

COURSERA CAPSTONE

IBM Applied Data
Science Capstone

Opening a new asian restaurant in
denver

by:

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Business Problem

- Location of the asian restaurant is one of the most important decisions that will determine whether the mall will be a success or a failure
- Objective: To analyse and select the best locations in the city of Denver to open a new asian restaurant
- Business question
 - In the city Denver if a property developer is looking to open a new asian restaurant , where would you recommend that they open it?



Data

- Data required ➤ List of neighbourhoods in Denver ➤ Latitude and longitude coordinates of the neighbourhoods ➤ Venue data, particularly data related to shopping malls
- Sources of data ➤ Wikipedia page for neighbourhoods (https://en.wikipedia.org/wiki/Category:Neighborhoods_in_Denver) ➤ Geocoder package for latitude and longitude coordinates ➤ Foursquare API for venue data



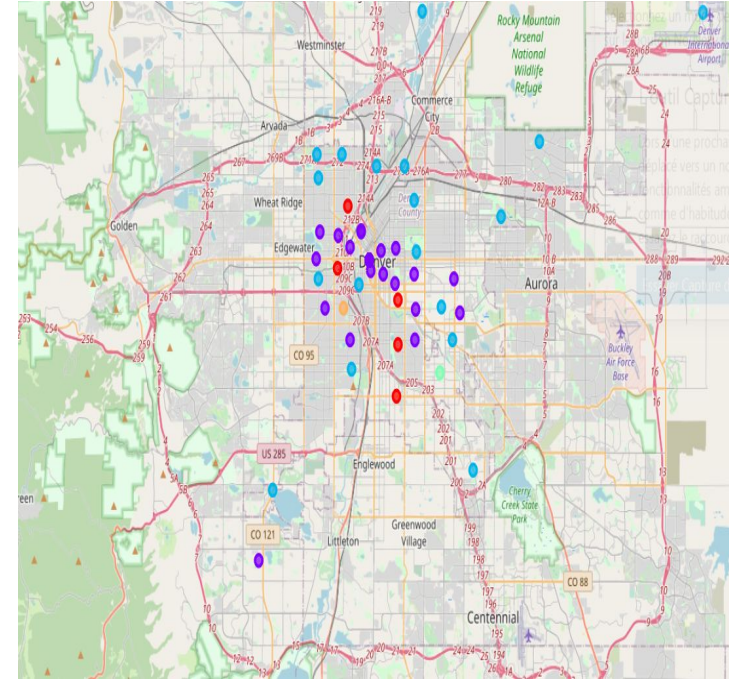
Methodology

- Web scraping Wikipedia page for neighbourhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Shopping Mall
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium



Results

- Categorized the neighbourhoods into 3 clusters :
 - Cluster 0: Neighbourhoods with moderate number of restaurant and high concentration
 - Cluster 1: Neighbourhoods with the highest number of existence of asian restaurant (blue)
 - Cluster 2: Neighbourhoods with no asian restaurant (purple)
 - Cluster 3 & 4: Neighbourhoods with low number of restaurant (green & orange)





Discussion

Most of the Asian Restaurant are concentrated in the central area of Denver, with the highest number in cluster 3(villa park). On the other hand, cluster 2 has very no Asian Restaurant in the neighborhoods.

In clusters 3 and 4 just one. Meanwhile, restaurant in cluster 1(central denver) are likely suffering from intense competition due to oversupply and high concentration of Asian Restaurant.

Therefore, this project recommends property developers to capitalize on these findings to open new restaurant in neighborhoods in cluster 2 3 or 4 with little to no competition.



Conclusion

- Answer to business question: The neighbourhoods in cluster 2 are the most preferred locations to open a new asian restaurant
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new restaurant

THANK YOU!