

SELECT BUSINESS LOCATION IN DENVER, COLORADO

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BACKGROUND

- Founded in 1858, the city and county of Denver is located on the banks of the south Platte River close to the Rocky Mountains.
- As the most populous state capital in the Mountain states, Denver began to thrive due to its mining industry, and continued to grow and expand due to its development of technological and manufacturing industries.



<https://pixabay.com/photos/denver-colorado-mountains-city-2228783/>

BACKGROUND

- Most importantly, after the World War II, Denver gained its recognition as commercial hub because of the I-25 highway construction, military contracts, and so forth.
- Approximately 4.4 million square feet of office space, over 10,000 residential units, and 3,700 hotel rooms has been built, and this results in a total of about \$6.6 investment in the center city



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STATEMENT OF THE PROBLEM

- The project will contribute to: (1) better analyze the diversification of location in Denver by wrangling geographical data; (2) cluster and segment location based on their geographical distribution and venue categories; and (3) use machine learning algorithm and geographical statistics to identify appropriate locations for setting up a new local business.



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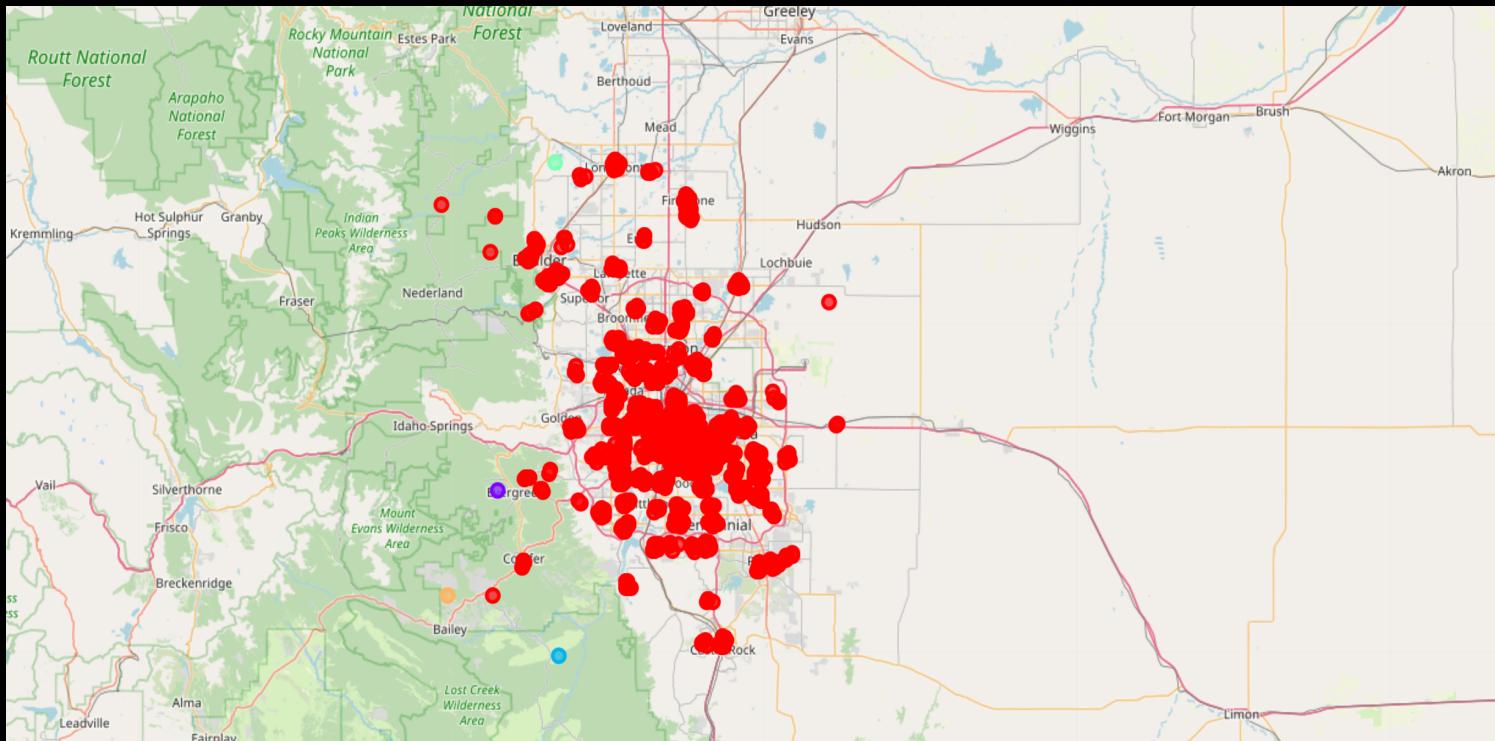
DATA SOURCES

- The longitudes and latitudes of location data were found [here](#). This website provided us with zip code along with location information across the U.S. at neighborhood levels. This dataset contains 43,191 records for all 50 states in the U.S., and I will use central point of Denver to build the bounding box and select the neighborhoods surrounding Denver metropolitan area since this study focuses on analyzing locations in Denver, Colorado. Foursquare API will be used to get the venue information such as business categories and locations.

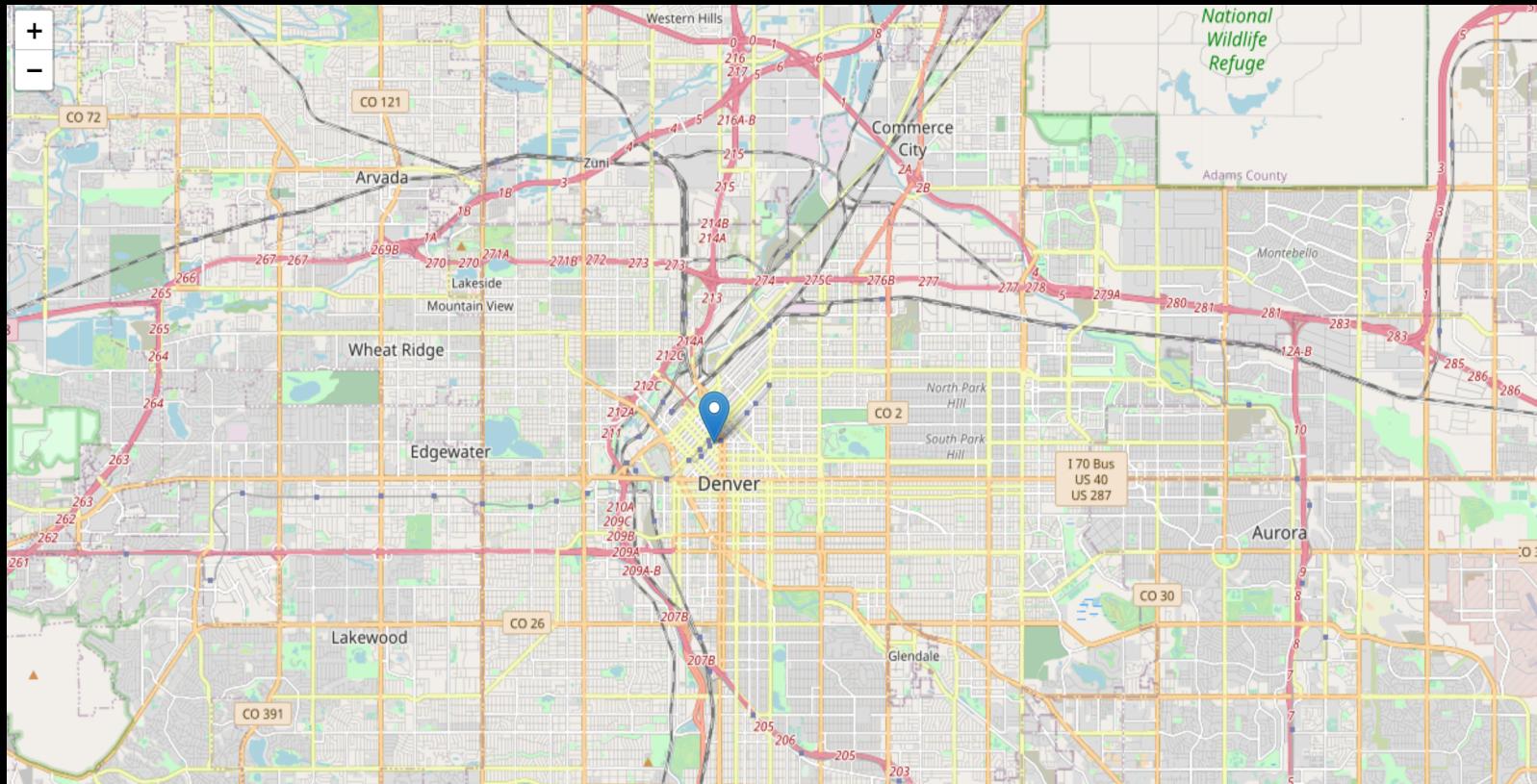
DATA PRE-PROCESSING

- Data selection using bounding box
- Pull venues data with Foursquare
- Data cleaning and removal of duplicates

K-MEAN CLUSTERING



MEAN CENTER



CONCLUSION

- In this study, I have analyzed the distribution of business in Denver and its neighboring regions. Based on the venues data collected from Foursquare, I highly recommend that the new business should be established in the downtown region instead of in the Rocky Mountains.



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