

Analysis of food in restaurants

# Capstone Project



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## Background & Datasets

# Introduction

Food access is a primary example of how a poor neighborhood can hinder health. In the United States, we are paying increasing attention to lack of access to healthy, affordable foods. We have good reasons to be paying attention to this issue: Over one-third of American adults are obese, and 15 percent of households are food insecure.

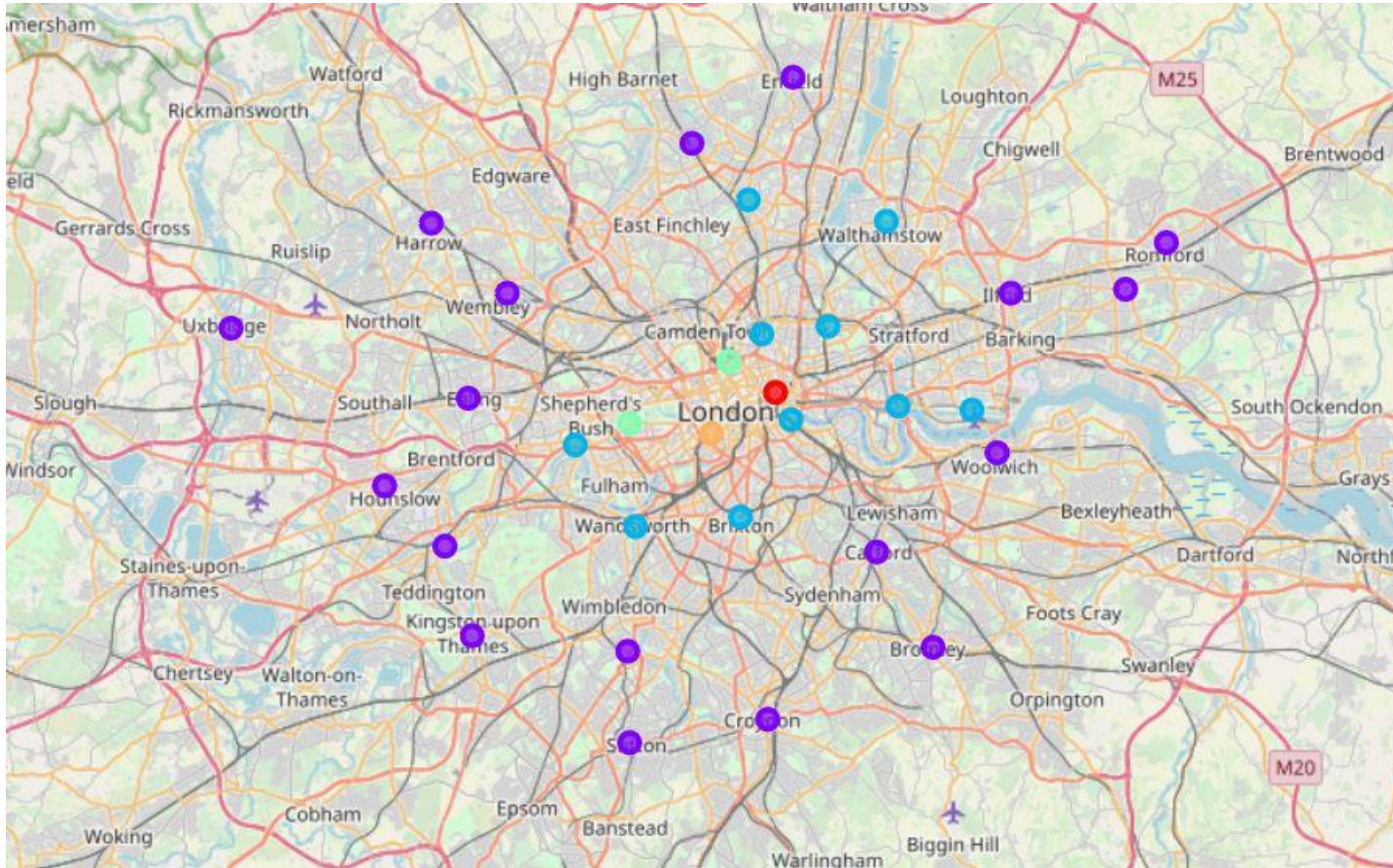
Datasets used :

- List of London boroughs obtained from web scraping on the Wikipedia website
- Categories of food and the restaurants in those boroughs with the Foursquare API
- Several information on a borough (demographic, economic...) from this source :

<https://data.london.gov.uk/dataset/london-borough-profiles>



# Clustering Analysis



**K-means** with 5 clusters:

- Cluster 0 - Red dot:  
City of London
- Cluster 1 – Purple dots
- Cluster 2 – Blue dots
- Cluster 3 – Green dots:  
Camden, Kensington  
and Chelsea
- Cluster 4 – Orange dot:  
Westminster

# Demographic situation

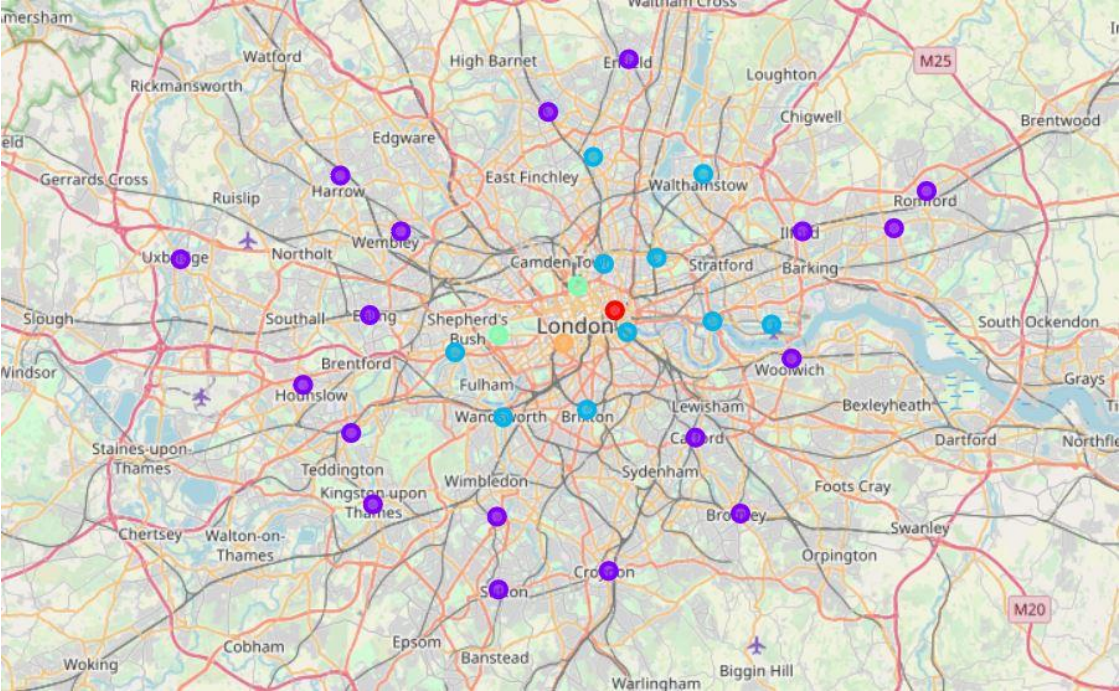
## Hypothesis :

- The more we get further away from the center the more likely there will be more younger people
- The outer circle is the poorest area as there are less working people
- The inner circle is the most dynamic area as there is a lot of working people

Proportion_of_population_aged_0-15,_2015	Proportion_of_population_of_working-age,_2015	Proportion_of_population_aged_65_and_over,_2015
0.000000	0.830769	0.766129
0.630098	0.252564	0.569444
0.497468	0.771538	0.192742
0.344937	0.603846	0.564516
0.284810	0.769231	0.459677



# Economic situation



Cluster 1

Cluster 2

Cluster 3

Cluster 4

Cluster 5

Vietnamese Restaurant	1.000000	Indian Restaurant	5.666667	Turkish Restaurant	4.166667	Malay Restaurant	2.000000	Russian Restaurant	1.000000
Portuguese Restaurant	1.000000	Fast Food Restaurant	5.600000	Mediterranean Restaurant	3.200000	Greek Restaurant	2.000000	Molecular Gastronomy Restaurant	1.000000
American Restaurant	1.000000	Chinese Restaurant	4.125000	Modern European Restaurant	3.000000	Kebab Restaurant	2.000000	Israeli Restaurant	1.000000
Arepa Restaurant	1.000000	Brazilian Restaurant	3.000000	Vegetarian / Vegan Restaurant	3.000000	Italian Restaurant	1.714286	Cantonese Restaurant	1.000000
Austrian Restaurant	1.000000	Malay Restaurant	3.000000	Thai Restaurant	2.888889	Modern European Restaurant	1.666667	Seafood Restaurant	1.000000
Cantonese Restaurant	1.000000	Thai Restaurant	2.777778	English Restaurant	2.800000	Japanese Restaurant	1.545455	Scottish Restaurant	1.000000
Caucasian Restaurant	1.000000	Turkish Restaurant	2.666667	Tapas Restaurant	2.666667	Scandinavian Restaurant	1.500000	French Restaurant	1.000000
Empanada Restaurant	1.000000	Asian Restaurant	2.400000	Restaurant	2.647059	Middle Eastern Restaurant	1.454545	Latin American Restaurant	1.000000
Falafel Restaurant	1.000000	Italian Restaurant	2.333333	Chinese Restaurant	2.500000	Mediterranean Restaurant	1.400000	Pakistani Restaurant	1.000000
French Restaurant	1.000000	American Restaurant	2.000000	Indian Restaurant	2.400000	English Restaurant	1.400000	North Indian Restaurant	1.000000
Israeli Restaurant	1.000000	Sushi Restaurant	2.000000	Spanish Restaurant	2.333333	Chinese Restaurant	1.375000	Restaurant	0.764706
Jewish Restaurant	1.000000	Doner Restaurant	2.000000	Mexican Restaurant	2.333333	Turkish Restaurant	1.333333	American Restaurant	0.750000
North Indian Restaurant	1.000000	Mediterranean Restaurant	2.000000	Italian Restaurant	2.285714	Tapas Restaurant	1.333333	Modern European Restaurant	0.666667
Afghan Restaurant	1.000000	Kebab Restaurant	2.000000	Japanese Restaurant	2.090909	Ramen Restaurant	1.250000	Mediterranean Restaurant	0.600000
Udon Restaurant	1.000000	English Restaurant	2.000000	Cantonese Restaurant	2.000000	Asian Restaurant	1.200000	Indian Restaurant	0.600000
Restaurant	1.000000	Eastern European Restaurant	1.500000	Dumpling Restaurant	2.000000	Lebanese Restaurant	1.200000		
Sushi Restaurant	1.000000	German Restaurant	1.500000	Brazilian Restaurant	2.000000	Persian Restaurant	1.200000		
South American Restaurant	1.000000	Dim Sum Restaurant	1.500000	Moroccan Restaurant	2.000000	French Restaurant	1.181818		
		Restaurant	1.411765						
		Mexican Restaurant	1.333333						

## Improvements

# Conclusion

- Get more data/restaurants from other API
- Understand the meaning behind a category  
“Restaurant”
- Add other features such as price of food for a restaurant, living standard of a borough...



The background is a blurred image of a desk. In the center, there is a stack of papers or documents, some of which are tied together with a string. To the left of the stack, a pen is visible. In the bottom right corner, a tablet or a piece of paper with a grid pattern is partially visible. The entire image has a warm, yellowish-orange gradient overlay.

Thank you