

# Capstone Project - The Battle of Neighborhoods

## Foreign restaurants in Beijing

December 13, 2020

# Introduction

In this project we will try and identify ideal districts in Beijing to open a foreign cuisine restaurant.

- ▶ Beijing is a world-renowned food capital
- ▶ mostly chinese cuisine
- ▶ open to international culinary traditions, in particular korean, japanese and italian.

Ideal places to taste foreign cuisine might still be limited to specific areas.

# Data and Methodology

- ▶ districts of Beijing will be scraped from the districts table available on Wikipedia
- ▶ geospatial coordinates for each district will be obtained via geocoder class of GeoPy Python library
- ▶ all the venues in each neighborhood will be collected through Foursquare API and filtered to get only restaurants and pizzerias
- ▶ neighbourhoods will be clustered through the K-Means algorithm ( $n = 2$ )
- ▶ results will be visualised with the aid of the folium Python library.

# Results & Discussion

The two clusters seem to partly reflect a division between neighborhoods where almost exclusively Chinese restaurants are found...

	Chinese	Area (km <sup>2</sup> )	Population (2010 census)[2]	Density (/km <sup>2</sup> )	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	东城区	40.6	919000	22635	39.93264	116.41834	0	Pizza Place	Dumpling Restaurant	Chinese Restaurant	Mexican Restaurant	Peking Duck Restaurant
1	西城区	46.5	1243000	26731	39.93317	116.37337	0	Fast Food Restaurant	Chinese Restaurant	Pizza Place	Asian Restaurant	Yunnan Restaurant
2	朝阳区	470.8	3545000	7530	39.95462	116.50290	0	Japanese Restaurant	Chinese Restaurant	New American Restaurant	Asian Restaurant	Dumpling Restaurant
5	海淀区	426.0	3281000	7702	39.99064	116.28868	0	Chinese Restaurant	Pizza Place	Korean Restaurant	Fast Food Restaurant	Xinjiang Restaurant
7	房山区	1866.7	945000	506	39.69833	115.99250	0	Restaurant	Chinese Restaurant	Fast Food Restaurant	Dumpling Restaurant	Hubei Restaurant
9	顺义区	980.0	877000	895	40.12175	116.64783	0	Italian Restaurant	Zhejiang Restaurant	Dumpling Restaurant	Hubei Restaurant	Hotpot Restaurant
13	平谷区	1075.0	416000	387	40.14554	117.10948	0	Fast Food Restaurant	Australian Restaurant	Middle Eastern Restaurant	Chinese Restaurant	Zhejiang Restaurant

# Results & Discussion

..and neighborhoods that display a mixture of Chinese and foreign cuisine.

	Chinese	Area (km <sup>2</sup> )	Population (2010 census)[2]	Density (/km <sup>2</sup> )	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
3	丰台区	304.2	2112000	6943	39.84757	116.27227	1	Fast Food Restaurant	Chinese Restaurant	Zhejiang Restaurant	Dumpling Restaurant	Hubei Restaurant
4	石景山区	89.8	616000	6860	39.91124	116.18766	1	Fast Food Restaurant	Pizza Place	Zhejiang Restaurant	Italian Restaurant	Hubei Restaurant
6	门头沟区	1331.3	290000	218	39.93819	116.09307	1	Fast Food Restaurant	Zhejiang Restaurant	Dumpling Restaurant	Hubei Restaurant	Hotpot Restaurant
8	通州区	870.0	1184000	1361	39.90395	116.66183	1	Fast Food Restaurant	Chinese Restaurant	Zhejiang Restaurant	Dumpling Restaurant	Hubei Restaurant
12	怀柔区	2557.3	373000	146	40.32353	116.63076	1	Fast Food Restaurant	Zhejiang Restaurant	Dumpling Restaurant	Hubei Restaurant	Hotpot Restaurant
14	密云区	2335.6	468000	200	40.37587	116.84191	1	Fast Food Restaurant	Zhejiang Restaurant	Dumpling Restaurant	Hubei Restaurant	Hotpot Restaurant

# Results & Discussion

Unexpectedly, the neighborhoods in the very core centre of the city seem less international and more focused on Chinese food.



# Conclusion

- ▶ The results could elucidate on most likely areas where to find international cuisine restaurants.
- ▶ There seems to be two categories of neighborhoods, one with an extremely large prevalence of Chinese cuisine restaurants, the other with a mix of local and international cuisine venues.
- ▶ The latter category is mostly situated at the outskirts of the city.