NYC Airbnb Price Prediction

"Belong Anywhere"

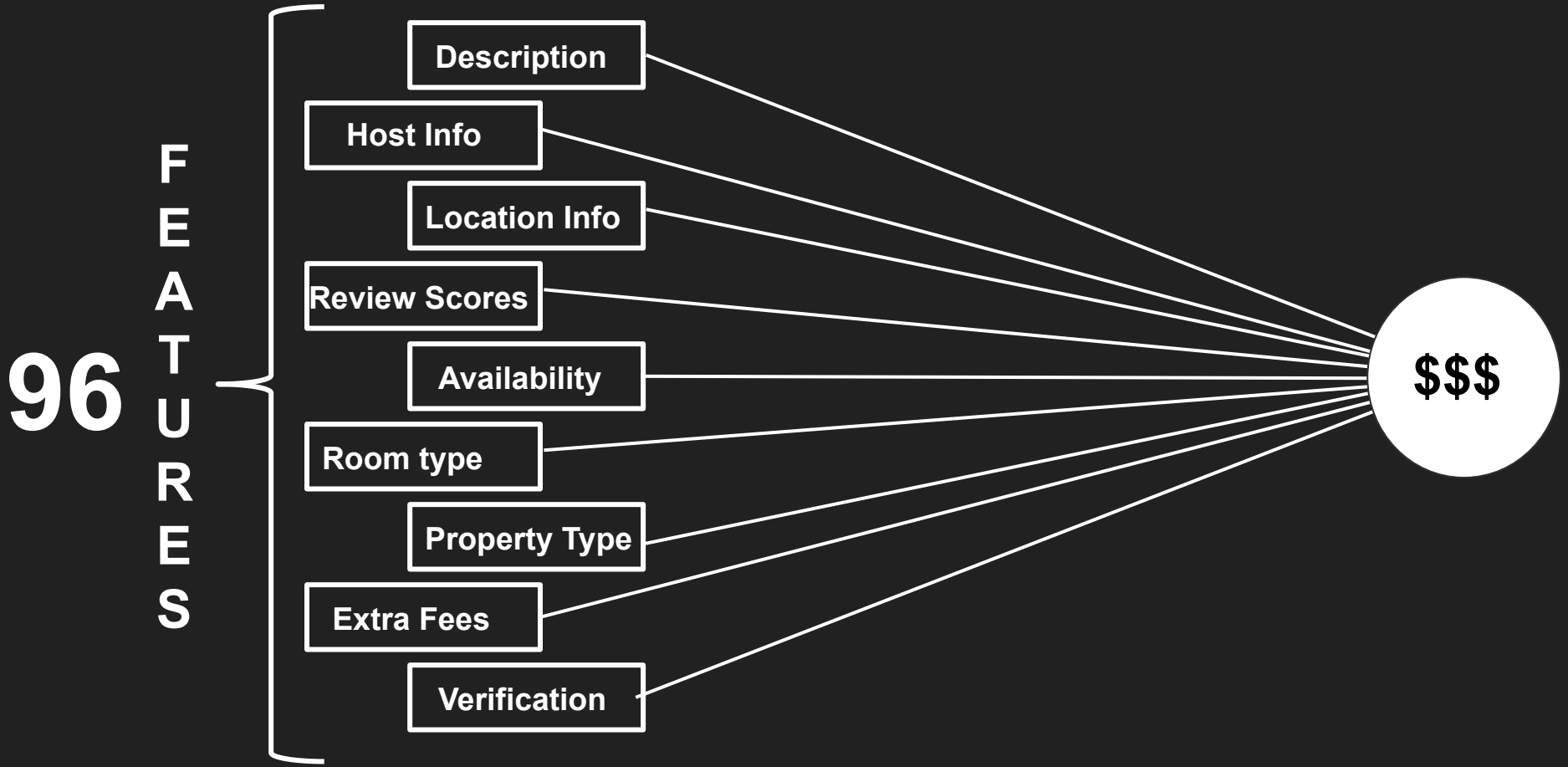
Kavisha Shroff

Problem Statement:

- Predict prices based on different features

Business Value:

- Help the hosts price their property appropriately
- Fair pricing for customers


96
FEATURES
Description
Host Info
Location Info
Review Scores
Availability
Room type
Property Type
Extra Fees
Verification
$$$

Drop redundant and useless features

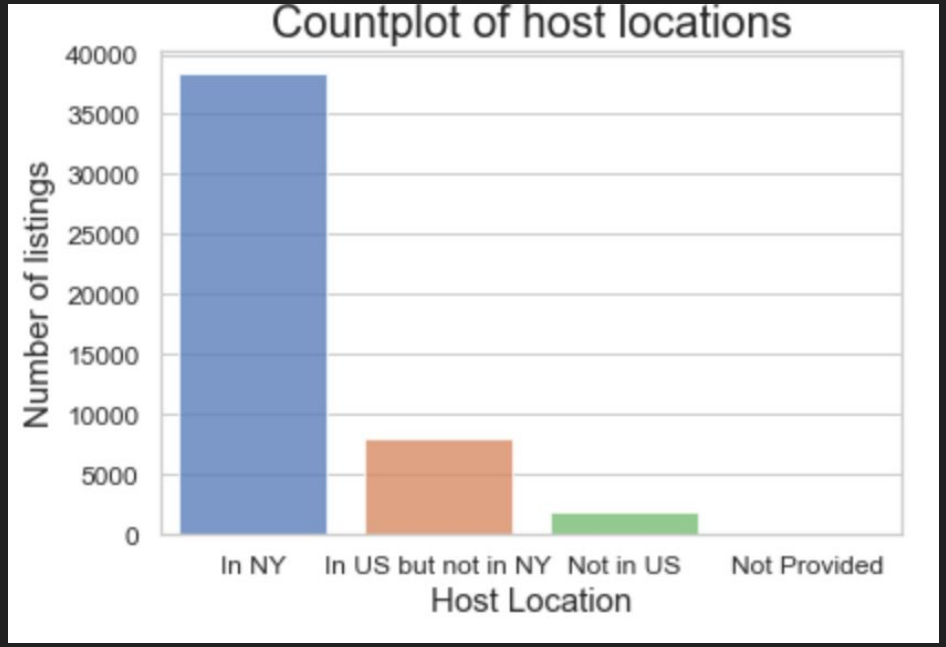
Removing Outliers

Drop / Fill missing values

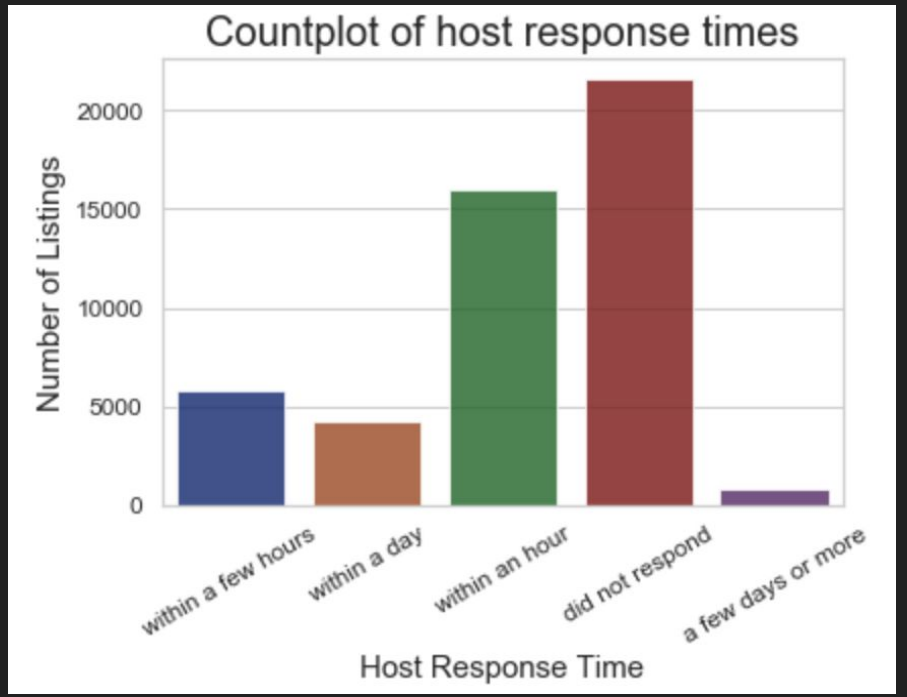
Clean up noisy data

96

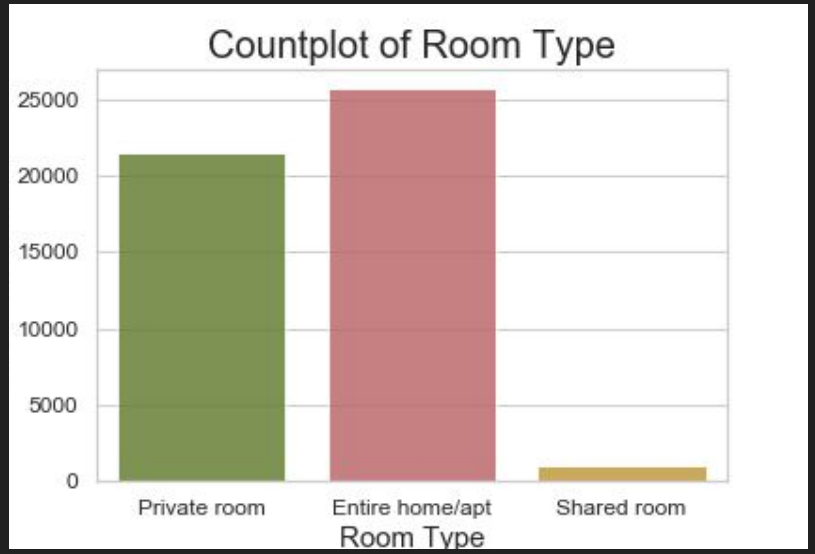
55
Features



- Most of the hosts lived in NYC

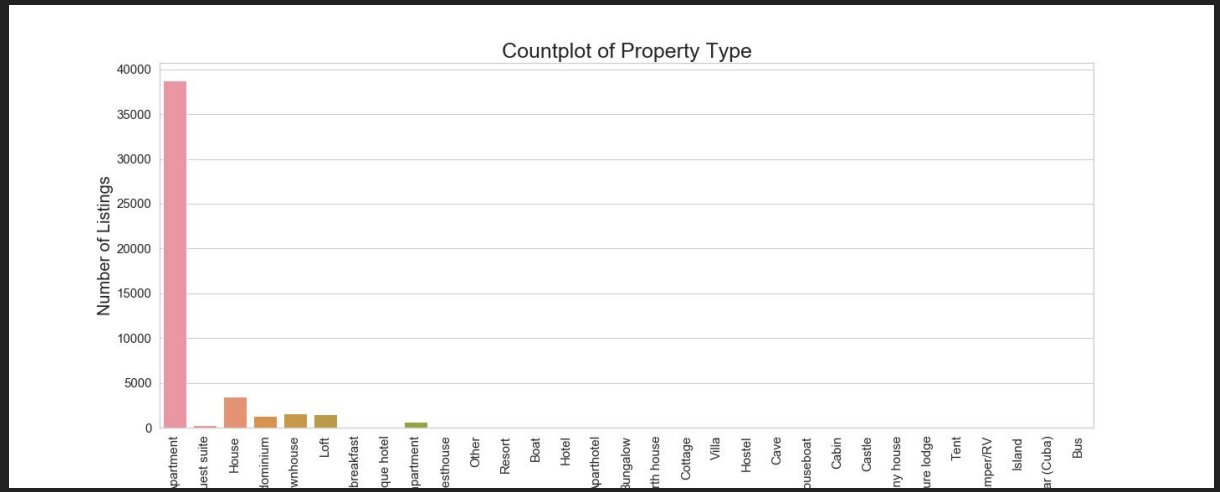


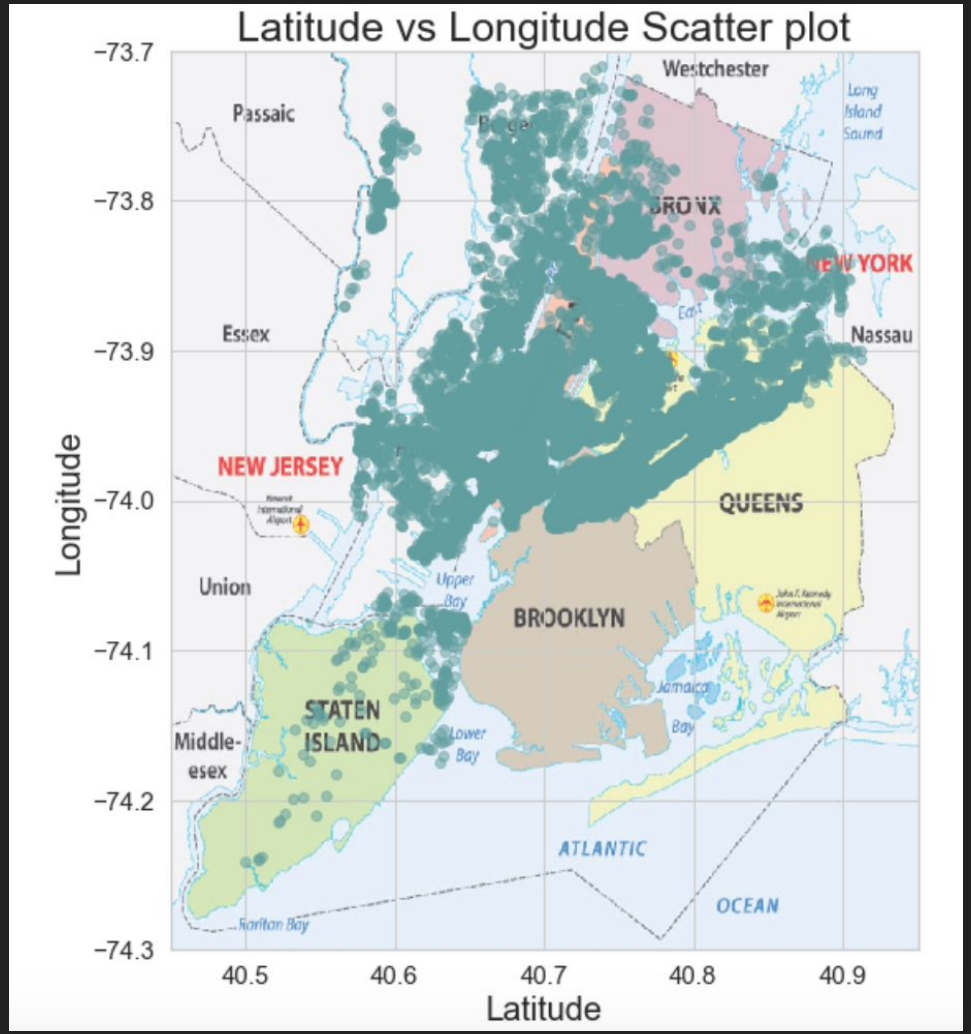
- A majority of hosts did not respond, while the second majority responded within an hour.



- Room types were mainly composed of a private room or an entire apartment.

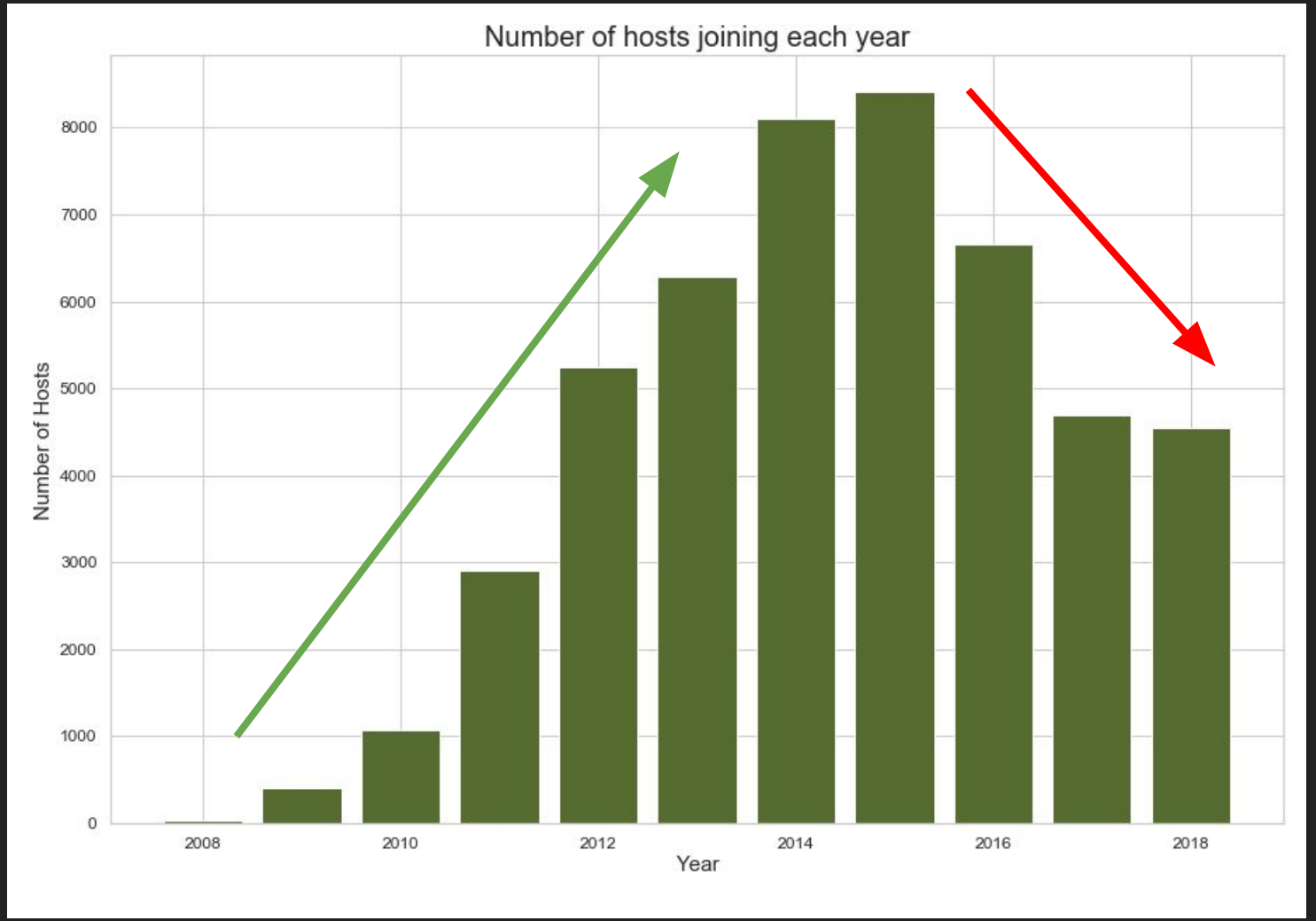
- Preferred property type were apartments.





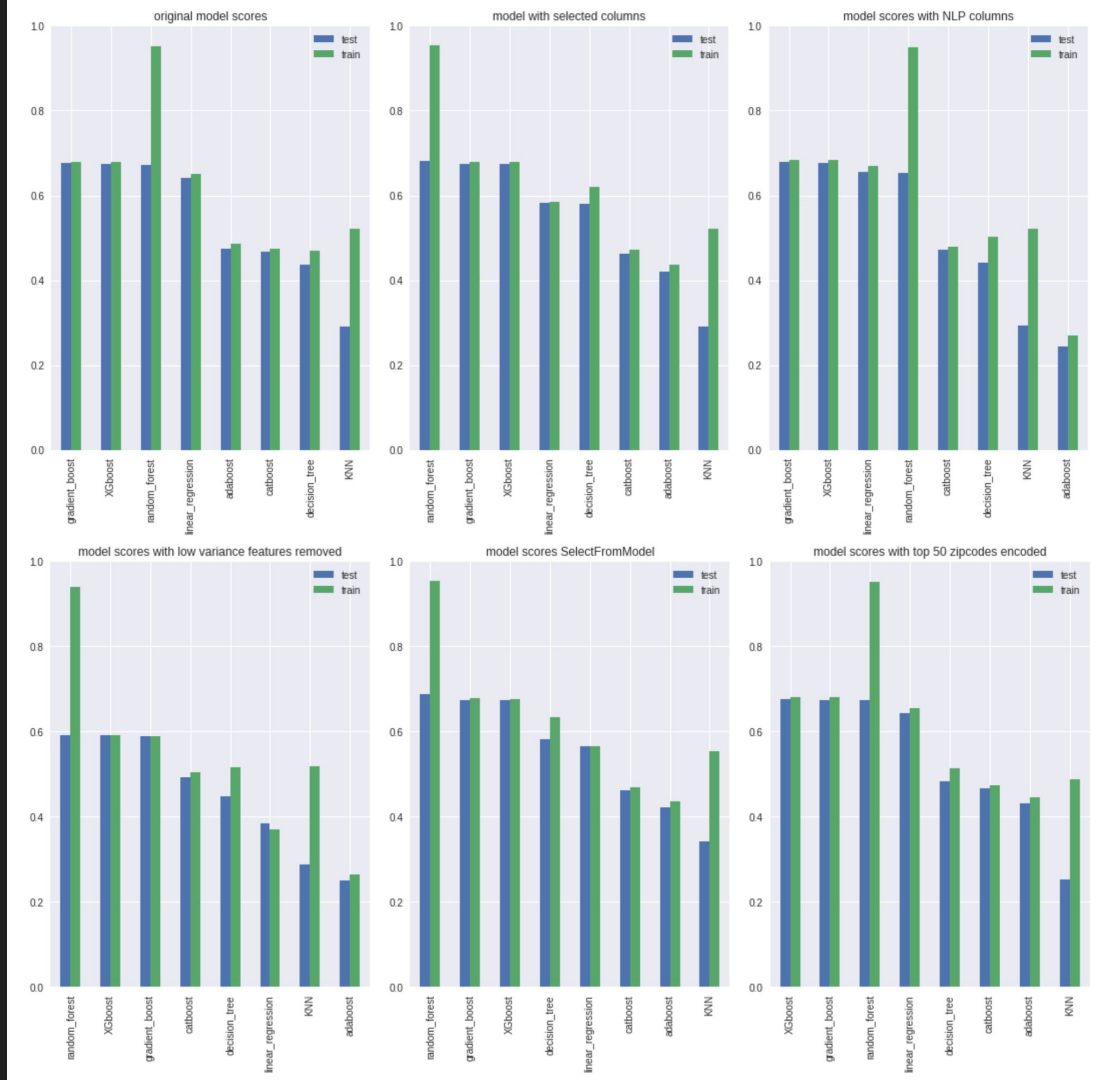
The five main boroughs of NYC:

1. Manhattan
2. Staten Island
3. Brooklyn
4. Queens
5. Bronx


Number of hosts joining each year
Number of Hosts
0
1000
2000
3000
4000
5000
6000
7000
8000
2008
2010
2012
2014
2016
2018
Year

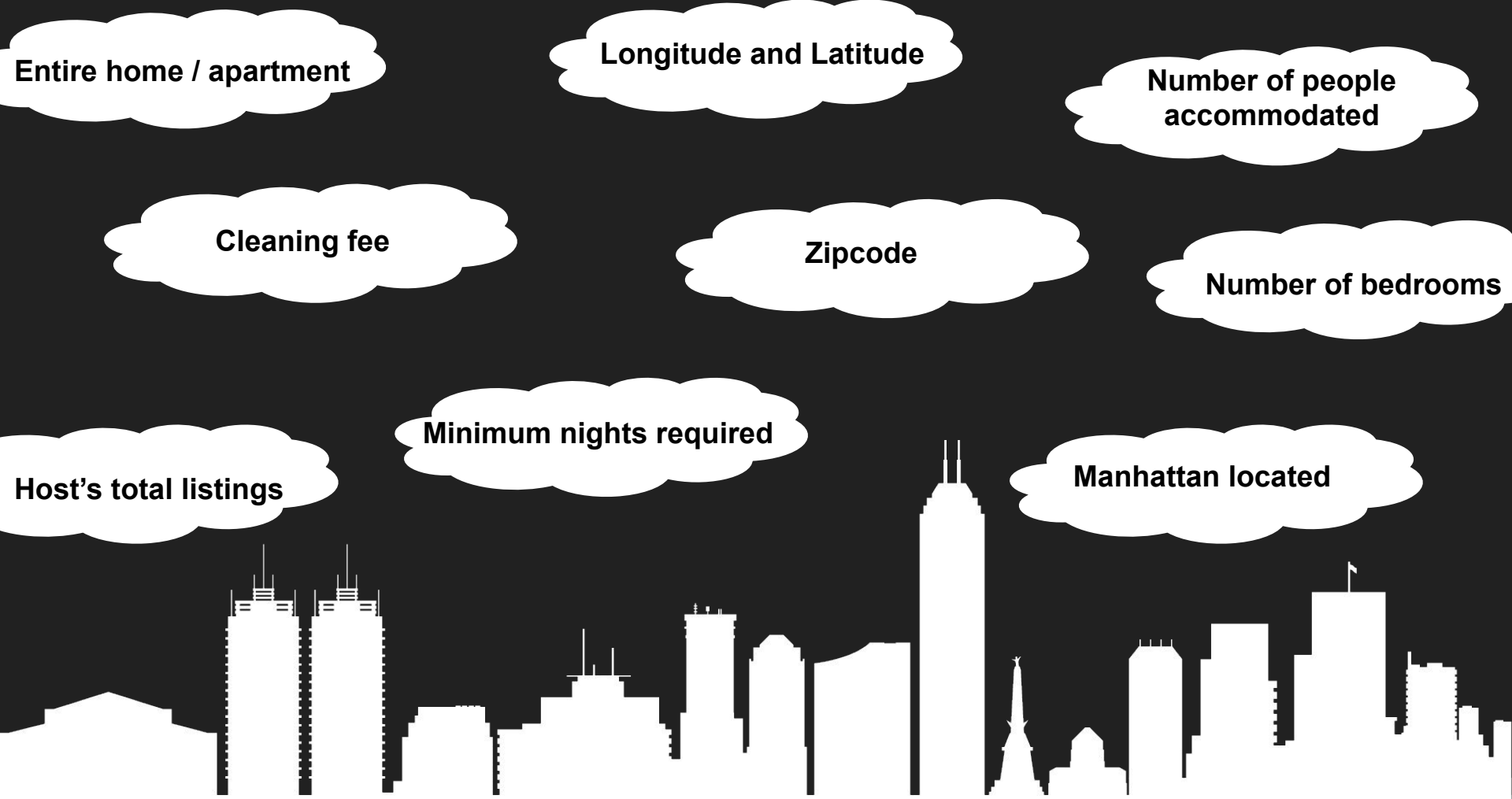

Manhattan
$
Brooklyn
$
>25 amenities
$
<13 amenities
$
< 78% Rating
$
> 99% Rating
$

Scores for price prediction using different regression models



Best prediction using
Random Forest Regressor

69%
Accuracy!!



The most important NYC Airbnb features for predicting prices

Further steps …

Pick and choose a few features and try price prediction models again to get more accurate price predictions.
Combine regression models and fine tune the results further.