KEY FEATURES OF CITY OF CHICAGO, IL

- Chicago constitutes the 3rd most populous urban area in the United States after New York City and Los Angeles.

- Chicago Land, the Combined Statistical Area of Chicago Metropolitan area is almost 10 million residents.

- Chicago's set a new record of 58 million tourist visitors in 2018.

- Chicago is an international hub for finance, culture, commerce, industry, education, technology, Telecommunications, and transportation.

- Chicago's many venues, include Millennium Park, Navy Pier, the Magnificent Mile Shopping, The Art Institute of Chicago, Museum Campus, the Willis (Sears) Tower, Grant Park, the Museum of Science and Industry, Lincoln Park Zoo, etc.,

- Chicago's culture includes the visual arts, literature, film, theatre, comedy.

- Many music venues, particularly jazz, blues, soul, hip-hop, gospel, and electronic dance music including house music.

- Chicago is home to all Major-League Sports Teams including The Chicago Cubs Baseball, Bulls Basketball, Bears Football, and Black Hawks Hokey.

BUSINESS QUESTION?

Many Venues and Events:

Chicago's world famous music events and festivals, major-league and collage sports events, several industry conventions, annual auto show, magnificent mile shopping etc.,

Large Population

10 million residents and 58 million tourists annually (yr 2018).

Midwest Commercial Hub

A major mid-western center for global commerce and a global transportation hub.

Question?

Can Chicago support new Latin American restaurants and suitable locations for new restaurants.
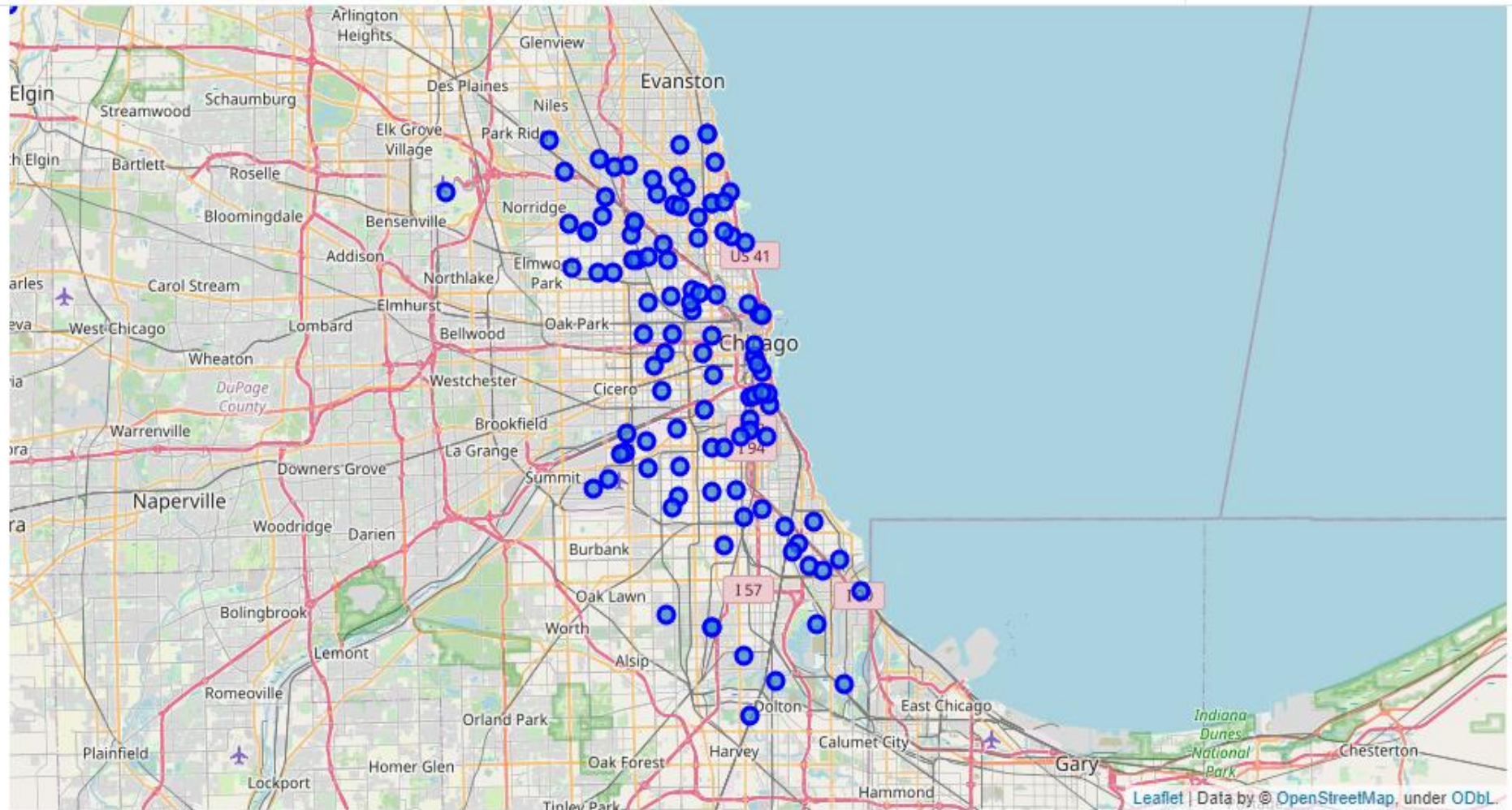
DATA ACQUISITION AND CLEANING

Chicago Neighborhoods

Chicago is divided into community areas and neighborhoods. Community areas are for statistical and planning purposes. . A community area corresponds to one neighborhood or encompasses several neighborhoods. A file of community areas and neighborhoods is stored in a google cloud storage bucket.

Data Analysis Tools and Technology

- geopy.geocoders for getting latitude and longitude coordinates.
- Pandas for python dataframe analysis.
- Numpy for python
- Foursquareapi for a getting list of venues by neighborhoods.
- Folium software is used for mapping Chicago and neighbor hoods.
- K-Means Clustering , an unsupervised machine learning algorithm is used for clustering into 5 clusters.

Map the neighborhoods of Chicago, IL

Feasibility of Latin American Restaurants in City of Chicago, IL
Data frame of Neighborhoods and top 10 venues by Neighborhoods

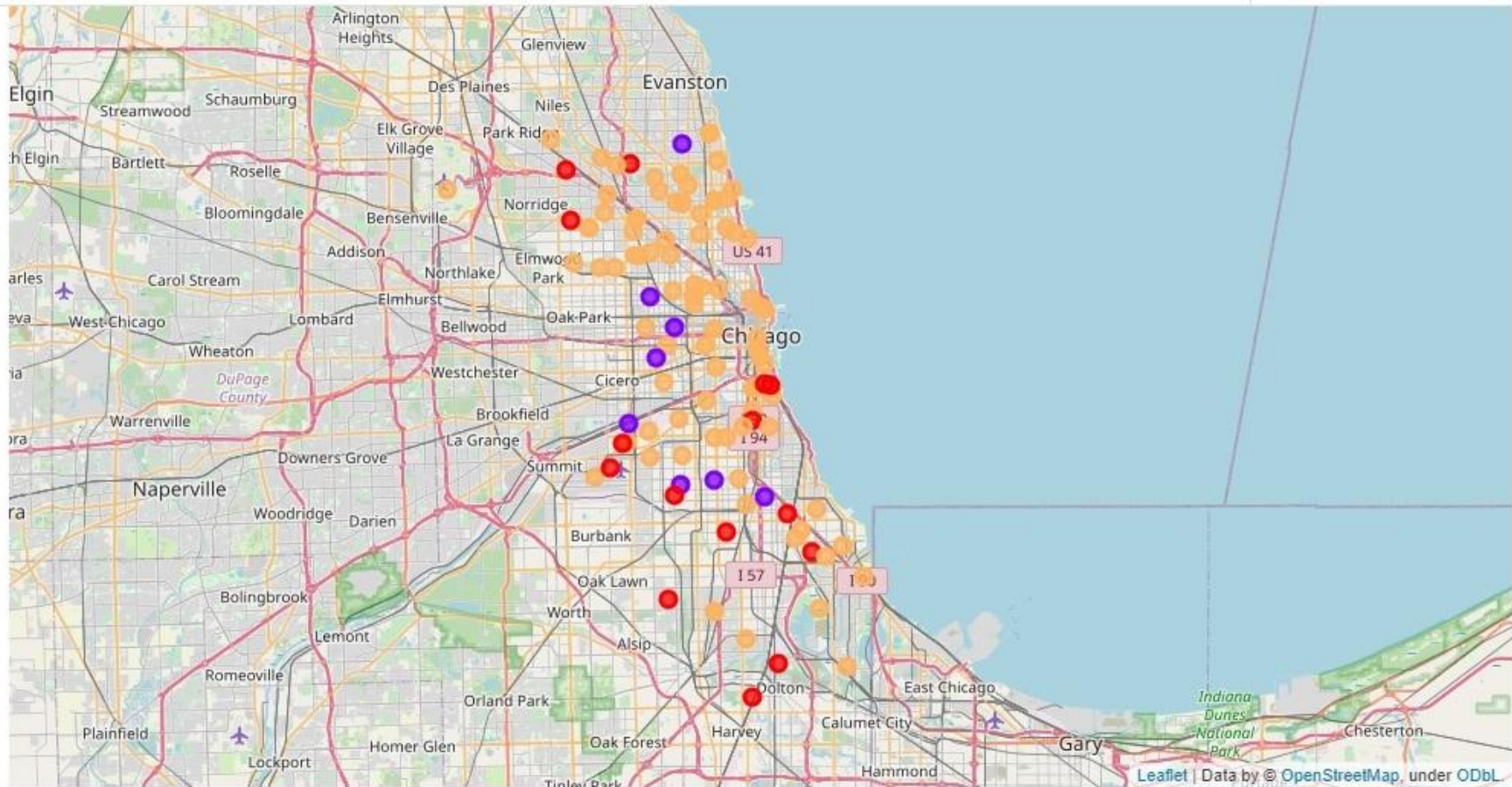|	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Albany Park, IL	Sandwich Place	Grocery Store	Bakery	Mobile Phone Shop	Hookah Bar	Donut Shop	Chinese Restaurant	Latin American Restaurant	Cocktail Bar	Korean Restaurant
1	Altgeld Gardens, IL	Food	Grocery Store	Park	Dry Cleaner	Eastern European Restaurant	Electronics Store	Empanada Restaurant	English Restaurant	Escape Room	Ethiopian Restaurant
2	Andersonville, IL	History Museum	American Restaurant	Travel & Transport	Yoga Studio	Fabric Shop	Eastern European Restaurant	Electronics Store	Empanada Restaurant	English Restaurant	Escape Room
3	Archer Heights, IL	Mexican Restaurant	Grocery Store	Mobile Phone Shop	Bank	Candy Store	Coffee Shop	Big Box Store	Gym / Fitness Center	Gas Station	Sandwich Place
4	Armour Square, IL	Chinese Restaurant	Cosmetics Shop	Italian Restaurant	Grocery Store	Gas Station	Asian Restaurant	Café	Sandwich Place	Hot Dog Joint	Ice Cream Shop
5	Ashburn, IL	Lake	Yoga Studio	Dry Cleaner	Eastern European Restaurant	Electronics Store	Empanada Restaurant	English Restaurant	Escape Room	Ethiopian Restaurant	Event Service

Machine Learning - K-Means Clustering

Clustering Approach for comparing and exploring neighborhoods, segment and group neighborhoods into clusters to find similar clusters of neighborhoods.

Creating data clusters, which is a form of unsupervised machine learning; k-means clustering algorithm.

K-Means Clustering unsupervised machine learning algorithm is used for data analysis. Number of clusters is set to 5 for this analysis.

Feasibility of Latin American Restaurants in City of Chicago, IL

Final map of Chicago and Clusters (neighborhoods)

CONCLUSION AND FUTURE DIRECTIONS

Chicago has large tourist and domestic population, there are many venues and attractions in and around Chicago. It's also a Midwestern transportation hub. Chicago Airports are well connected to all International cities.

Chicago has the resources and customers (population) to support new restaurants.

Additional studies

The Covid-19 pandemic has impacted the global hospitality industry. Additional study may be required to analyze the impact of Covid-19 on Chicago restaurants. Food and Beverage industry forecasts to recover in the 3rd quarter of 2021.

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