

Proposal Problem

1. **Description:** Using Foursquare API, finding nearby places, given a list of locations.

- a. Background

I'm planning on a trip to Brooklyn, NY in the next few months. I decided to stay in one of listings of Airbnb. As a foodie, food is what I am living for. Because of that reason, the place I stay during my trip must have food places or restaurants nearby. Turns out, this project aims to cluster places to stay in Brooklyn where food places by interest are nearby.

- b. Proposal solution

1. List all neighborhoods in Brooklyn, NY and their geospatial coordinates.
2. List all Airbnb listings and their geospatial coordinates in Brooklyn. Filtering properties by user's conditions.
3. Use Foursquare location data to get location of Brooklyn, neighborhoods in Brooklyn, and food places (venues).
4. Group two lists in step 2 and step 3 by neighborhoods to get geospatial data of food places and properties.
5. Clustering food places which are nearby Airbnb properties. Retrieve nearby food places of each property based upon their geospatial coordinates from step 3.

2. Data description

The project mainly uses two datasets, including:

- `newyork_data.json`: the file is from previous project of the course.
 - o List of all neighborhoods in Brooklyn, NY and their geospatial data are retrieved from this file.
 - o Serves step 1 in section 1.b
- `listings.csv`: the Airbnb dataset retrieved from <https://insideairbnb.com/>
 - o Airbnb listings in Brooklyn which includes each renting's information and their geospatial coordinates.
 - o Serves step 2 in section 1.b