

## Airbnb Review Analysis

There is no doubt that the rapid growth of Airbnb has changed the lodging industry and tourists' behaviors. Airbnb welcomes customers and engages them by creating and providing unique travel experiences to "live like a local" through the delivery of lodging services. With the special experiences that Airbnb customers pursue, more investigation is needed to systematically examine the Airbnb customer lodging experience. Online reviews offer a representative look at individual customers' personal and unique lodging experiences. Moreover, the overall ratings given by customers are reflections of their experiences with a product or service. Since customers take overall ratings into account in their purchase decisions, a study that bridges the customer lodging experience and the overall rating is needed. In contrast to traditional research methods, mining customer reviews has become a useful method to study customers' opinions about products and services. Searching for homes is the primary mechanism guests use to find the place they want to book. Ranking at Airbnb is a quest to understand the needs of the guests and the quality of the hosts to strike the best match possible.

Data spread over more than 191 countries and 81,000 cities, Airbnb listings are in every corner of the planet and the definition of the best deal has a lot of local details to it. The categories of homes include ranging from apartments to igloos, even within a standard category such as apartments, when different variations along price, location, amenities, decor etc. For this project, I just selected data for Seattle, WA. for period of 2014 to 2016. I used the dataset provided by Kaggle, <https://www.kaggle.com/airbnb/seattle>, where publicly available information about a Seattle's Airbnb's listings and released for independent, non-commercial use. This includes detailed listing information such as no. of rooms, location, and reviews with text description and also separate dataset specifically for dates.

This is a great place to experiment and apply Natural Language Processing (NLP) techniques. Sentiment Analysis, or Opinion Mining, is a sub-field of Natural Language Processing (NLP) that tries to identify and extract opinions within a given text. The aim of sentiment analysis is to gauge the attitude, sentiments, evaluations, attitudes and emotions of a speaker/writer based on the computational treatment of subjectivity in a text.

This study also provides practical advice to Airbnb investors and hosts regarding methods to improve the star rating system, emphasizing the importance of addressing the sub-ratings of the various lodging dimensions that more accurately reflect what customers really value and care about.

1. What are the positive and negative reviews?
2. What features impact the reviews waiting?
4. Can we predict the review score based on the reviews?