

Office move from Battery Park City, Manhattan to Chicago

Introduction

A start-up company based in Battery Park City, Manhattan has just been purchased by a larger company, part of the purchase terms require the start up to move their office to Chicago. The location in Chicago can be decided by the start-ups leadership team, as long as the office is in a Chicago zip code.

The leadership team of the start -up company really like their current office location and realise their current staff also like the location. The leadership team of the start-up company are unfamiliar with Chicago but would like the new location to be similar to Batter Park City as this would potentially encourage their current staff to relocate with them rather than having to find new talent.

The audience for this project is the leadership team of the start-up and machine learning (specifically K Means Clustering) will be used to find a suitable new office location in Chicago.

Data

Data for the Chicago Neighborhoods and zip codes will be scraped from <https://www.dreamtown.com/maps/chicago-zipcode-map>.

The latitude and longitude data for all US zip codes can be found at <https://public.opendatasoft.com/explore/dataset/us-zip-code-latitude-and-longitude/table/> and exported as a csv.

Accessing the FourSquare API will grant access to information about venues within a radius of specific latitude, and longitude points – which have been gathered from opendatasoft.com as mentioned above.

Once the data from the three sources listed above is gathered they will be placed into a dataframe (Table 1) and prepared to be used for K Means Clustering and comparison with Battery Park City.

Table 1

	Zip Code	Zip Code Latitude	Zip Code Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	60601	41.886456	-87.62325	sweetgreen	41.884964	-87.624728	Salad Place
1	60601	41.886456	-87.62325	Chicago Architecture Center	41.887720	-87.623650	Tour Provider
2	60601	41.886456	-87.62325	Roti Modern Mediterranean	41.886048	-87.624948	Mediterranean Restaurant
3	60601	41.886456	-87.62325	LondonHouse Chicago, Curio Collection by Hilton	41.887832	-87.625426	Hotel
4	60601	41.886456	-87.62325	Virgin Hotels Chicago	41.886065	-87.625853	Hotel

Location and venue data from FourSquare regarding Battery Park City has already been gathered from previous work and will be used to cluster the new data regarding Chicago Zip Codes and there nearby venues.

Unfortunately the location data for each neighbourhood in Chicago was unable to be located so this project will focus on the zip code in Chicago rather than neighbourhood.

Modules, Packages, and Libraries used in the project include:

- Numpy

- Pandas
- Json
- Geopy
- Requests
- Matplotlib
- Sklearn
- Folium
- Bs4 (BeautifulSoup)