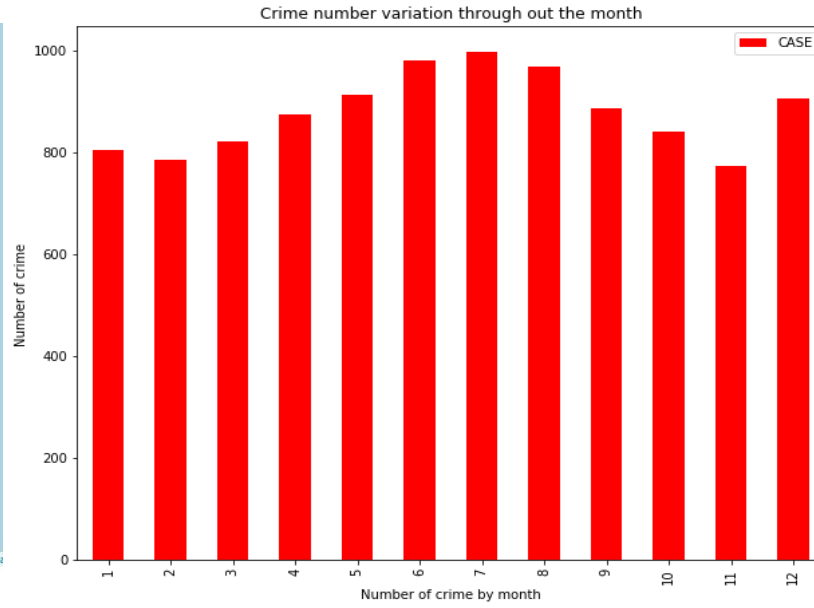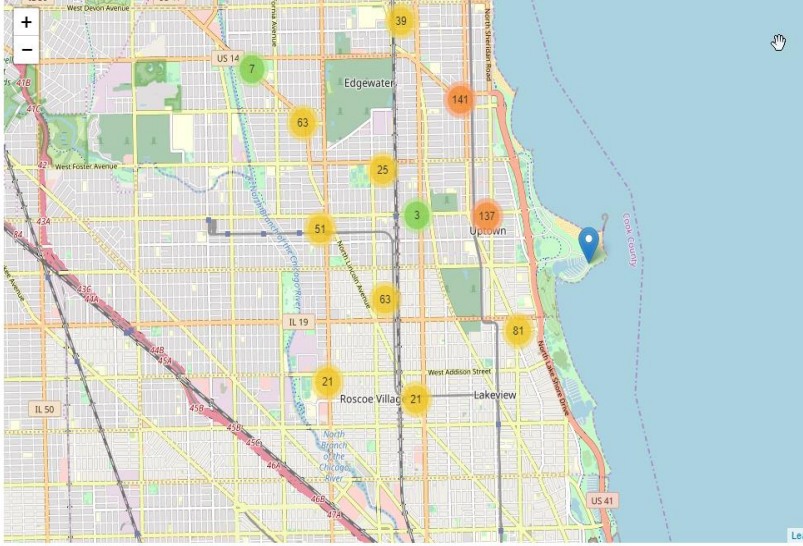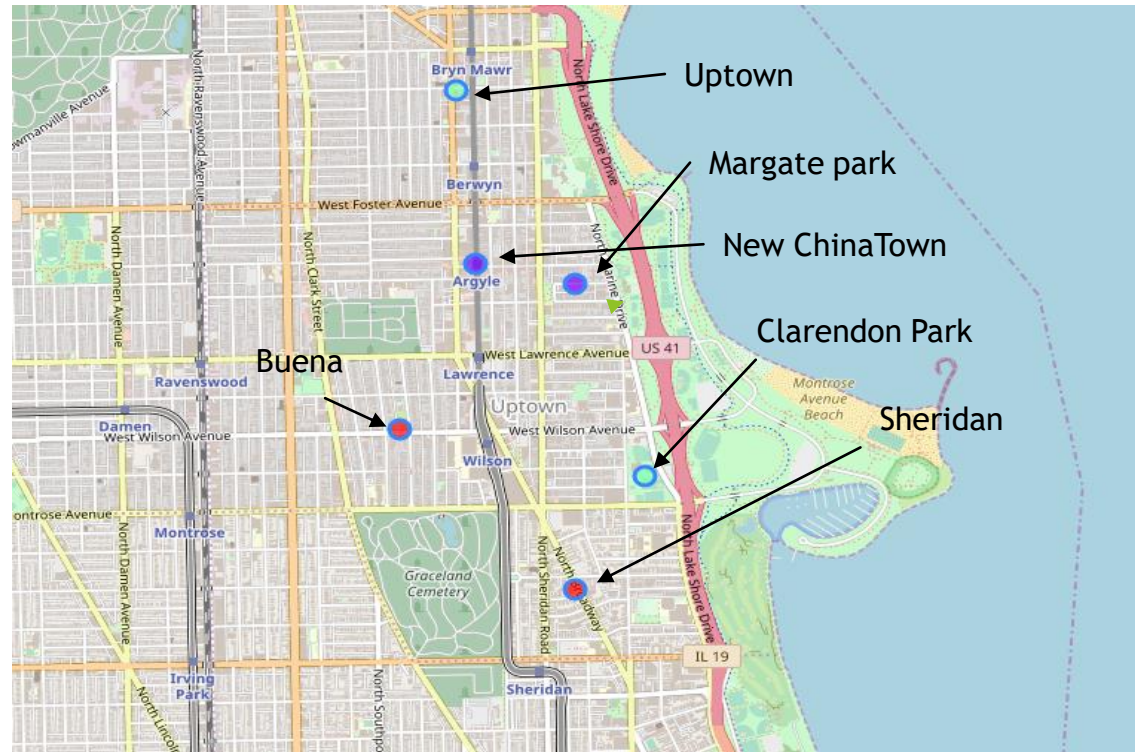
We find our K = 3
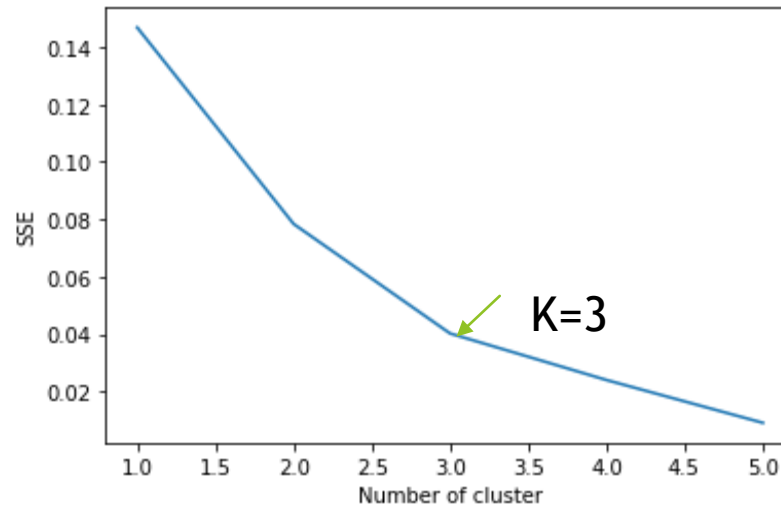
Some Visualizations

Top 3 crimes
- Theft
- Battery
- Deceptive practice
- Criminal damage
- Assaults

Top Ten Crimes at Uptown Chicago
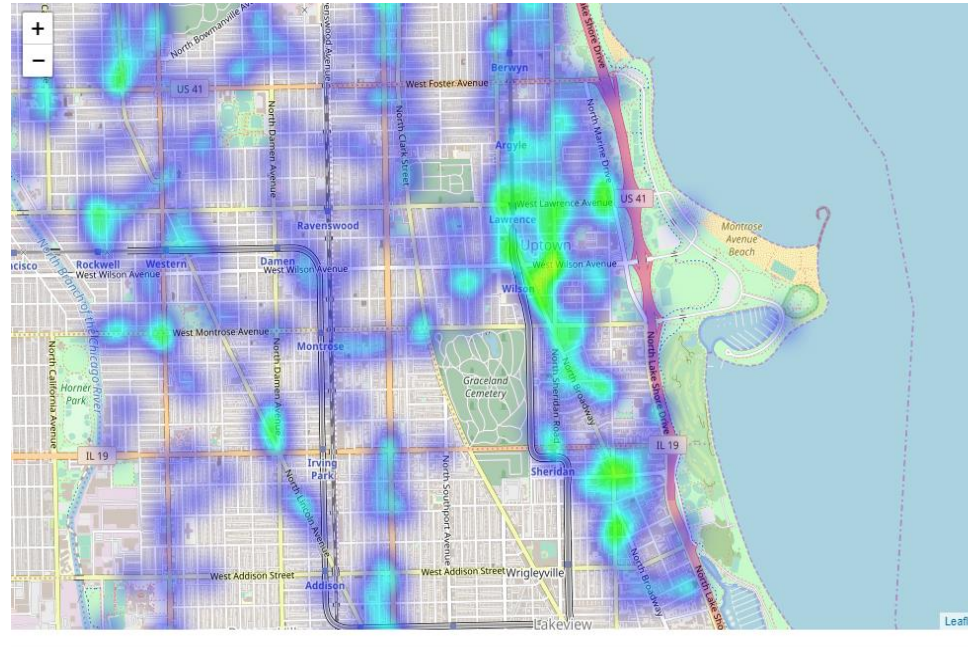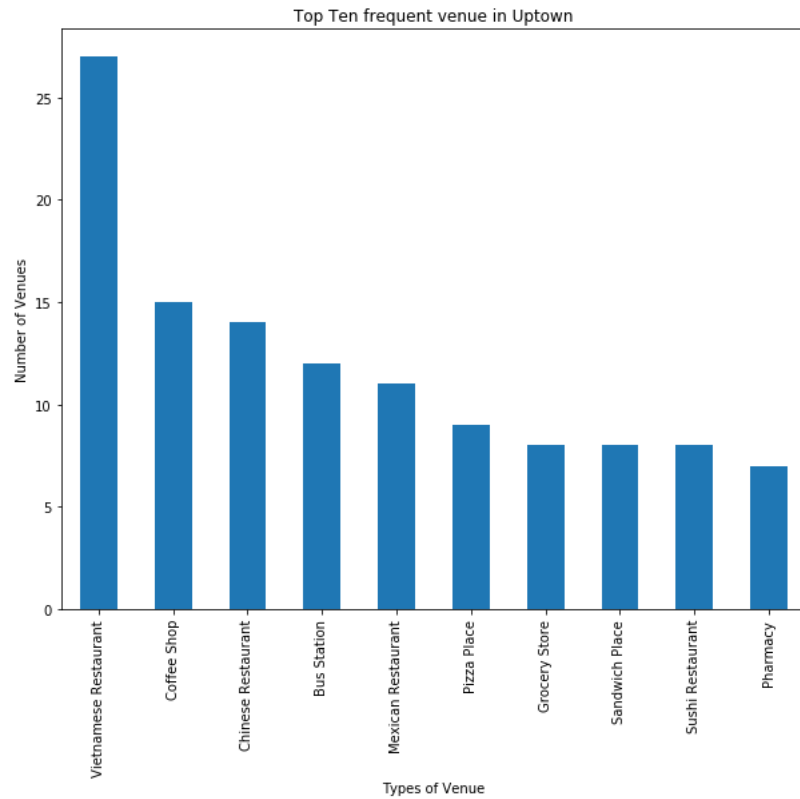
Some Visualizations….

Findings and recommendation

Buena Park and Sheridan Park are clustered together in cluster 0
If we look carefully at Cluster 1 Margate and New Chinatown [It is still marked as its old name Argyle neighborhood on map] are grouped together. Now in Cluster 2(shown mint in clustered map) consist of Clarendon Park and Uptown. Those two neighborhood are not neighbor to each other.

Top Ten frequent venue in Uptown

...So yes these Chicago Uptown Community neighborhoods has lots of verity of ethnic cuisine and you don't need to be too much worried about crime ,just be cautious and enjoy your food!!!!

Thank you