CAPSTONE PROJECT COURSERA: FINDING LOCATION IN BROOKLYN TO OPEN UP A BAKERY

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FINDING THE BEST LOCATION IN BROOKLYN TO OPEN A BAKERY

- > As Brooklyn has a lot of neighbourhoods opening a new bakery at the right spot is very crucial.
- > The neighbourhoods where lots of bakery are already there should be rejected as it would create a lot of competition for a new bakery owner.
- > Similar type of venues like café and coffee shop in the area would suggest the area has potential for a bakery.

DATA ACQUISITION AND CLEANING

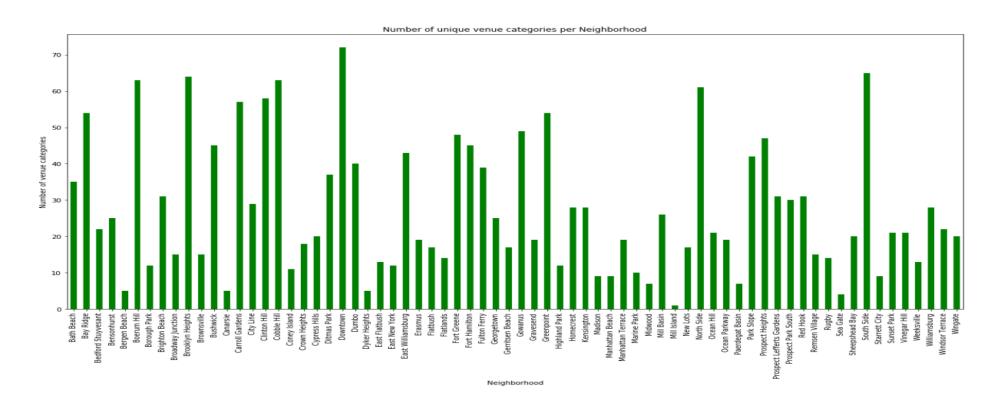
- Neighbourhoods data of Brooklyn was obtained from dataset link: https://geo.nyu.edu/catalog/nyu_2451_34572.
- > The data of Brooklyn Neighbourhoods was filtered from the dataset.
- > The venue details were added by using Foursquare API.

METHODOLOGY

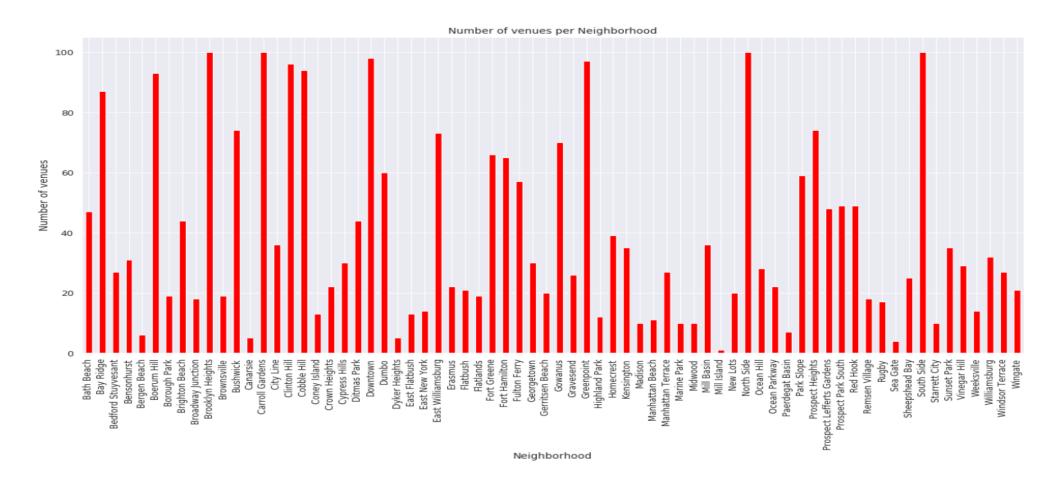
- Venue categories and venues were analysed using bar graphs.
- > Frequency of desired venue was determined in each neighbourhood using violin graph.
- Clusters were formed using K-means Algorithm
- > Tools and methods used:
- Foursquare API places
- K-means Clustering

DATA ANALYSIS

Firstly the venue categories were analysed for each neighbourhood



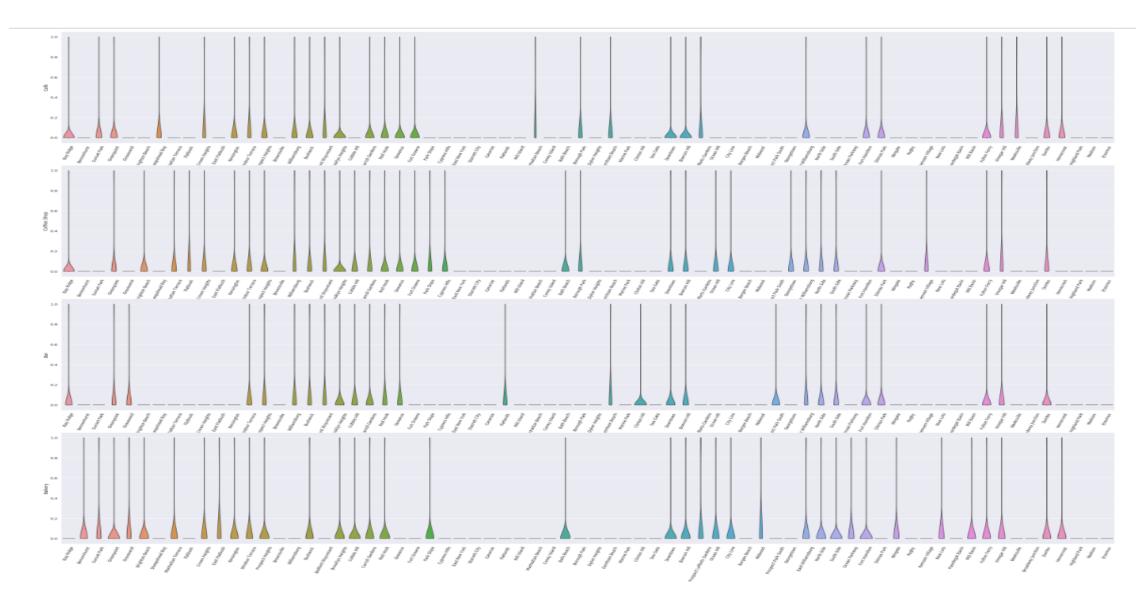
The venues number was analysed for each neighbourhood



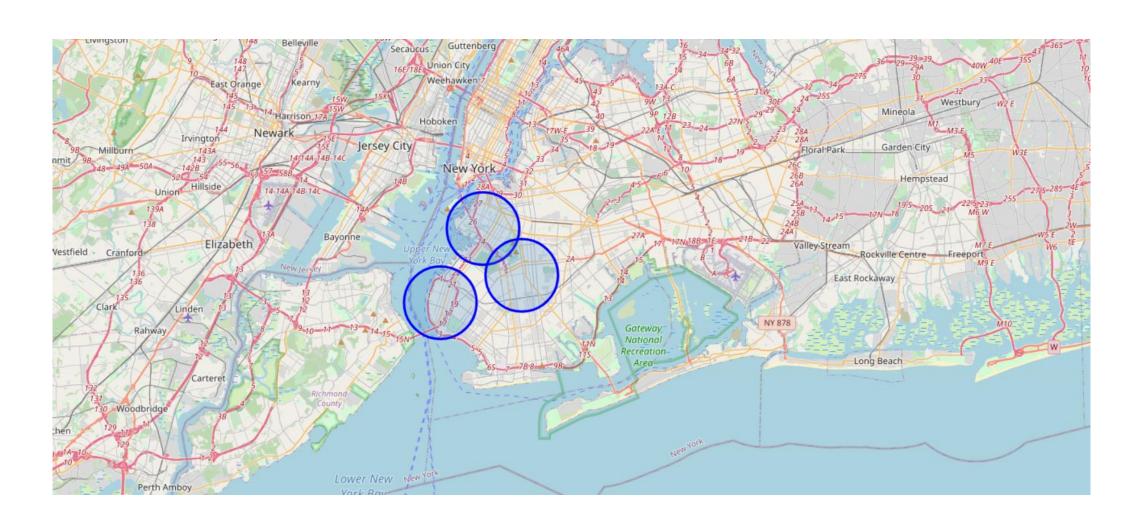
Data frame with top 10 venues from each neighbourhood was created

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Bath Beach	Chinese Restaurant	Pizza Place	Pharmacy	Italian Restaurant	Bubble Tea Shop	Fast Food Restaurant	Gas Station	Park	Cantonese Restaurant	Surf Spot
1	Bay Ridge	Spa	Italian Restaurant	Greek Restaurant	Pizza Place	Pharmacy	American Restaurant	Chinese Restaurant	Bar	Bagel Shop	Mediterranean Restaurant
2	Bedford Stuyvesant	Pizza Place	Coffee Shop	Bar	Café	Deli / Bodega	Park	Discount Store	Cocktail Bar	New American Restaurant	Tiki Bar
3	Bensonhurst	Chinese Restaurant	Italian Restaurant	Sushi Restaurant	Donut Shop	Ice Cream Shop	Liquor Store	Russian Restaurant	Cha Chaan Teng	Noodle House	Sporting Goods Shop
4	Bergen Beach	Harbor / Marina	Playground	Donut Shop	Athletics & Sports	Baseball Field	Fish Market	Fish & Chips Shop	Filipino Restaurant	Field	Fast Food Restaurant
5	Boerum Hill	Dance Studio	Coffee Shop	Bar	French Restaurant	Furniture / Home Store	Bakery	Sandwich Place	Arts & Crafts Store	Gym / Fitness Center	Spa
6	Borough Park	Bank	Pizza Place	Pharmacy	Fast Food Restaurant	Hotel	Grocery Store	Coffee Shop	Restaurant	Chinese Restaurant	Café
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Frequency of desired venues in each neighbourhood was analysed

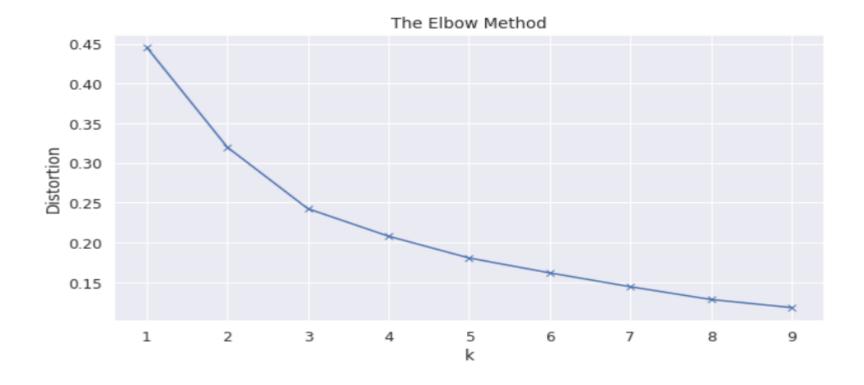


Prelimniary analysis of best 3 neighbourhoods was made to cross verify our final result

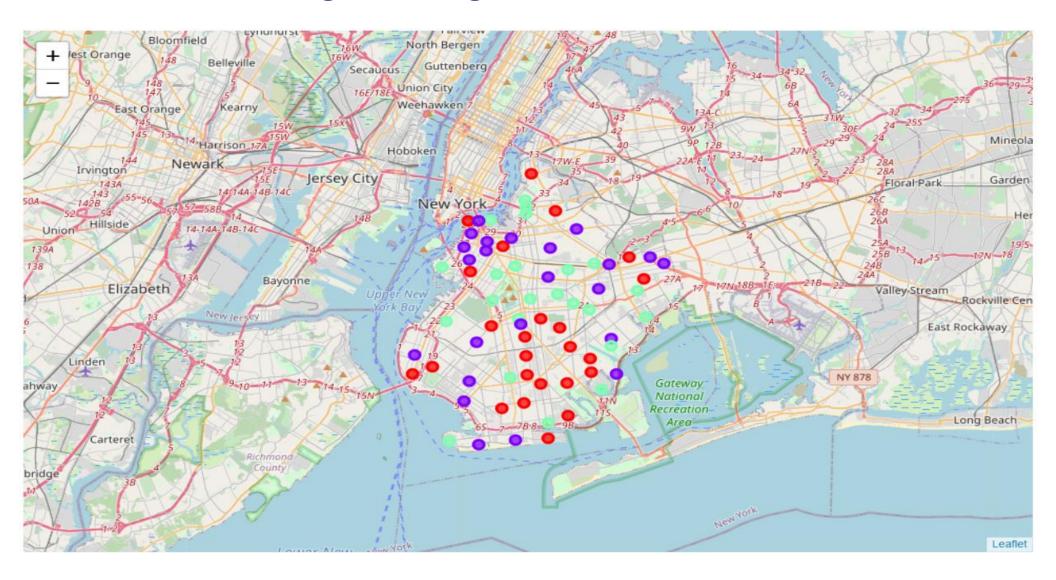


ALGORITHM

Optimum number of clusters were determined to apply k-means algorithm (which came out to be 3)



The clusters were formed using K-means algorithm



CONCLUSION AND FUTURE SCOPE

- Built a useful model to obtain relevant locations to open a bakery in Brooklyn
- Accuracy of model has room for improvement
- Use more data like area demographics and income and spending capacity of people to improve the model.