New York City Airbnb

Introduction

Airbnb has seen a meteoric growth since its inception in 2008 with the number of rentals listed on its website growing exponentially each year. Airbnb has successfully disrupted the traditional hospitality industry as more and more travellers, not just the ones who are looking for a bang for their buck but also business travellers resort to Airbnb as their premier accommodation provider. New York City has been one of the hottest markets for Airbnb, with over 52,000 listings as of November 2018. This means there are over 40 homes being rented out per square km. in NYC on Airbnb! One can perhaps attribute the success of Airbnb in NYC to the high rates charged by the hotels, which are primarily driven by the exorbitant rental prices in the city.

Data Description

The dataset comprises of three main tables:

1. listings - Detailed listings data showing 96 attributes for each of the listings. Some of the attributes used in the analysis
   are price(continuous), longitude (continuous), latitude (continuous), listing_type (categorical), is_superhost (categorical), neighbourhood (categorical), ratings (continuous) among others.

2. reviews - Detailed reviews given by the guests with 6 attributes. Key attributes
   include date (datetime), listing_id (discrete), reviewer_id (discrete) and comment (textual).

3. calendar - Provides details about booking for the next year by listing. Four attributes in total including listing_id (discrete), date(datetime), available (categorical) and price (continuous).

Data Source: http://insideairbnb.com/about.html

Methodology

- Data Cleaning and Preprocessing
- Trend analysis using prices attribute as per location wise.
- Exploratory Analysis of Airbnb's Data to understand the rental landscape in New York City.
- Apply Inferential Statistical analysis for hypothesis testing.
- Apply Machine Learning algorithm to train and test the result.

Deliverables

- Github for code.
- Plots showing different attributes correlation and Visualization.
- Presentation and Final Report.