

ORIE 4741 Project Proposal

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1 Introduction

Home-stay is a rising alternative of hotels for many people around the world and home-stay is the cheaper option for most of the time. Therefore, the pricing of the home-stay property plays a important role in selecting properties. A rational property owner would probably want to rent the property to others with a price that is neither too high to scary people off nor too low to dissatisfy him or herself.

The main goal of this project is to provide a reasonable price range of the Airbnb room listings in New York City area, as a reference for both the hosts and the tenants. Although the price of a listing is typically set by the host, there is always need for good price estimation. On the one hand, the hosts need this information for strategic pricing in order to make their listings both attractive to tenants and profitable to themselves. On the other hand, the travelers seeking for home-stays want to know the potential price range of listings near their destination so that they can better plan their expenditure and find good bargains.

Our project examines the *New York City Airbnb Open Data* from Kaggle.com. This dataset provides detailed features of the listed properties on Airbnb, such as listing price, neighborhood, room type, availability and minimum number of nights required for booking. It also includes additional information such as property descriptions and reviews from previous bookings. With this dataset, we would like to examine how various property features influence the pricing of the property. We will try to capture such relationships by building different models (linear model, polynomial model, etc) after some proper data preprocessing.