Which city to visit for Asian food?

Data Science Capstone - IBM Data Science Professional Certificate on Coursera

Introduction:

Let's say you were planning a road trip around the United States and want to get the best Asian foods. You would plan to visit the places with the highest density of Asian restaurants. The problem we want to solve is to analyze Asian restaurants locations in the major cities and find the best place to enjoy Asian foods. Our target audiences are people who love Asian foods and are planning a trip around it.

Data Section:

I will be using the FourSquare API to collect data about Asian Restaurants in 5 major US cities: New York, Los Angeles, Chicago, Houston, Phoenix. These are large and diverse cities, and I hope that they would also have the best Asian restaurants in United States.

Methodology

My main target here is to asses which city would have the highest Asian restaurant density. I used the Four Square API through the venues channel. I used the near query to get venues in the cities. Also, I use the CategoryID to set it to show only Asian restaurant. Asian Restaurant CaregoryID: 4bf58dd8d48988d142941735

I repeated this request for the 5 studied cities and got their top 100 venues. I saved the name and coordinate data only from the result and plotted them on the map for visual inspection.

Next, to get an indicator of the density of Asian Restaurants, I calculated a center coordinate of the venues to get the mean longitude and latitude values. Then I calculated the mean of the Euclidean distance from each venue to the mean coordinates. That was my indicator; mean distance to the mean coordinate.
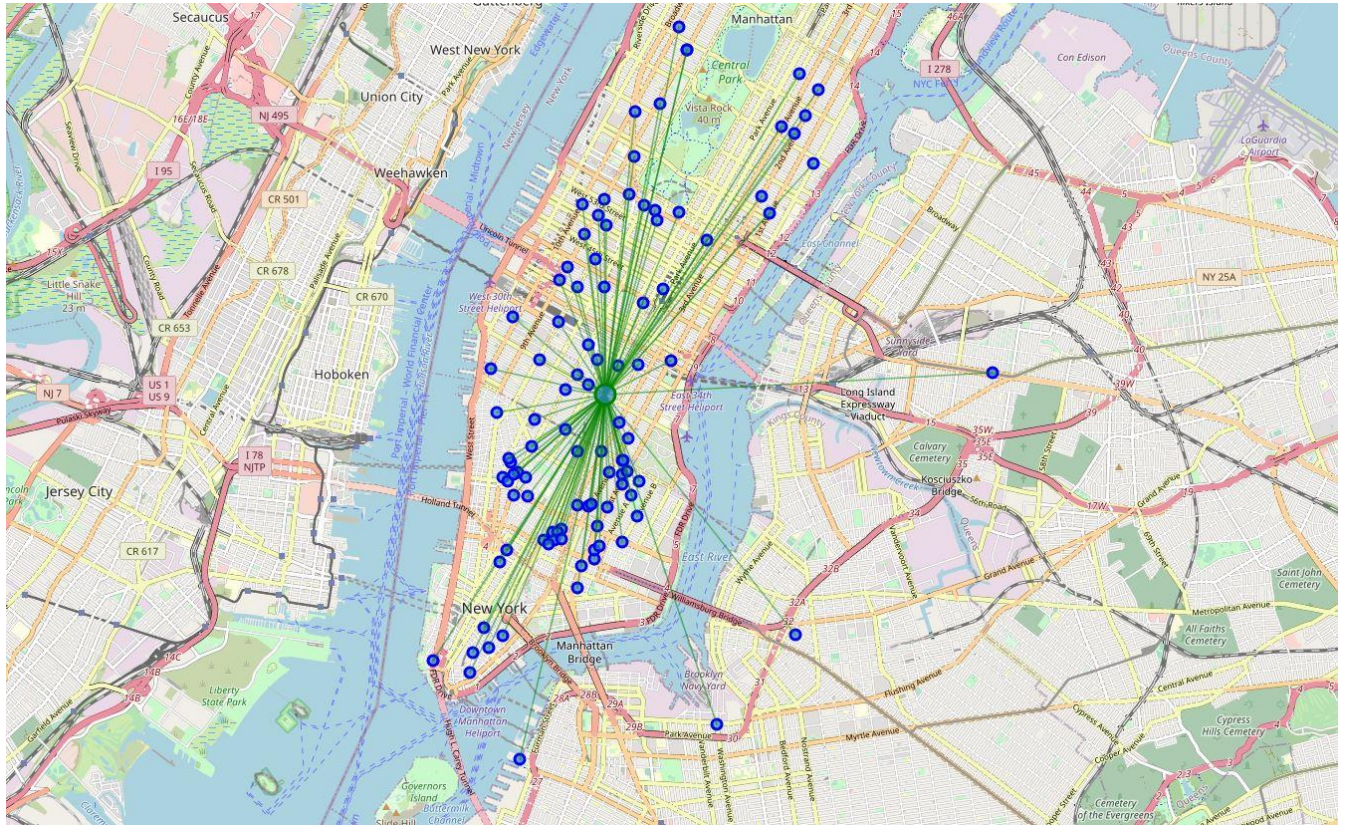
Results

Total number of Asian Restaurant in New York, NY = 277
Total number of Asian Restaurant in Los Angeles, CA = 237
Total number of Asian Restaurant in Chicago, IL = 217
Total number of Asian Restaurant in Houston, TX = 197
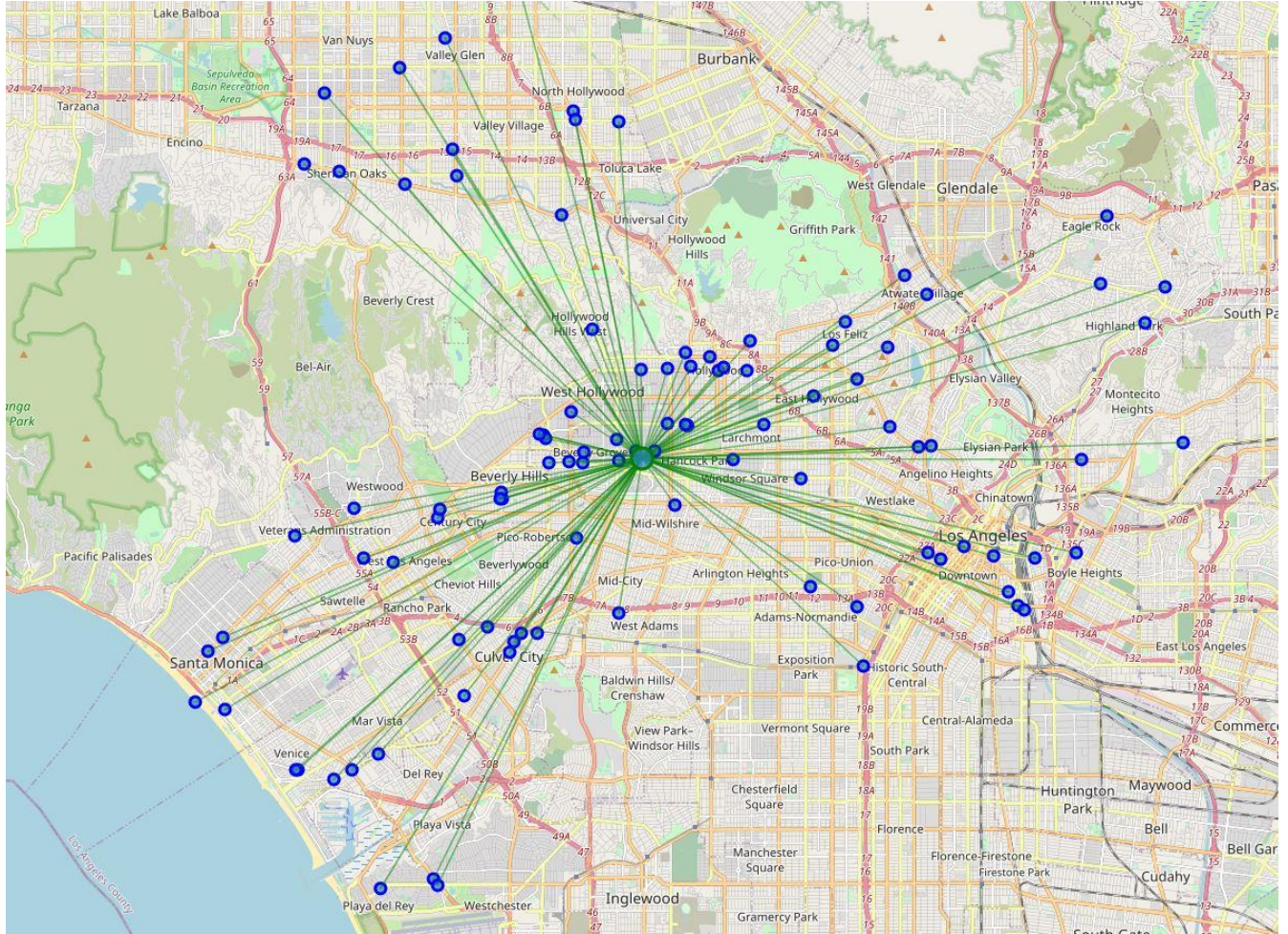Total number of Asian Restaurant in Phoenix, AZ = 182

For our initial visual inspection we see that they all have multiple Asian restaurants and often more than Foursquare would like to supply us. The following here are the pictures of the geoplots generated with folium. Upon First inspection we see that New York is the most dense city. In the next phase we Calculate the Mean

coordinate and the mean distance to mean coordinate(MDMC). We represent the mean coordinate with a big green circle and distances with green lines.
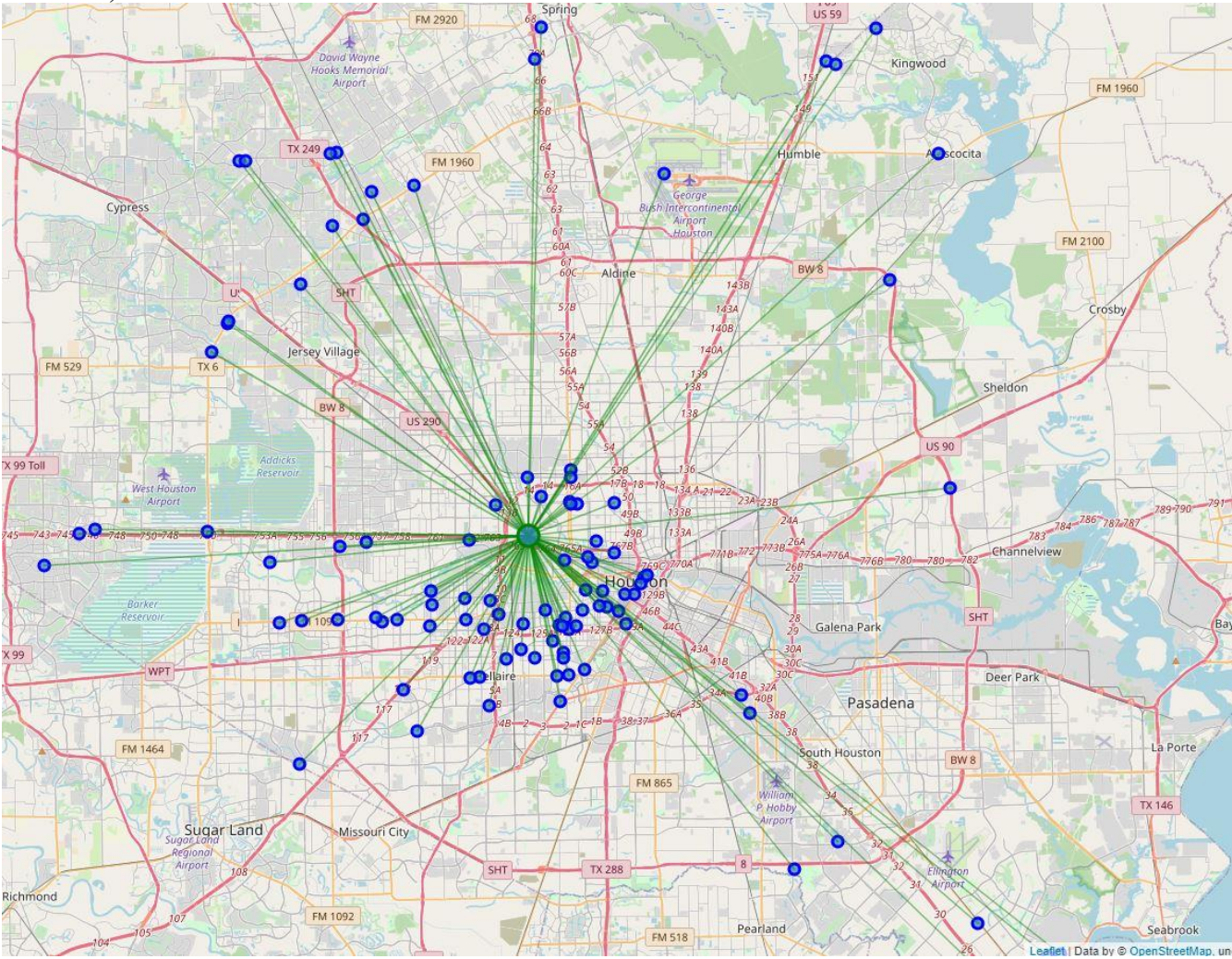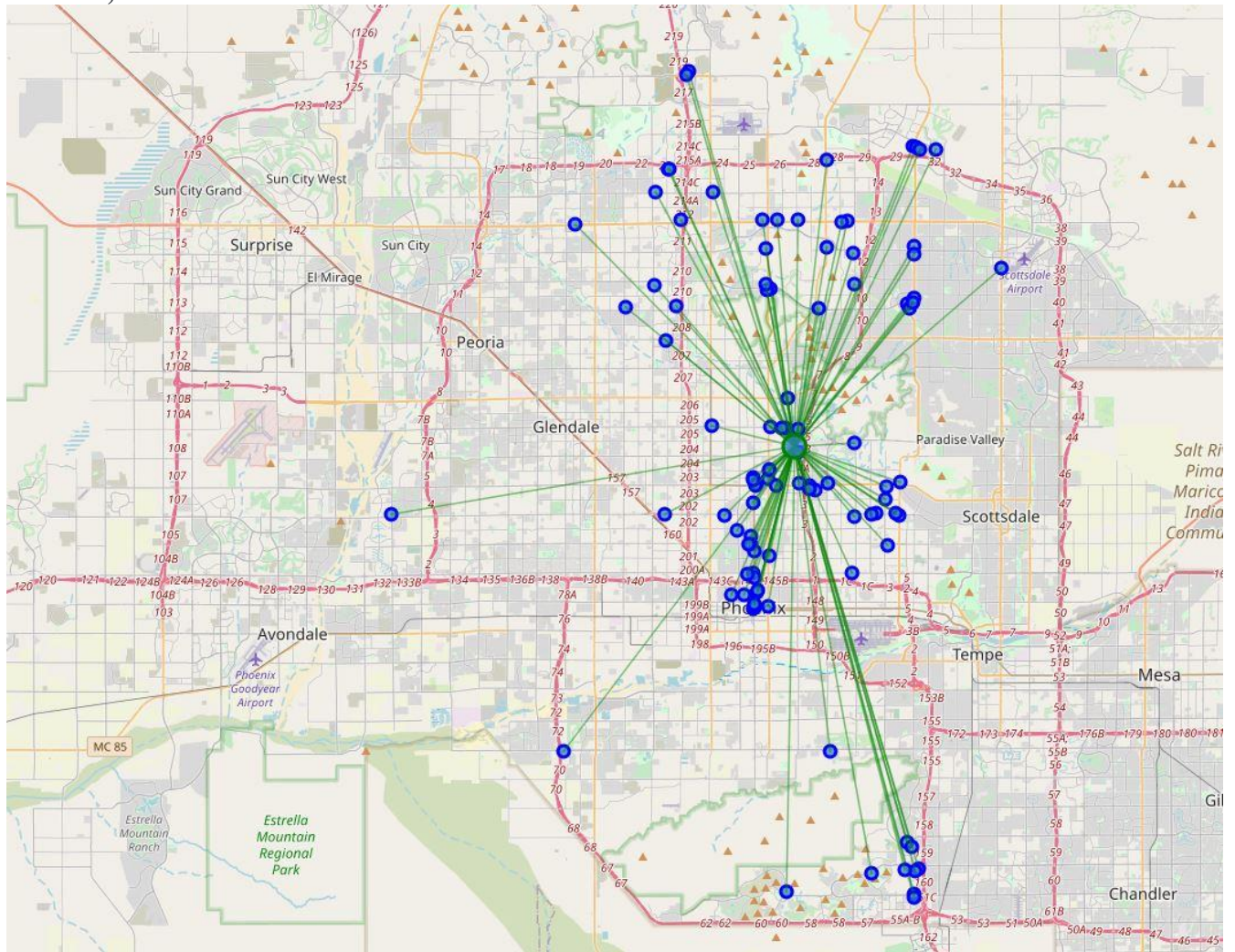
New York, NY

Los Angeles, CA

Chicago, IL

Houston, TX

Phoenix, AZ

Therefore our results by ranking are:

1. New York
2. Los Angeles
3. Chicago
4. Houston
5. Phoenix

Discussion:

Looking at the results of the analysis, New York came out first in terms of the numbers and Density of Asian Restaurants in United States. This makes sense considering its population and diversity.

Conclusion:

We conclude for a traveler to enjoy the most Asian restaurants that New York is the best place to visit. Also, we would recommend that our traveler book a hotel close to the mean coordinate.