

Best Airbnb Rentals for NYU Students

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Data

The dataset that we will base our research on will be the ‘New York City Airbnb Open Data’ Dataset from Kaggle (2). This dataset contains data for 48,895 Airbnb listings in New York City in 2019. There are 16 features describing each listing, shown below in Table 1. Although the majority of these features contain insightful information- such as latitude, longitude, and price- we can spot a few features that may need to be dropped as they contain no value to our analysis, such as id.

Table 1

NYC Airbnb Dataset Feature Description			
Index	Feature Name	Description	datatype
0	id	Unique listing id for each listing	int64
1	name	Name of the listing	object
2	host_id	Unique host id	int64
3	host_name	Name of the host	object
4	neighbourhood_group	Borough	object
5	neighbourhood	Area within the borough	object
6	latitude	Latitude coordinates	float64
7	longitude	Longitude coordinates	float64
8	room_type	Type of the listing space	object
9	price	Price in dollars per night	int64
10	minimum_nights	Amount of nights minimum per stay	int64
11	number_of_reviews	Number of reviews	int64
12	last_review	Last review	object
13	reviews_per_month	Number of reviews per month	float64
14	calculated_host_listings_count	Amount of listings per host	int64
15	availability_365	Number of days when listing is available for booking	int64

It should also be noted as NYU is located in Downtown Manhattan, it may be reasonable for us to assume that students at NYU will generally be looking for accommodation in that area- therefore we will be primarily looking for listings in that area. This means we will only be using a small subset of the dataset provided.

In order to evaluate the venues nearby each listing, we utilize the Foursquare API. By inputting the latitude and longitude coordinates for each listing, we can use the explore function to explore the kinds of venues nearby. These venues can then be ranked according to proximity to the listing as well as utility to the student, ultimately contributing to increasing or decreasing the attractiveness of the listing in our analysis. We will also explore the possibility of clustering listings according to the types and number of venues nearby, which can give students the freedom to choose what venues they want to live nearby.

By combining the data from the original dataset with the data obtained from the Foursquare API, we can create a subset of Airbnb listings for NYU students to choose from which are tailored to their needs. This means that they will not only help retain the university experience by being near attractive venues and the university itself, but they will also allow students to save additional money by not living in more expensive NYU dorms.