


IBM APPLIED SCIENCE CAPSTONE

Opening a New Chinese Food Restaurant
in the Los Angeles Metropolitan Area

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BACKGROUND

- Los Angeles metropolitan area is the second-largest metropolitan area in the United States and is known for its ethnic diversity. Ethnic diversity also brings food diversity.
 - Chinese restaurants have sprung up in this city
 - Investors are taking advantage of this trend to open more Chinese restaurants to cater to the demand.
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BUSINESS PROBLEM

Question: can we find an ideal spot and recommend types of Chinese cuisine that could maximize profits to Chinese restaurant investor



DATA


Data required

- List of cities in the Los Angeles metropolitan area.
- Geographic information of those city (latitude and longitude)
- Venue data from Foursquare

sources


- Wikipedia page for cities:
[https://en.wikipedia.org/wiki/Los_Angeles_metropolitan_area#
Urban_areas_of_the_region](https://en.wikipedia.org/wiki/Los_Angeles_metropolitan_area#Urban_areas_of_the_region)
- Geocoder package for latitude and longitude coordinates
- Foursquare API for venue information

METHODOLOGY

- Apply the BeautifulSoup Python package to extract cities list from Wikipedia page
 - Get latitude and longitude data via Geocoder
 - Extract venue information from Foursquare API
 - Filter venue category by Chinese restaurants
 - Apply K means clustering on the data
 - Analysis the result
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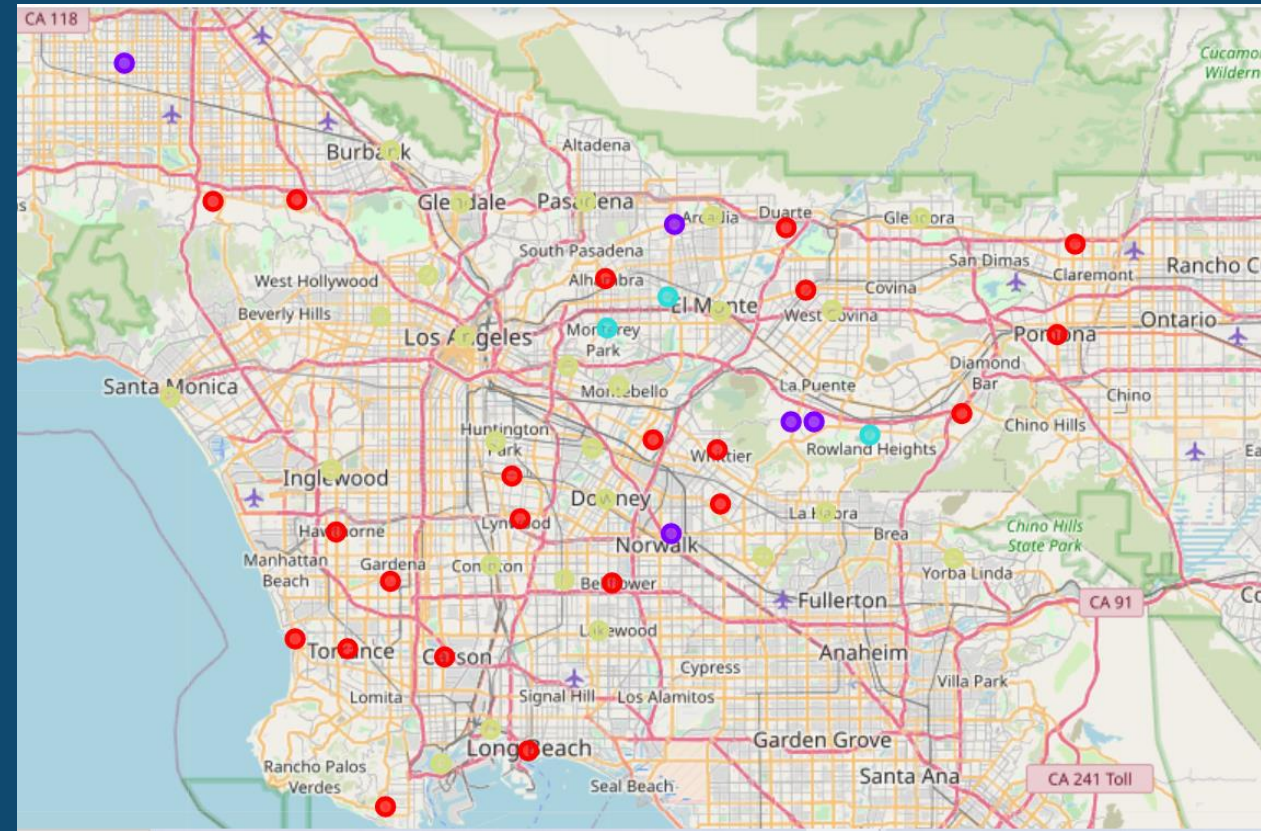
RESULTS

Neighborhoods are categorized into 4 cluster based on the frequency of occurrence for Chinese restaurant:

- Cluster 0 has low number of Chinese restaurant
 - Cluster 1 has moderate number of Chinese restaurant
 - Cluster 2 has high concentrate of Chinese restaurant
 - Cluster 3 has very less or no Chinese restaurant
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- Several white lines of varying lengths and orientations are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

DISCUSSION

- Most of the neighborhoods with the high and moderate concentrate of Chinese restaurants are gathered on the east side of Los Angeles
- Neighborhoods in cluster 2 are likely suffering from intense competition
- Neighborhood in cluster 1 have the single type of Chinese restaurants
- Neighbors in cluster 3 seem like a good opportunity, but need to do more investigations on the demand in those area
- Neighborhoods in cluster 0 could be a potentially ideal place



RECOMMENDATION

- Neighborhoods in cluster 0 has low competition and is good for opening a general Chinese restaurant
- Neighborhoods in cluster 1 has more demands and competition but could take advantage of the diversified restaurants to open specific types of Chinese restaurants such as Szechuan Restaurant or Dim Sum restaurants



THANK YOU !

