



The Battle of the Neighborhoods

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Capstone Project



Introduction: Business Problem

This report will be targeted to stakeholders interested in opening a Greek restaurant in London, UK

The goal of our project is dual:

1. Find out if opening a Greek restaurant in the center of London is a right choice compared to opening a restaurant of a different cuisine. Our decision will be based on analyzing the number of restaurants per cuisine.
2. Find the best location to open the restaurant. The candidate locations will be calculated based on the distance from other Greek restaurants, the number of restaurants in the vicinity and finally the distance from the center of London.



Data

In this project we will mainly use Venue & Geographical data in order to reach our conclusion. We will use:

- Google Maps API to obtain the coordinates of the center of London and the coordinates of our segmented candidate areas.
- Foursquare API to get information about the existing restaurants in the area. Mainly the data that will be useful to us will be location coordinates and cuisine type of every restaurant in the area.
- skgrange.github To get a JSON file containing the Borough borders of London.



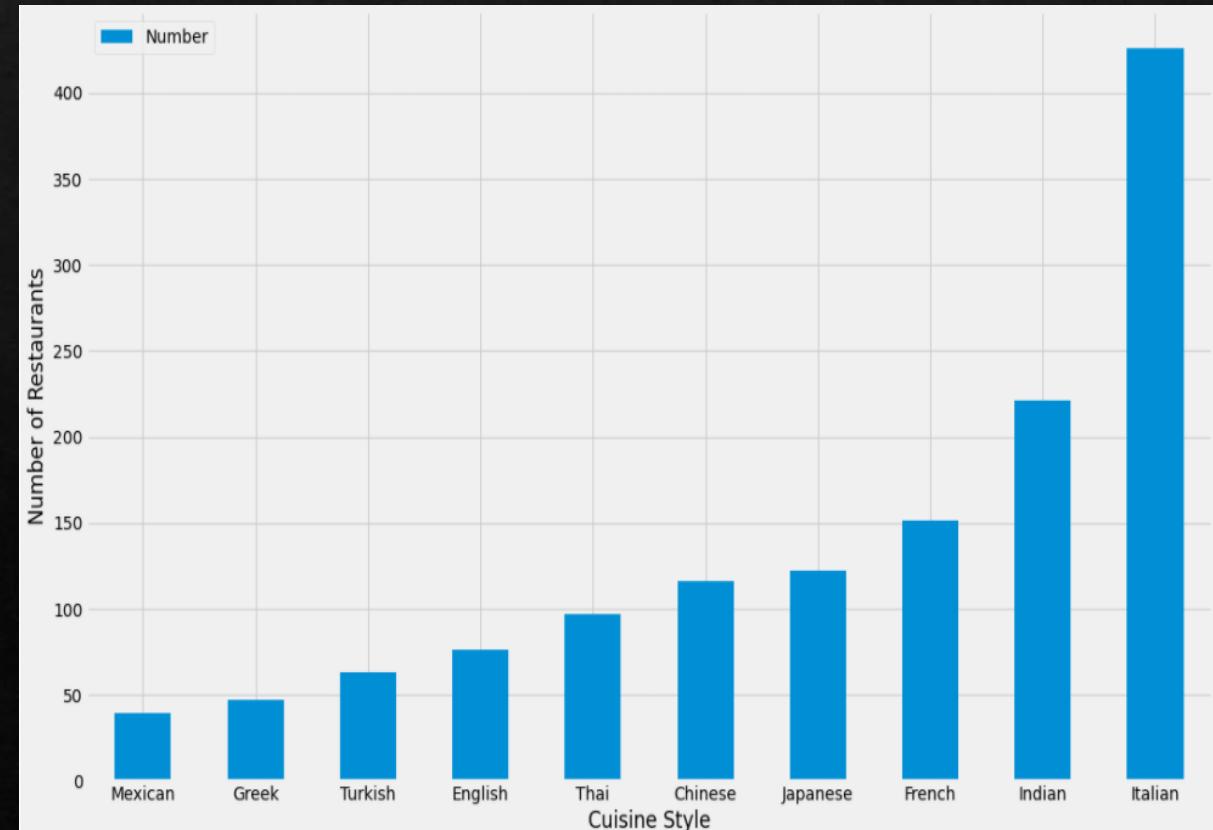
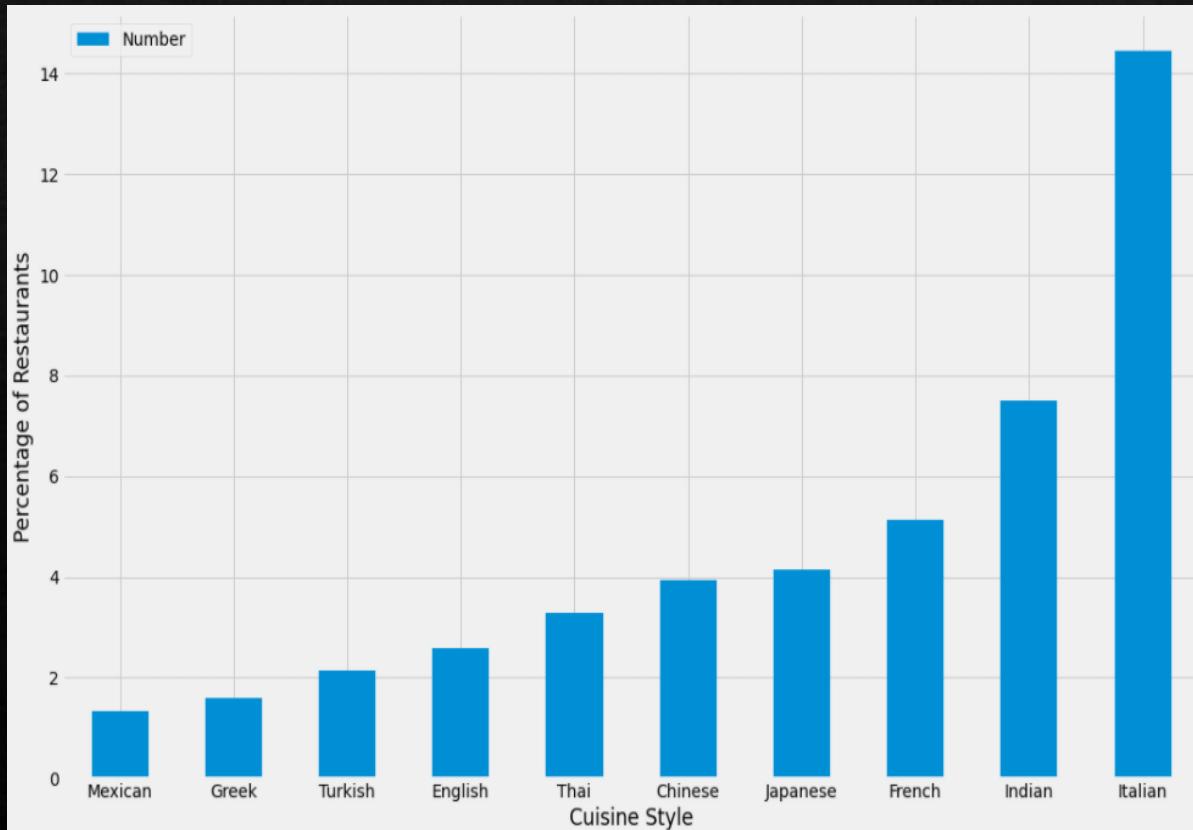
Methodology

Our goal is to find some promising locations for a Greek restaurant. These are the steps to reach our conclusion

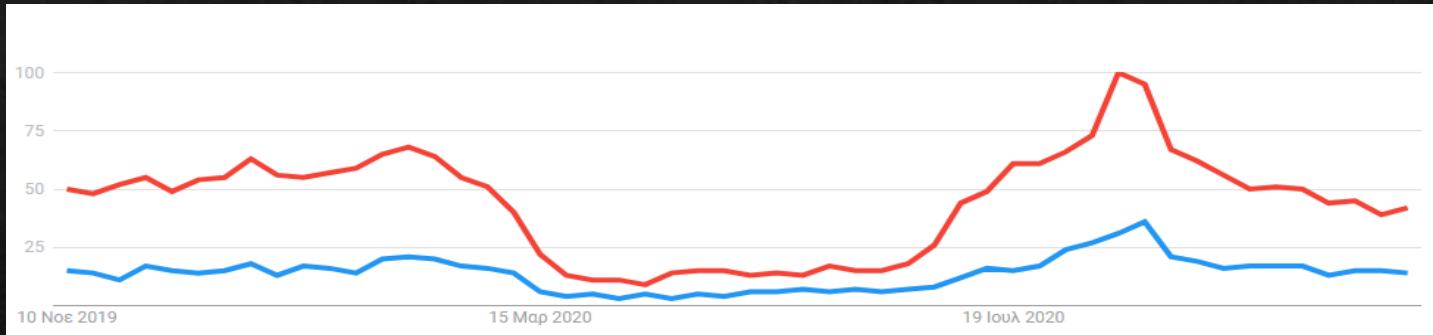
- Locate a low-density area close to the center of London
- Locate promising locations inside the chosen low-density location
- Cluster the locations using K-means
- Find the addresses of the centers of these clusters

LONDON VENUES DATA ACQUISITION

To acquire data on venues in London we used the Foursquare API. We acquired info on all the restaurants in the area and also checked opening a Greek restaurant is a good idea based on competition.



THOUGHTS ON GREEK CUISINE AS THE RIGHT PICK - GOOGLE TRENDS COMPARISON



According to our data Greek restaurants make less than 2% of the total restaurants. This means that the competition in this specific type of cuisine is extremely low. One could ask though: Maybe there is a reason they make up only 2% of the restaurants. Maybe there isn't much interest towards Greek cuisine whatsoever.

According to Google Trends: In the last 12 months, in the area of London the google search terms "Greek Restaurant" and "Italian Restaurant" compared to each other have 24% and 76% respectively.

London

greek restaurant
italian restaurant

24%
76%



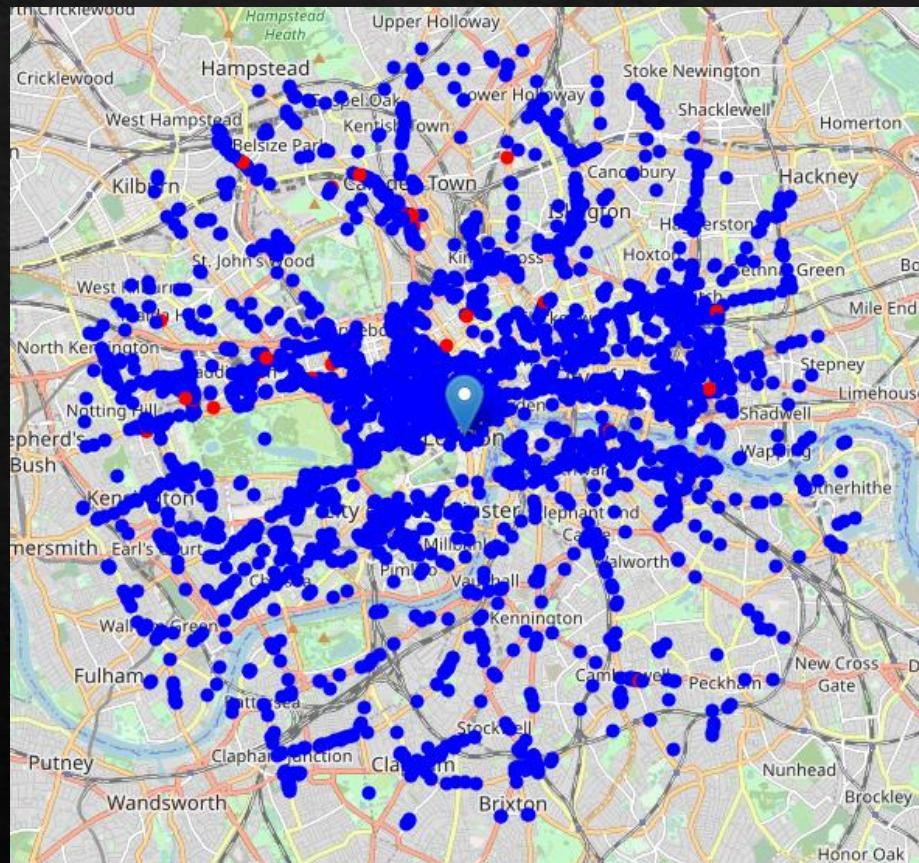
To get this into perspective: There are 426 Italian restaurants in the area we are studying, which make up for 76% of the searches compared to Greek restaurants. If we use that ratio/dynamic, we conclude that we should have 134 Greek restaurants in the area.

There are only 47.

While this isn't a very scientific approach, in my humble opinion there is correlation between Google searches of "Greek restaurant" and actual interest to dine in one.

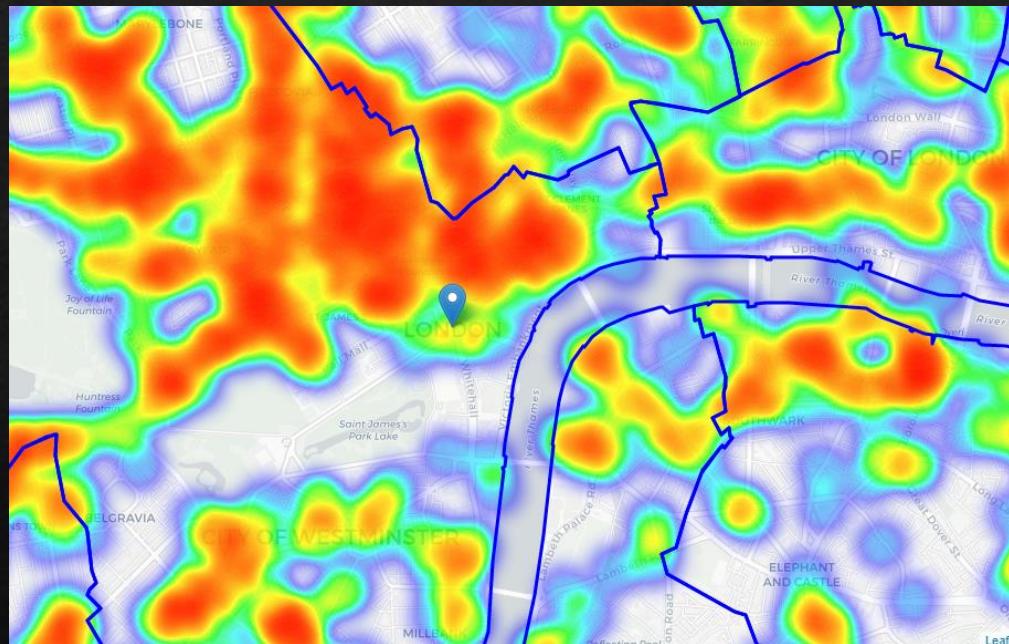
Statistically speaking, opening a Greek restaurant is a very good choice.

Map of all the restaurants in the area. The red ones are the existing Greek Restaurants.

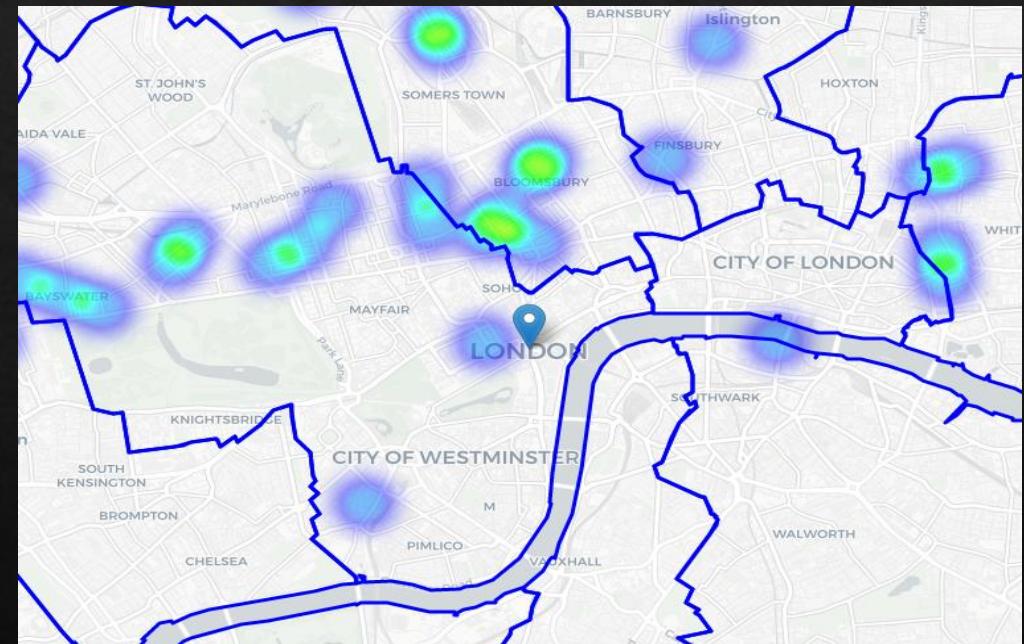


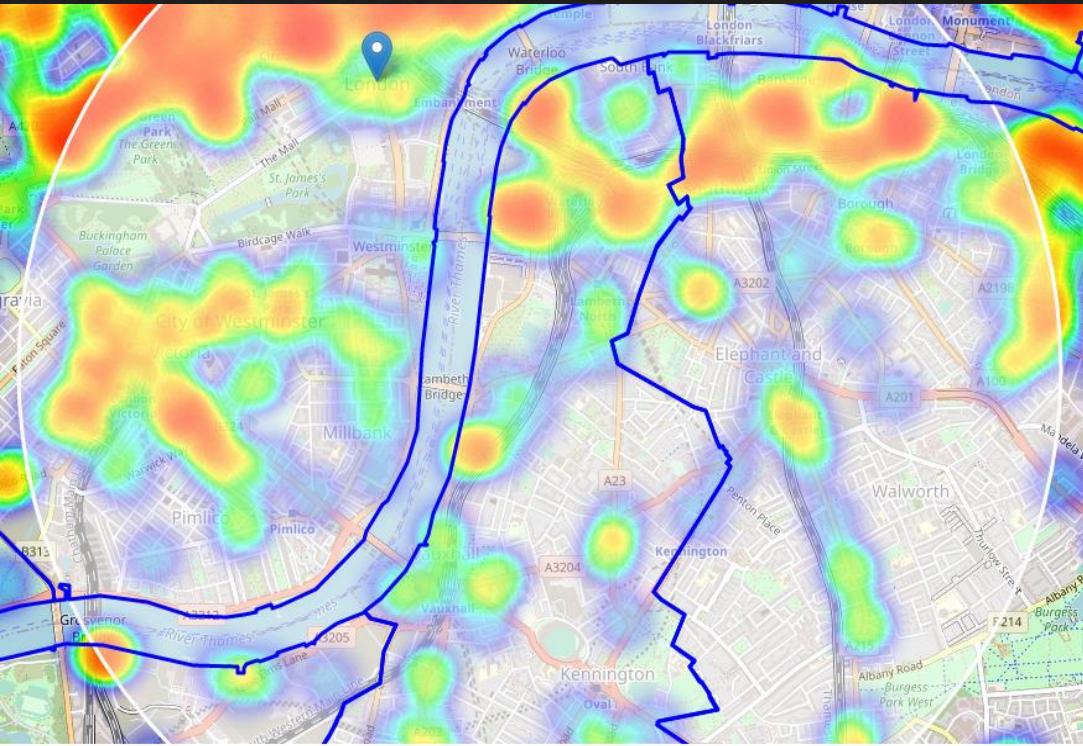
Heatmap Comparison

All Restaurants



Greek Restaurants





As expected, Greek restaurants are very few compared to all the restaurants in London. Meanwhile on the upper heatmap we can see there is a low-density area SE of the center of London. We are going to study only this area from now on.

Now let's keep only the locations inside this area that:

- Are more than 1500m away from a Greek Restaurant
- Have at least 3 restaurants nearby, to make sure people tend to eat there
- Have less than 5 restaurants nearby, to have a copeable amount of competitors

We used K-Means to make 10 clusters of those locations and calculated the centers of these clusters:

	Address	Km from Center
0	1 Manor Pl, Walworth, London SE17 3BD	2.994034
1	64 Kennington Oval, Vauxhall, London SE11 5SW	2.730628
2	183 Hercules Rd, South Bank, London SE1 7LD	1.523679
3	46 Ponton Rd, Nine Elms, London SW8 5AX	3.106011
4	4 Hackford Rd, Vassal, London SW9	3.448838
5	Darwin Court, 1 Crail Row, London SE17 1AD	3.353770
6	36 Royal Rd, London SE17 3NU	2.964097
7	131-137 Wandsworth Rd, Oval, London SW8 2LH	2.753090
8	23 Albert Embankment, Vauxhall, London SE1 7GG	1.903518
9	93 Renfrew Rd, Prince's, London SE11 4NJ	2.198406



Results and Discussion

Our results show:

- Opening a Greek Restaurant in London is a great choice
- Greek restaurants make up less than 2% of the total restaurants in London
- There are a lot of good low-density locations to open a Restaurant



Conclusion

The goal of this project was to provide stakeholders with promising locations for opening a Greek restaurant. We came up with 10 possible locations. Now the stakeholders should analyze and compare the locations based on other attributes like rent, availability, beauty of the location and many more. This is another project on its own.