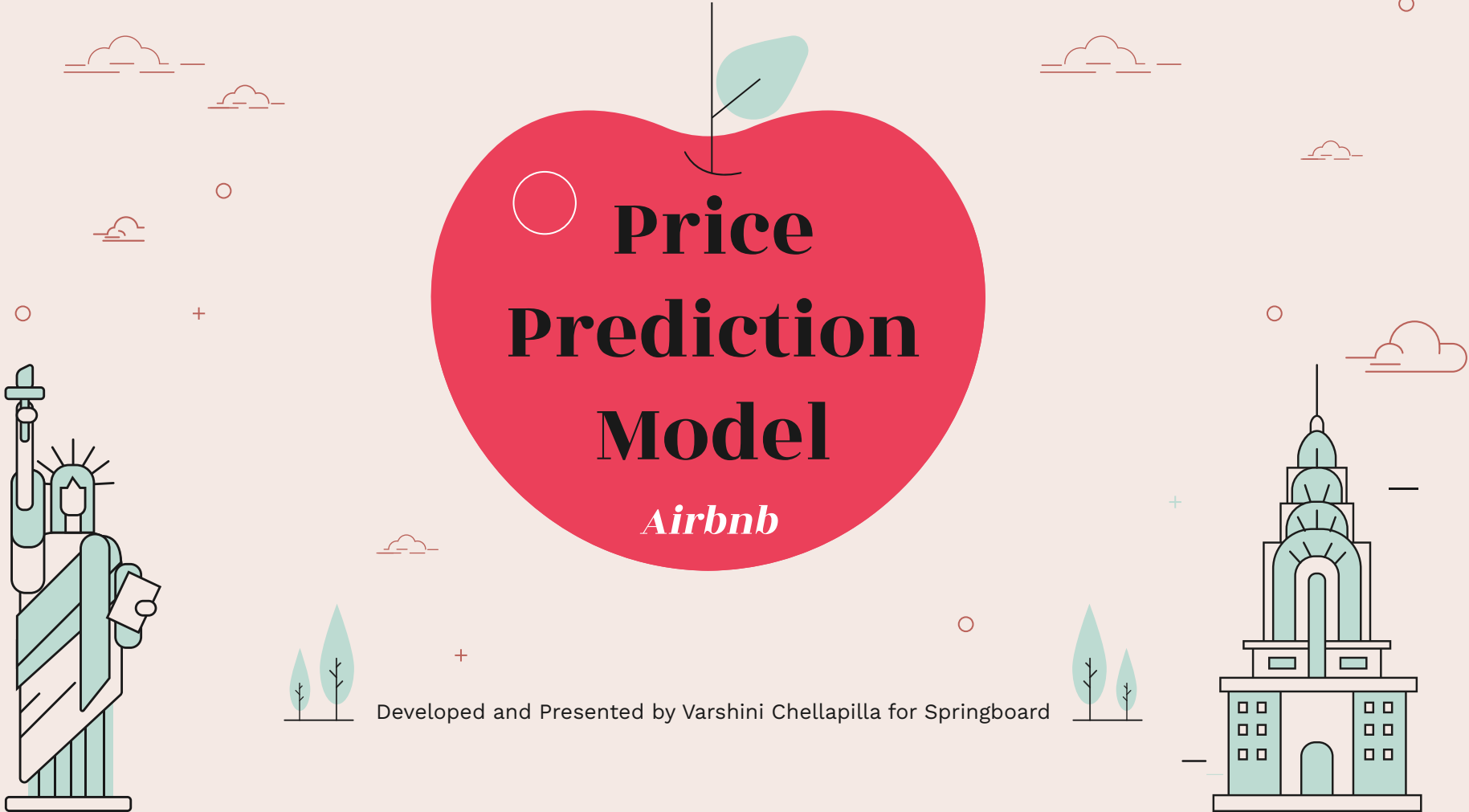





Price Prediction Model

Airbnb



Developed and Presented by Varshini Chellapilla for Springboard

Overview



My intention was to build a machine learning model that could predict a listing's price based on its features, utilizing exploratory data analysis, supervised learning, statistical inference, Thus, the aim of this model is to provide a highly-qualified aid to hosts as they decide their prices.

The questions posed at the beginning of the project are:

- What does the distribution of listing prices across New York look like?
 - What are the factors that influence a listing's price?
 - How does the price vary across different locations and types of dwellings?
- .



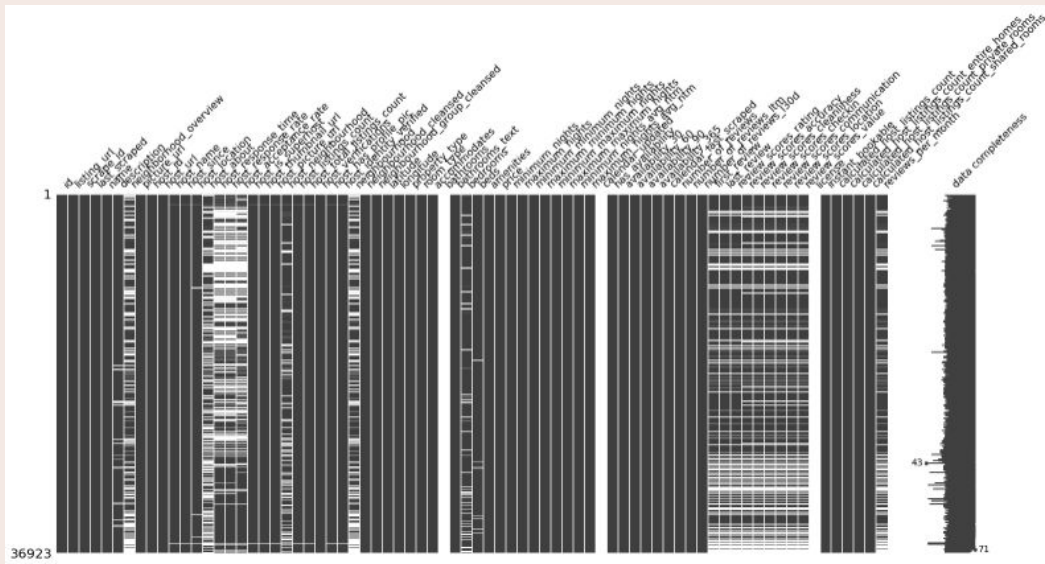
Data Acquisition and Wrangling

36,923

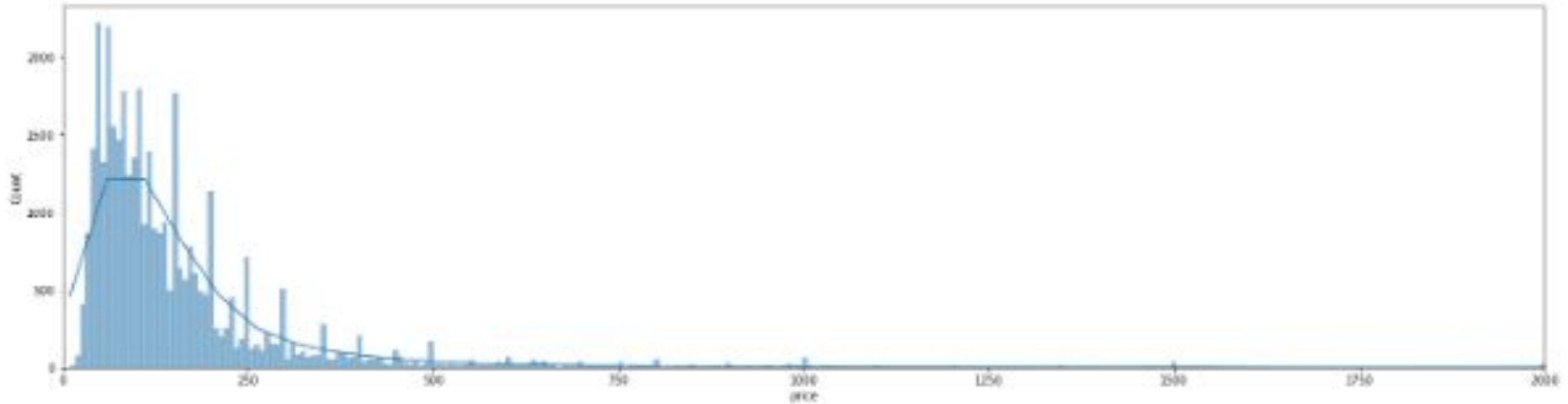
Number of listings in the original dataset

74

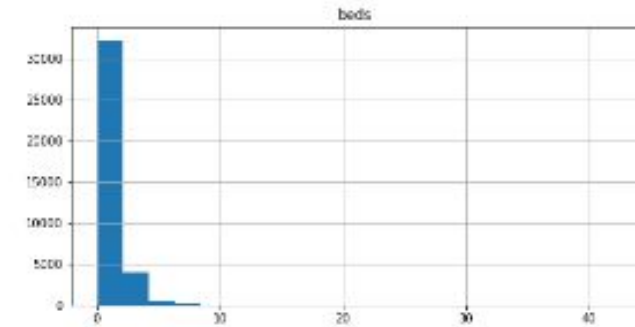
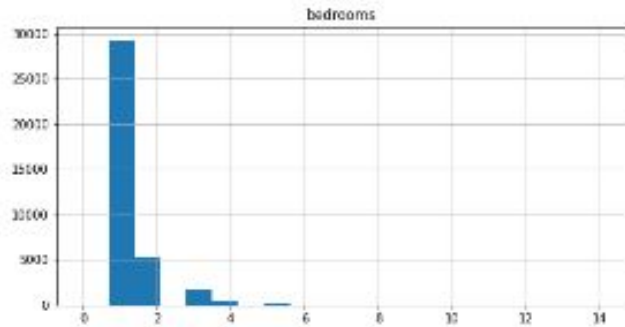
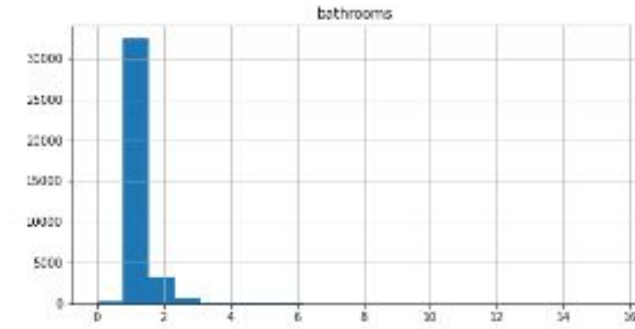
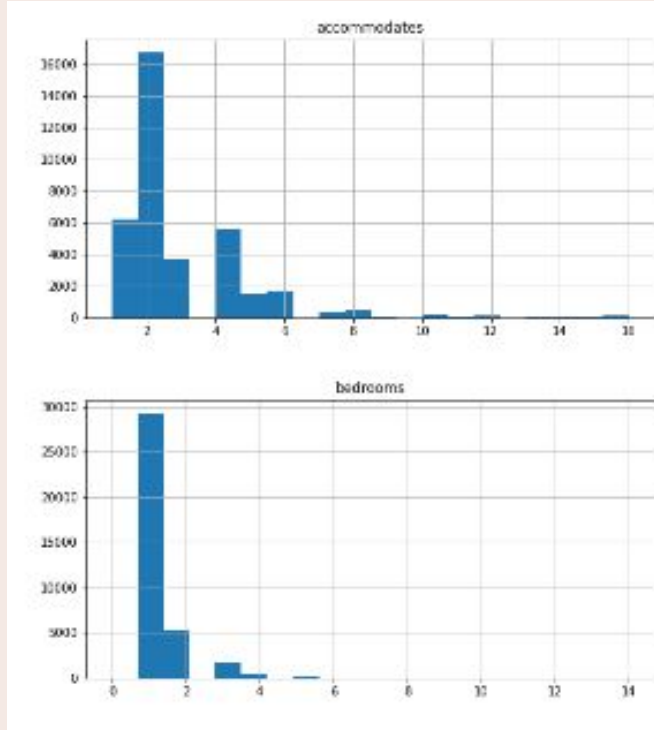
Number of features in the original dataset



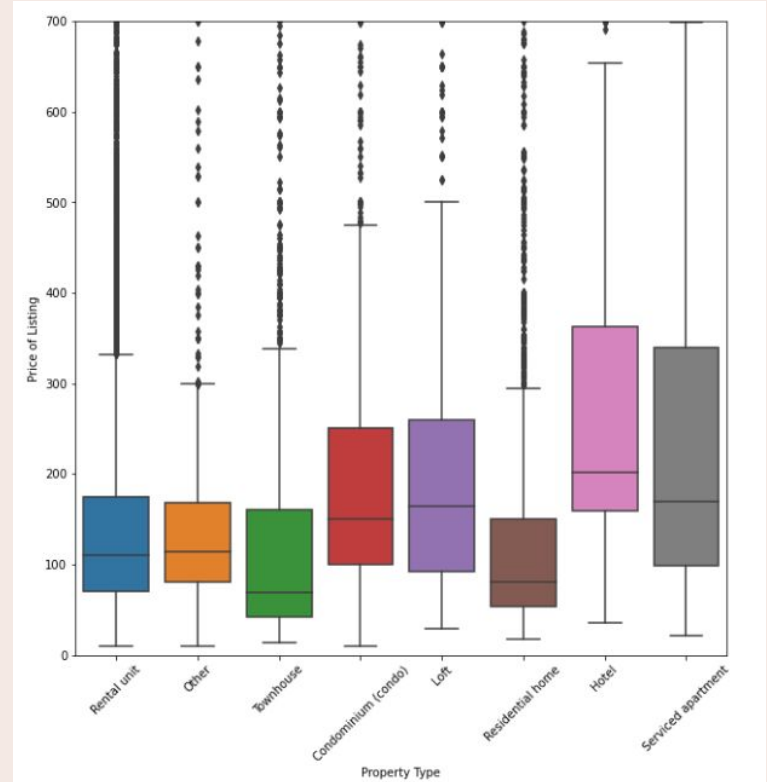
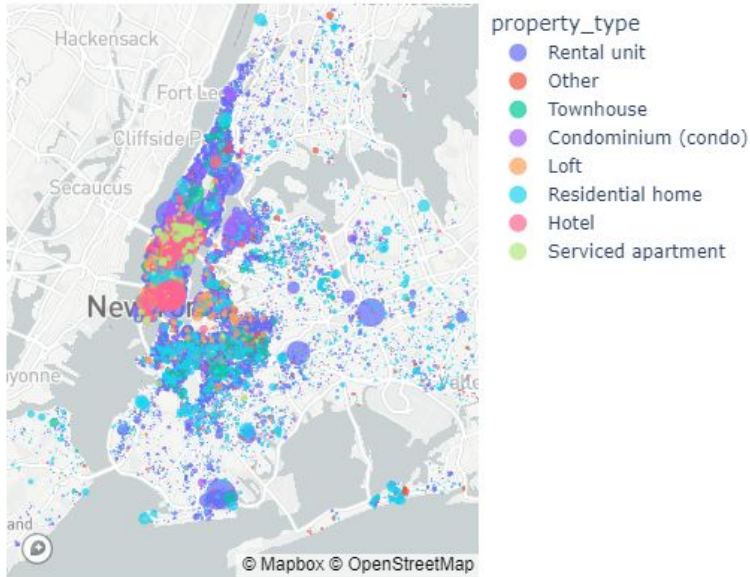
Initial Distribution of Price



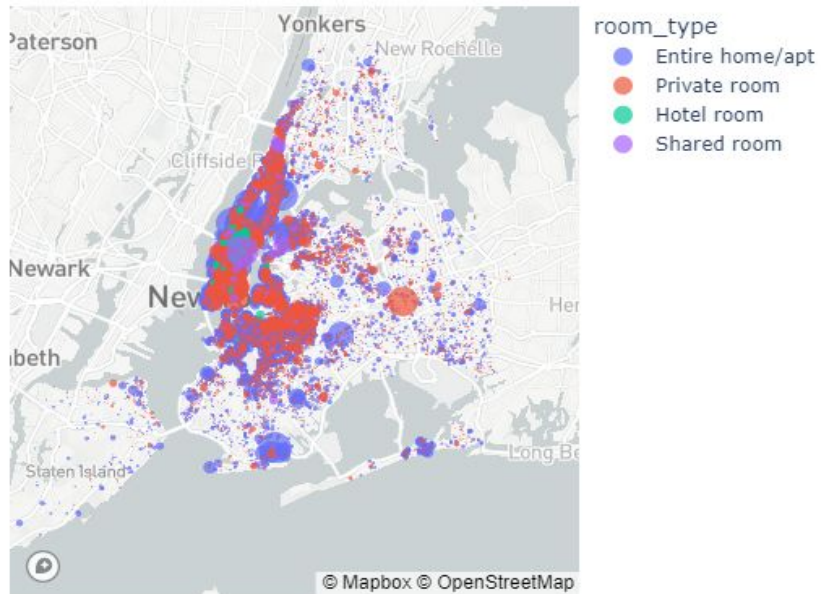
EDA: Amenities, Bathrooms, Bedrooms, and Beds



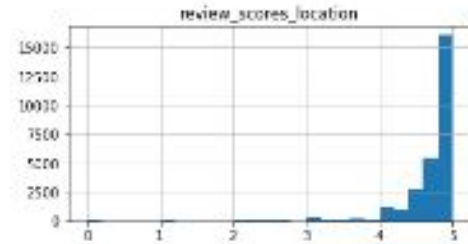
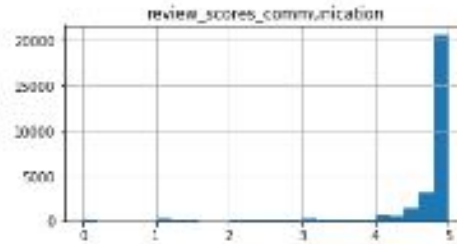
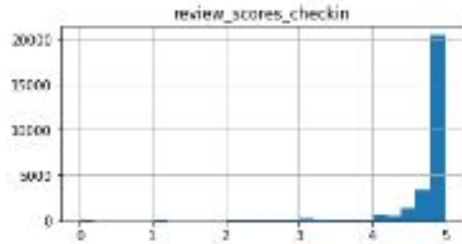
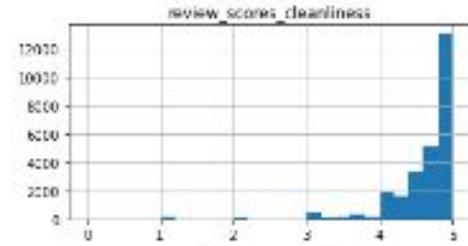
EDA: Property Type and Room Type



EDA: Room Type



EDA: Reviews

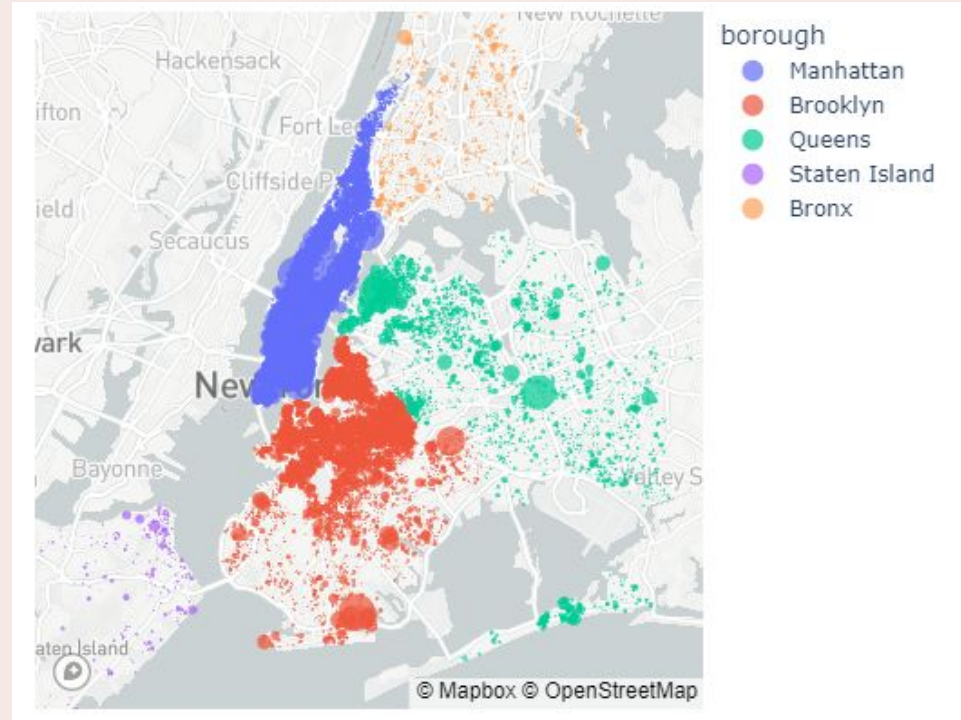


EDA: Location, Location, Location (Borough)

Manhattan had the highest number of listings at 16,182, while Staten Island had the lowest with 313

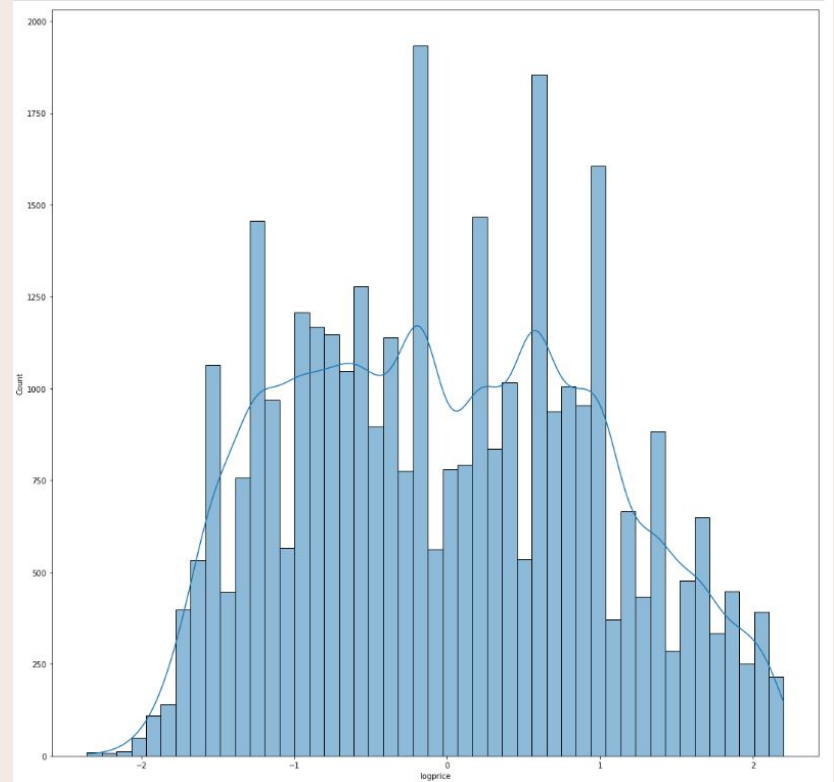
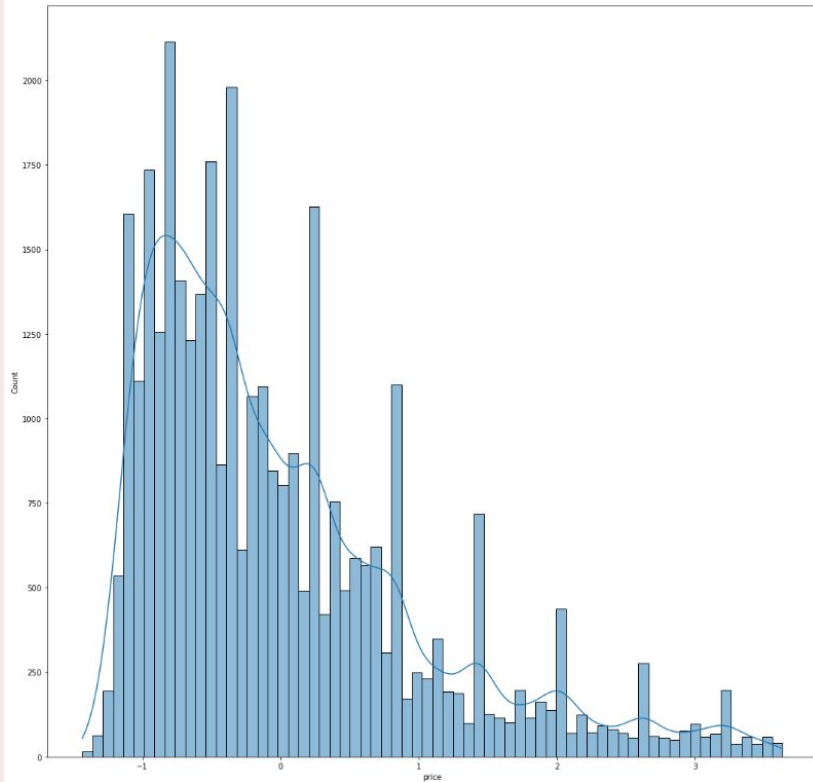
Manhattan once again claimed the highest value at \$214, Bronx had the lowest at \$104.

Manhattan has the largest range of variability of prices while Bronx has the smallest. However, a large majority of the listings in each borough are listed at a price of less than \$1,000.





Pre-Processing: Target Variable (Price)



Model Selection



Linear Regression



Ridge Regression



k-Nearest Neighbors

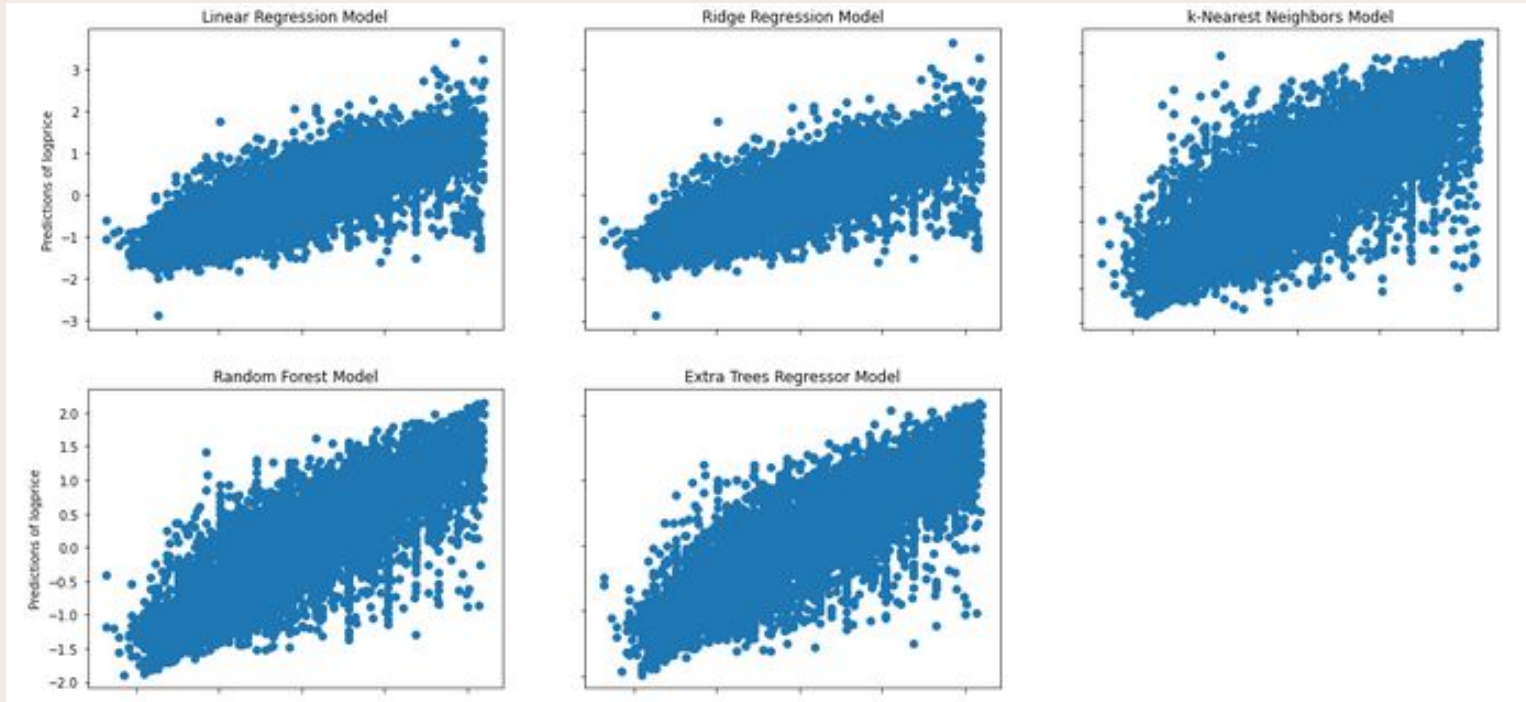


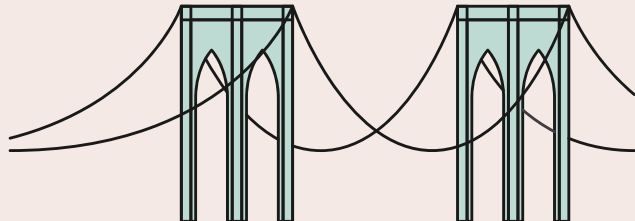
Random Forest ✓



Extra Trees Regressor

Model Selection





THANKS!



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