Coursera Platform IBM Data Science Professional Certificate

The best neighborhood for students in New York

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Introduction

Looking for a apartment in the city you want to study can be a very difficult step, because you have to consider some factors like cost, location, if there are restaurants and supermarkets nearby, etc. So, using clusters to find a great place to live can be very helpful, even more if the best and worst place are shown in the map. This clustering method can help a lot of future students seeking for a great apartment.

Data

The data used in this research report is provided by the New York University Spatial Data Repository, https://geo.nyu.edu/catalog/nyu_2451_34572. And, from Foursquare I extracted the information about the supermarkets, nightclubs, restaurants, coffee shops, cinemas, universities and other locations important for students that are nearby the neighborhoods and do cluster analysis to determine the best and the worst places to search for an apartment.

Methodology:

- Business Understanding: The goal is to classify and cluster different neighborhoods in TNew York and determine the best ones for students.

- Analytic Approach: I used a clustering model and some descriptive models.

- Data Requirements: Longitudes and latitudes of neighborhoods in New York and the Foursquare information of the location nearby.

- Data Collection: Web scraping and Foursquare API.

- Data Understanding: Descriptive Statistics

- **Data Preparation:** Utilization of domain knowledge of data from foursquare.

- **Modeling:** Cluster Analysis. Used to cluster the different neighborhoods into clusters.

- **Evaluation:** Visualization

Discussion

We can note that there are a lot of great place to stay in NYC, and if I had a data set with the prices of the apartments, this could improve a lot this algorithm, because the students would be able to cluster neighborhoods based on their budget. Nevertheless, with the data I have, the students are able to see a great neighborhood nearby their universities they applied or want to apply and find the better price by themselves.

Results   and Conclusion

With the clustering and map view we can see that in general the city of New York is a great place for students to live. The vast majority of neighborhoods offers all the basic needs and comodities that a student needs, and just a small part of them don't have enough services near their location. I hope this help future and current students to do their apartment hunt.¶