Data Science Capstone Project – The Battle of Neighborhoods (Week 1)

Exploring Pizza restaurants in London using Foursquare API & Machine Learning

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Introduction : Business problem

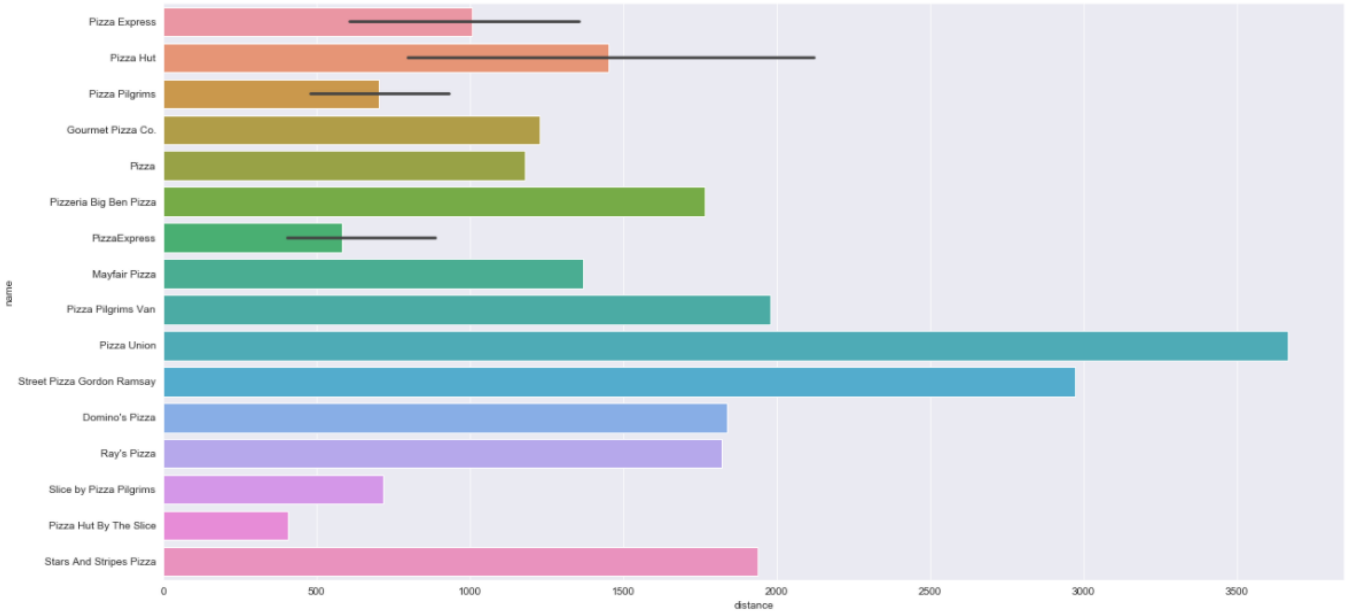
There are many Pizza restaurants in London who have rating and user tips. As a part of data science consulting project, I have been assigned analytics work to find optimal location from Central London having good ratings and maximum user tips. Since, there are lots of pizza restaurants in London, my project reports will help Pizza lovers who are new in London. We would also prefer locations as close to city center as possible.

Data Discussion:

The data has been collected from Foursquare API. After importing necessary libraries, to fetch the data from Foursquare API, we used the client ID and client secret. We added address as London and found the longitude and latitude.
Then with a suitable radius we added "Pizza" as a search query and the via URL we got the data in Jason file which in turn we converted into a dataframe
We found 30 pizza restaurant near London city center with their location details & address. Following is a cut snapshot of the data we found:

	id	name	categories	referralId	hasPerk	location.address	location.lat	location.lng	location.labeledLatLr
0	4b5061def964a520cb2127e3	Pizza Express	[{'id': '4bf58dd8d48988d1ca941735', 'name': 'P...	v-1624102622	False	450 Strand	51.508464	-0.126157	[{'label': 'display', 'l 51.5084640038466
1	4bc6005242419521ca66031d	Pizza Hut	[{'id': '4bf58dd8d48988d1ca941735', 'name': 'P...	v-1624102622	False	56/59 Strand	51.509410	-0.123401	[{'label': 'display', 'l 51.5094102802045
2	4b5e09fef964a520747a29e3	Pizza Express	[{'id': '4bf58dd8d48988d1ca941735', 'name': 'P...	v-1624102622	False	85 Victoria Street	51.497458	-0.135103	[{'label': 'display', 'l 51.4974582, 'lng
3	4c41b1e6520fa5935af3c9ac	Pizza Hut	[{'id': '4bf58dd8d48988d1ca941735', 'name': 'P...	v-1624102622	False	Piccadilly Circus, 29-31 Regent Street	51.509348	-0.134752	[{'label': 'display', 'l 51.5093476677347
4	4bcd8f10fb84c9b6f022223e	Pizza Hut	[{'id': '4bf58dd8d48988d1ca941735',	v-1624102622	False	19 Leicester Square	51.510849	-0.129475	[{'label': 'display', 'l 51.510849, 'lng

In Python, we used seaborn and matplotlib libraries for exploratory data analysis (EDA). The following horizontal bar graph indicates the Pizza restaurants with column length as distances from city center.



Then we used Folium library to visualize the geographical details of these restaurants on city map of London. This is mentioned in below map:


St. John's Wood
The Regent's Park
Somers Town
King's Cross
Hoxton
Bethnal Green
West Kilburn
Maida Hill
St Pancras
Shoreditch
Clerkenwell
Marylebone
Finsbury
Fitzrovia
Whitechapel
Paddington
City of London
Bayswater
Notting Hill
Shadwell
Kensington Gardens
Hyde Park
Wapping
Hyde Park Corner
Southwark
Knightsbridge
Lambeth
Kensington
City of Westminster
Bermondsey
South Kensington
Elephant and Castle
A100
Earl's Court
Brompton
Walworth
Pimlico
Chelsea
Vauxhall
Kennington
Old Kent Road
A215
Walham Green
Worlds End
Oval