

Finding neighborhoods for new Restaurants

1. Introduction

1.1 Problem

Opening new restaurants are difficult to do, especially in neighborhoods that have not had a particular cuisine available so close before. Due to the size and diversity of Chicago, our problem is to find those neighborhoods where we will have low amount of competitors (other Asian restaurants). We want to avoid neighborhoods where they are saturated with Asian cuisines, nor are close to other neighborhoods with Asian cuisines as their top restaurant.

1.2 Interest

Business investors looking to invest in new restaurants, or new restaurateurs looking to open a new restaurant. Though the purpose of this report is focused on Asian cuisines, it can be changed to any other cuisines.

2. Data acquisition and cleaning

2.1 Data sources

The neighborhoods around Chicago is scraped from an open source website (www.geonames.org). This site provided both the cities and the coordinates to be used in Four square API. Venue data to do additional analysis is pulled using Foursquare API.

2.2 Data Cleaning

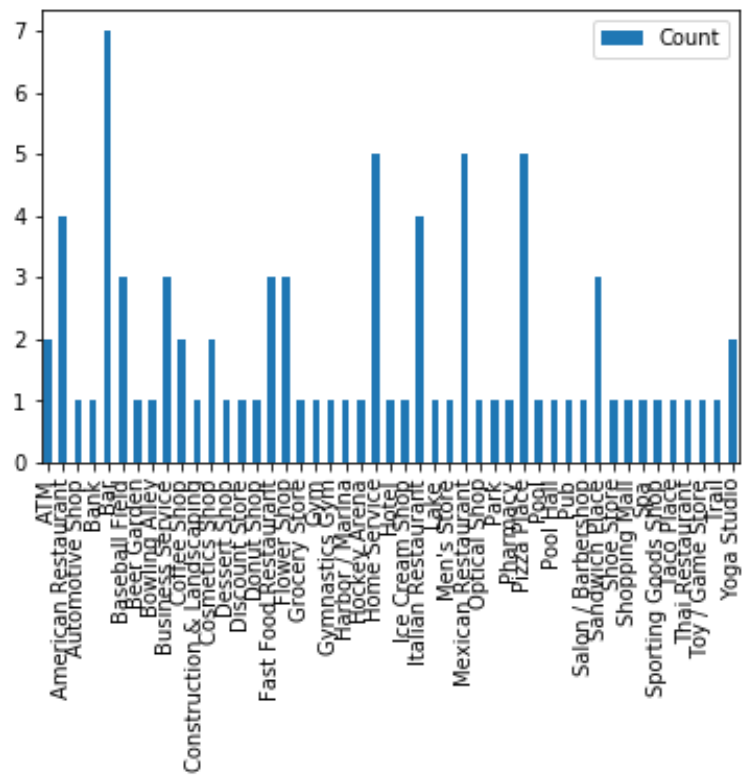
Neighborhood data was scraped from the aforementioned website. From this point, using the coordinates provided, the Foursquare API was called to pull all venue data around the neighborhoods. The two data sets are then combined and reduced to only the top 5 venues per location as each location can have up to 200+ different venue types.

3. Exploratory Data Analysis

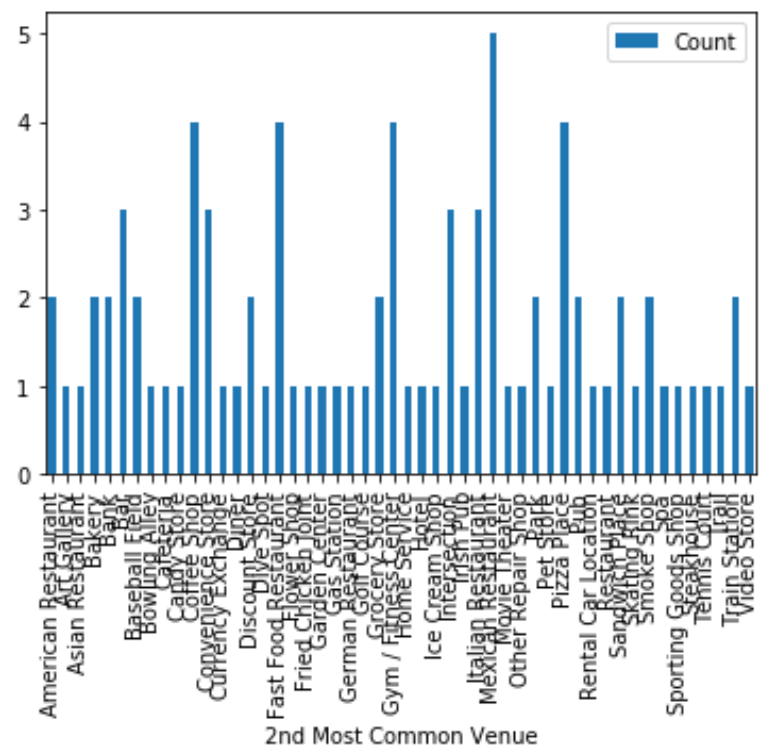
At this point, there were multiple cities to choose from, but some had as few as 2-3 venues. The decision was made to do at least locations with a minimum of 5 venues. This will allow for a selection of neighborhoods where there is a decent number of traffic; a business, especially a restaurant would not succeed if there is not enough traffic (see sample data table to the right). This reduced the initial selection size from 129 neighborhoods to 85.

City	Venue
Addison	12
Alden	3
Algonquin	6
Antioch	3
Arlington Heights	74
Barrington	27
Bartlett	19
Beecher	1
Bellwood	13
Bensenville	5
Berkeley	14
Berwyn	16
Bloomington	1
Blue Island	24
Braceville	2
Braidwood	2
Buffalo Grove	16
Calumet City	3
Carol Stream	21
Carpentersville	9
Cary	2
Channahon	4

Based on the top venues, the main competitors venue types are bars, Mexican restaurants and pizza places. This notes that any restaurant that is opened should have a bar. It could be interesting to include a Mexican flair or be creative and do an Asian twist to pizza.



The second most common venues within these neighborhoods are similar to the top: pizza and Mexican. There is an inclusion of Italian, so it is possible to expand the Asian twist to pizza and make an Asian twist to other Italian foods.



4. Results

Due to the diversity of the city of Chicago, there are many venues that is going to be competed against. From the analysis, we should target the locations that does not have a lot of venues – downtown Chicago, Oak Park, Palatine...to name a few.

Based on the top venues, we should also focus on combining either Mexican or Italian twists into our food, while at the same time, we need to set aside funds for a liquor license.

City	City Latitude	City Longitude	Venue
Chicago	731	731	731
Oak Park	135	135	135
Palatine	91	91	91
Evanston	80	80	80
Arlington Heights	74	74	74
Des Plaines	68	68	68
Geneva	65	65	65
Elgin	47	47	47
Schaumburg	41	41	41
Highwood	40	40	40
Northbrook	31	31	31
Glen Ellyn	30	30	30
Barrington	27	27	27
Blue Island	24	24	24
Crystal Lake	24	24	24
Mount Prospect	22	22	22
Libertyville	21	21	21
Carol Stream	21	21	21
Crestwood	20	20	20

5. Conclusion

Through the analysis done, we have seen a multitude of venues in Chicago that we will be competing against. Our top competitors will be bars, Mexican, and Italian restaurants. Our target opening areas should have a moderate amount of venues, while at the same time, few of our own competitors.