BnB

Assistant for

Successful

Pricing

Created By: Tim Cummins

Journey So Far

Project Objective

Understanding the Data

Data Prep for Regression
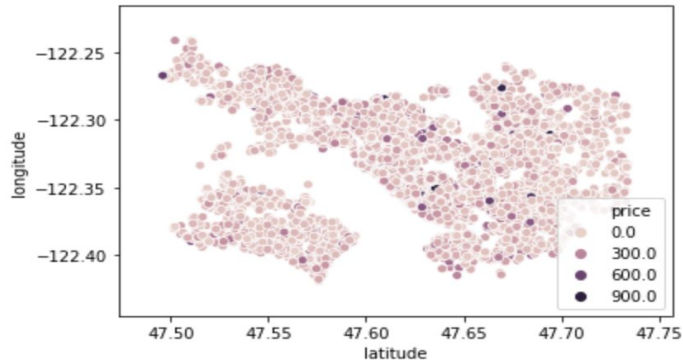
FSM

Feature Engineering

Additional Data
Future

Project Objective

Predict Pricing For Seattle Rental Properties

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

Data Prep

- Missing Data

- OneHotEncoder

- Outliers

- Natural Language Processing

  - TF-IDF Vectorizer

Baseline Model

Linear Regression

- Low R2 (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
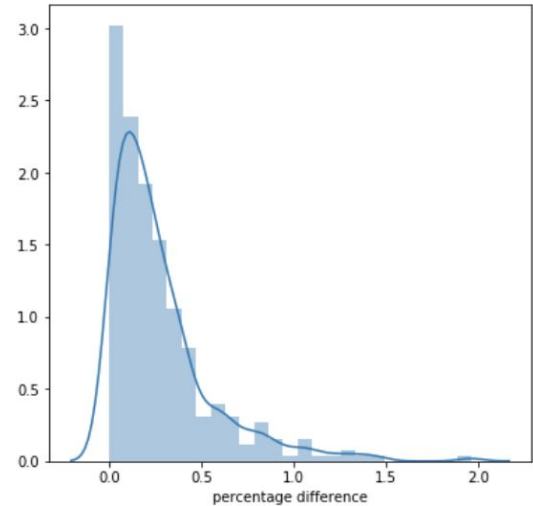
- Removed new properties (no reviews)

Current Model/ Additional Data

Random Forest Regressor:

- R2: 0.67

- MAE: 33.8

- Percent Diff Avg: 0.27

Flask App:

https://github.com/trossII/AirBnBFlask

Price Prediction

Price:
$85

Prediction:
$85

Price:
$95

Prediction:
$83

Price Prediction

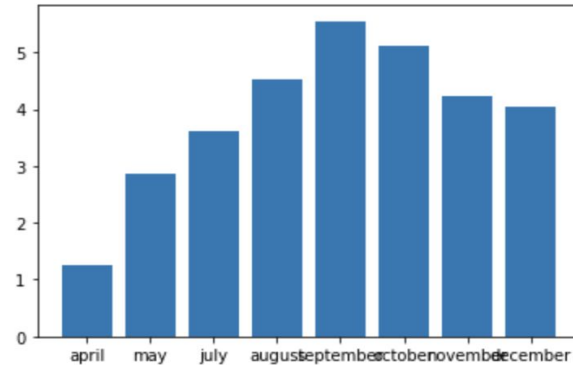Price:
$169

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

Timothy Cummins

Email: trosscummins@gmail.com

GitHub: https://github.com/trossII

LinkedIn: https://www.linkedin.com/in/trcummins/