# Where to go to have a University Tour

## Introduction

Let's say that the government want to build a new university in your hometown, but the government has no experience on this, so Professor Li are assigned to do a research about the layout of a campus. As we all know there are many famous universities in the United States, so that is where he want to do your research. To start with, he chose 5 major cities in America, which are New York, NY, San Francisco, CA, Jersey City, NJ, Boston, MA and Chicago,IL. He now wants to know, which city is his best choice. There should be as many universities as possible in the city, and the distances between them should be as neglectable as possible, so that he can save his time on the way.

## Dataset

I will use the FourSquare API to collect data about locations of Universities in 5 major US cities which are: New York,NY, San Francisco, CA, Jersey City, NJ, Boston, MA and Chicago, IL. Of course there are also many other places in the US which have the most old and glorious colleges, but the purpose is to find the layout of the campus. So it could be better to collect some ideas from the modern Universities. The cities chosen are metropolis in the US and I am hopeful that Professor Li will get satisfied to get his research done here.

## Number of Universities or colleges in the Cities

In order to a more thorough research of the campus layout, the number of the universities or colleges is of the greatest importance, which enables professor Li to get more samples to work on. So let us take a look at the number of universities in these five cities first, the numbers are collected directly from the Foursquare API.

The Chart below shows the number of colleges or universities in the cities chosen:

| New York | San Francisco | Jersey City | Boston | Chicago |
|----------|---------------|-------------|--------|---------|
| 240 | 163 | 119 | 194 | 233 |

Chart 1 Number of campus in the 5 cities

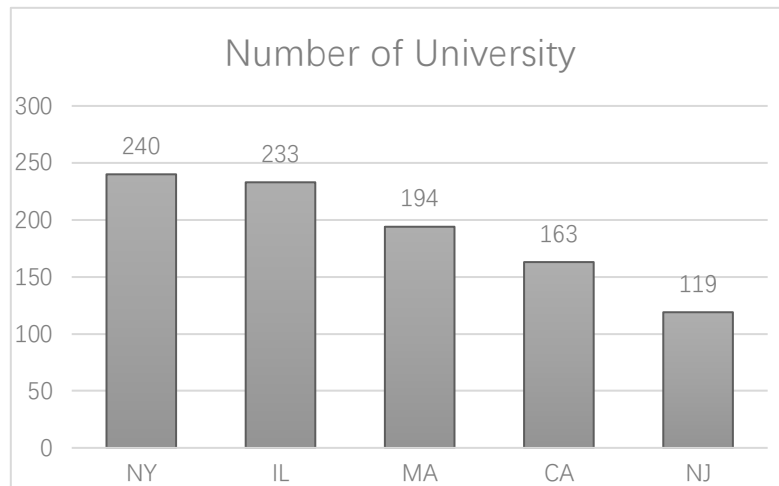To get a better view of the data, I made this column diagram of the data, as shown below:



Diagram 1: Number of campus in the 5 cities

From the diagram we can get the conclusion that New York has the most Universities among the 5 cities.
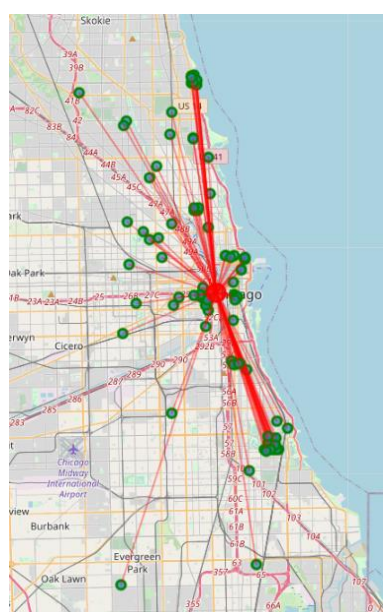
## Density of the Universities or Colleges in the cities

Density of the Universities or Colleges in the cities is also an important factor in this case. If the campus are too far from each other, it could be a great challenge for the professor. As we all know professors cannot be too young.
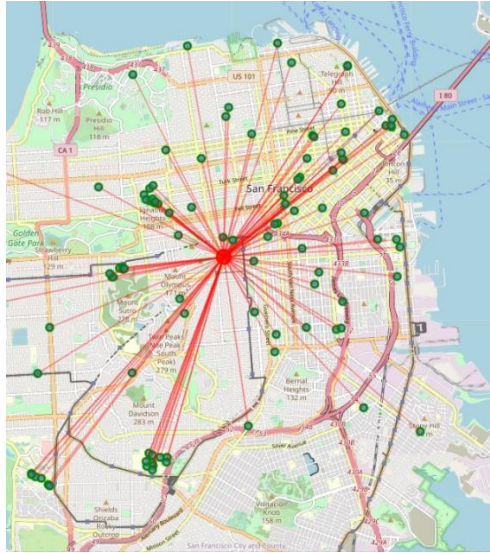
Here are the maps showing the intensity of the colleges or the universities.
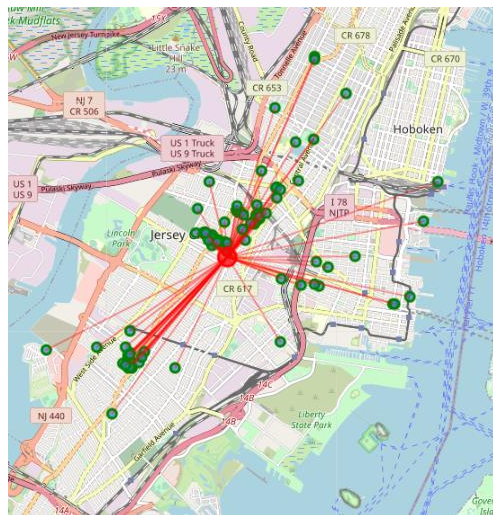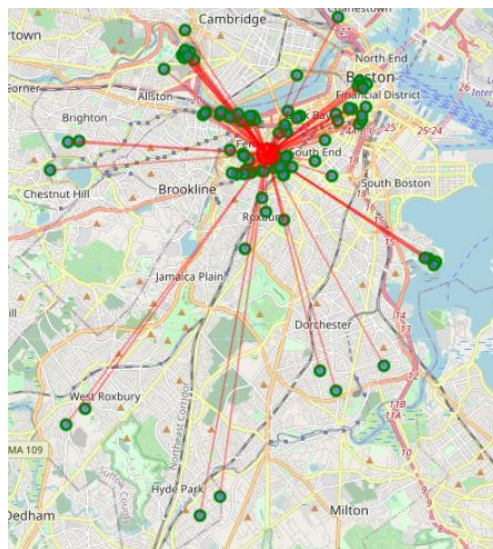


New York                    Chicago

San Francisco


Jersey City


Boston

The diagram below shows the density of universities of the 5 cities. The data represents the Mean Distance from Mean coordinates, so the value should be as small as possible.
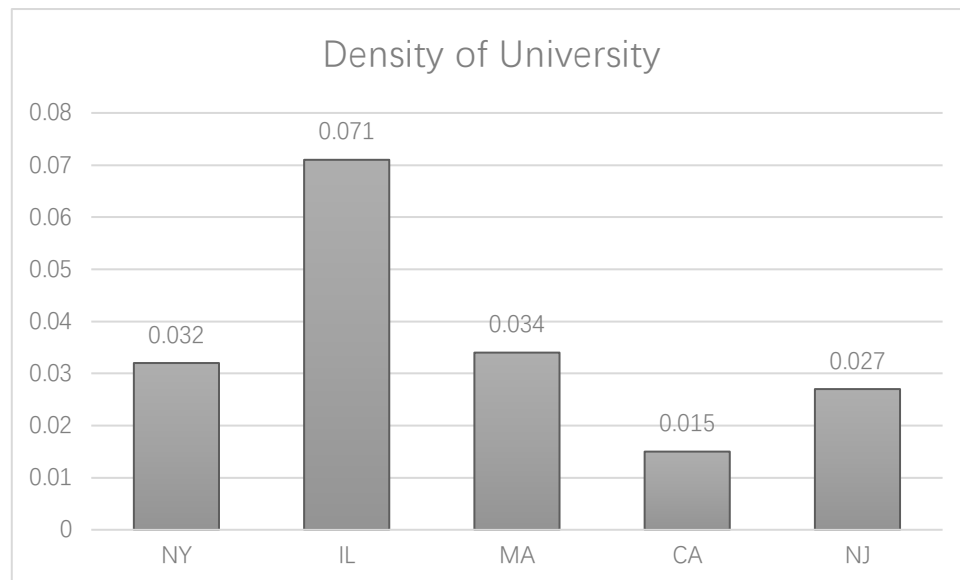


Diagram 2: Mean Distance from Mean coordinates

## Conclusion

From the 2 column diagrams can we see, that although New York doesn't have the smallest number of Mean Distance from Mean coordinates, the value of this factor remains acceptable, while the value for Chicago is too big. Although San Francisco has the smallest value of Mean Distance from Mean coordinates, the total number of campus is too small to be reckoned with.

Therefore, New York should be the best city for Professor Li to visit. By the way, from Beijing there is more convenient than other cities.