



BnB Assistant for Successful Pricing

Created By: Tim Cummins



Journey So Far

Project Objective

Understanding the Data

Data Prep for Regression

FSM

Feature Engineering

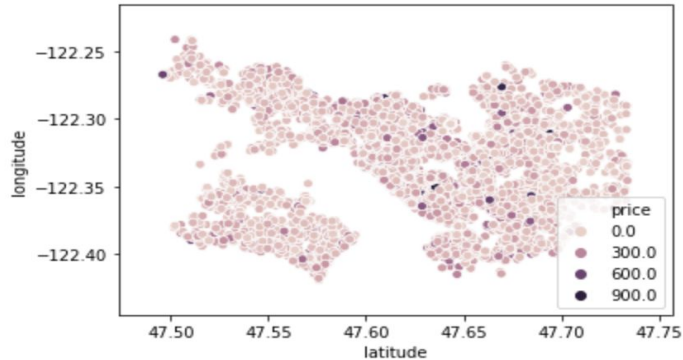
Additional Data

Future



Project Objective

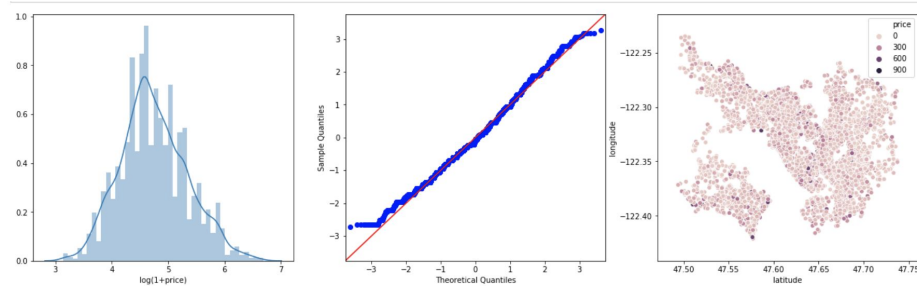
Predict Pricing For Seattle Rental Properties



Data

- AirBnB Website
- ~7k rows
- 100 features
- Stops at December 2019

Exploratory Data Analysis



Data Prep

- Missing Data
- OneHotEncoder
- Outliers
- Natural Language Processing
 - TF-IDF Vectorizer

Baseline Model

Linear Regression

- Low R^2 (close to 0)
- Drastic Negative Intercept

Feature Engineering

- Removed properties listed for \$0/night or over \$800/night
- Changed minimum nights into a grouping category: 1 night, 2-7 nights and greater than 7 nights
- Removed new properties (no reviews)

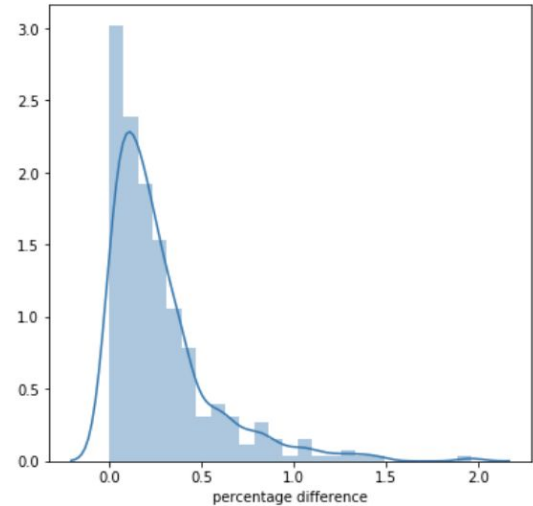
Current Model/ Additional Data

Random Forest Regressor:

- R^2 : 0.67
- MAE: 33.8
- Percent Diff Avg: 0.27

Flask App:

<https://github.com/trossl/AirBnBFlask>



Price Prediction

Price:
\$85

Prediction:
\$85



Price:
\$95

Prediction:
\$83



Price Prediction

Price:
\$169

Prediction:
\$171



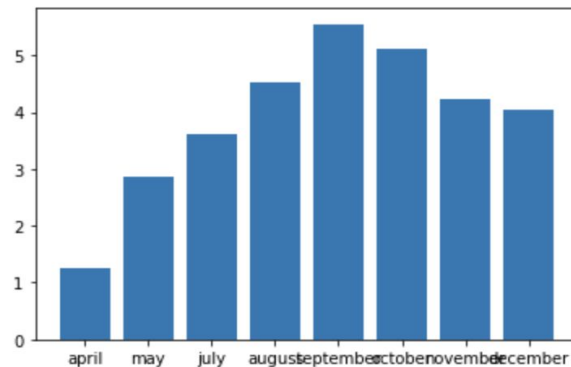
Price:
\$299

Prediction:
\$217



Future Additions

- Add distance from top 5 attractions in the area:
 - Seattle Center
 - Pike Place
 - Ballard Locks
 - Chihuly Garden
 - Woodland Park Zoo
- Suggest change in price for seasons
- Suggest changes to listing name to increase value
- Add a map for selection
- Image processing



Contact Info

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