

Price Prediction for Airbnb in NYC

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The Airbnb rental market in New York City is complicated. There are plenty of factors making the rental prices dynamic. We plan to use a dataset from Kaggle to predict the prices for Airbnb in NYC. (<https://www.kaggle.com/datasets/dgomonov/new-york-city-airbnb-open-data>).

Since NYC is one of the most popular tourist destinations in the world and the overall demand for accommodation has been consistently high, people nowadays have more choices for accommodation when they travel, including hotels, hostels, and Airbnb. Despite the high demand for accommodation in New York, the Airbnb occupancy rate is around only 50%. It indicates that reasonable pricing has the potential to significantly increase its occupancy rate, thus maximizing overall revenue. Furthermore, unlike hotels, which have professional management teams to provide pricing guidance, Airbnb pricing is primarily determined by the hosts themselves. High prices can lead to unsold rooms, while low prices can also result in lost revenue.

The dataset we have contains loads of information such as room types, room prices, neighborhood, longitude, and latitude. We all know that location is crucial for travelers when it comes to accommodations, and this database provides accurate geographical information. It will be helpful for us to make price predictions. The dataset can be considered reliable due to its extensive size, which provides a wealth of historical data for our research.

We believe that predicting Airbnb room prices is highly meaningful, as it not only helps travelers find suitable accommodations, but also help hosts and Airbnb optimize pricing and increase occupancy rates, resulting in increased revenue. Therefore, we propose to analyze the dataset and apply machine learning methods to deliver useful results to decision makers including hosts, travelers and Airbnb.