AIRBNB
The Pricing of Rentals in Bogota Colombia

airbnb

Introduction

Motivation – Goals

- Explore Airbnb pricing
- Learn how features relate to price
- Predict price with linear model

Gathering the data

- Web scrapping
- 1500 observations
- 12 features

Constraints

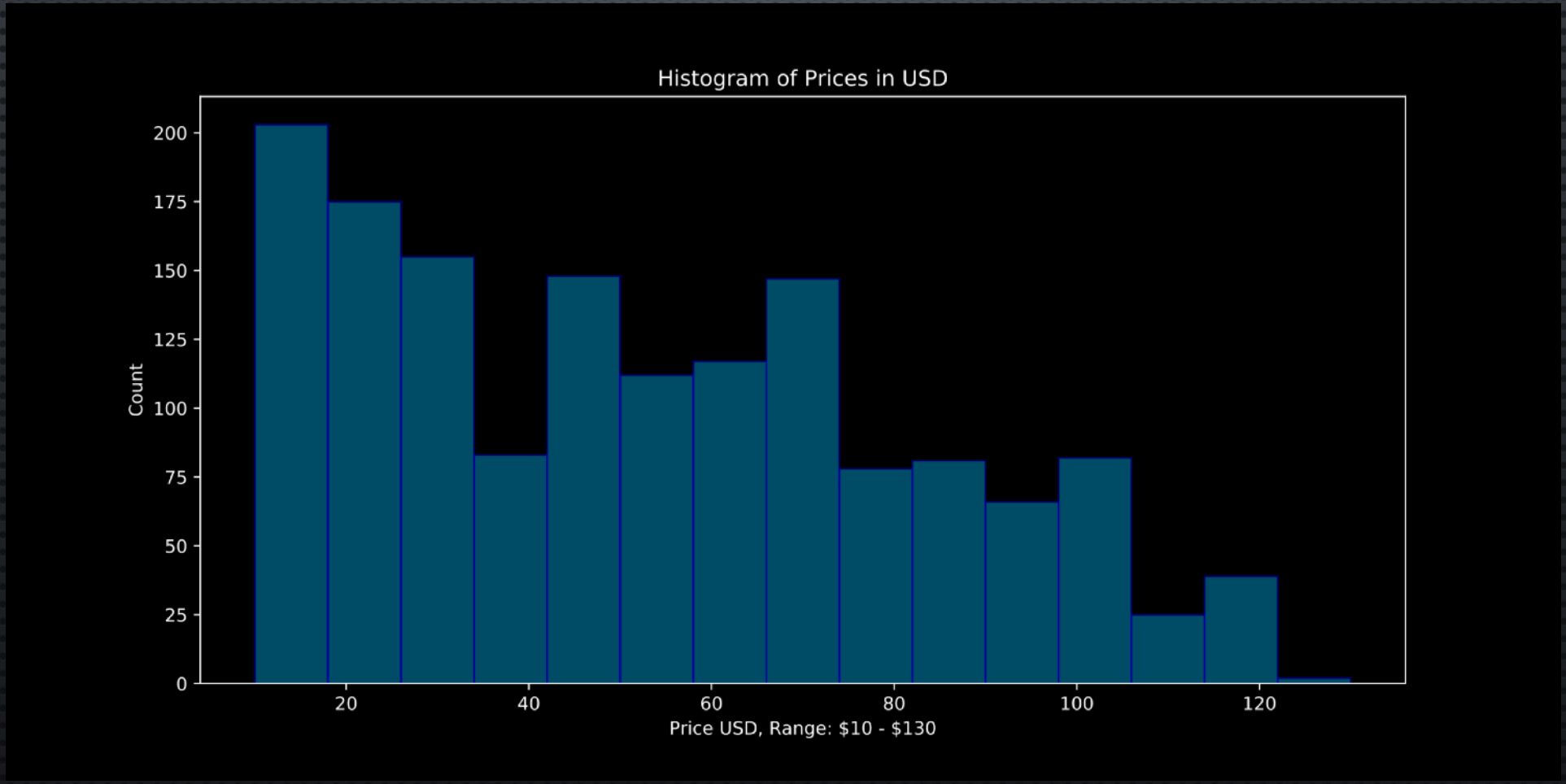
- Entire homes
- Available Dec. 22 to Dec. 28
- Priced between $20 & $110

Tools

Beautiful soup * Selenium * Json

Python * pandas * SKLearn * Numpy

AIRBNB PRICING



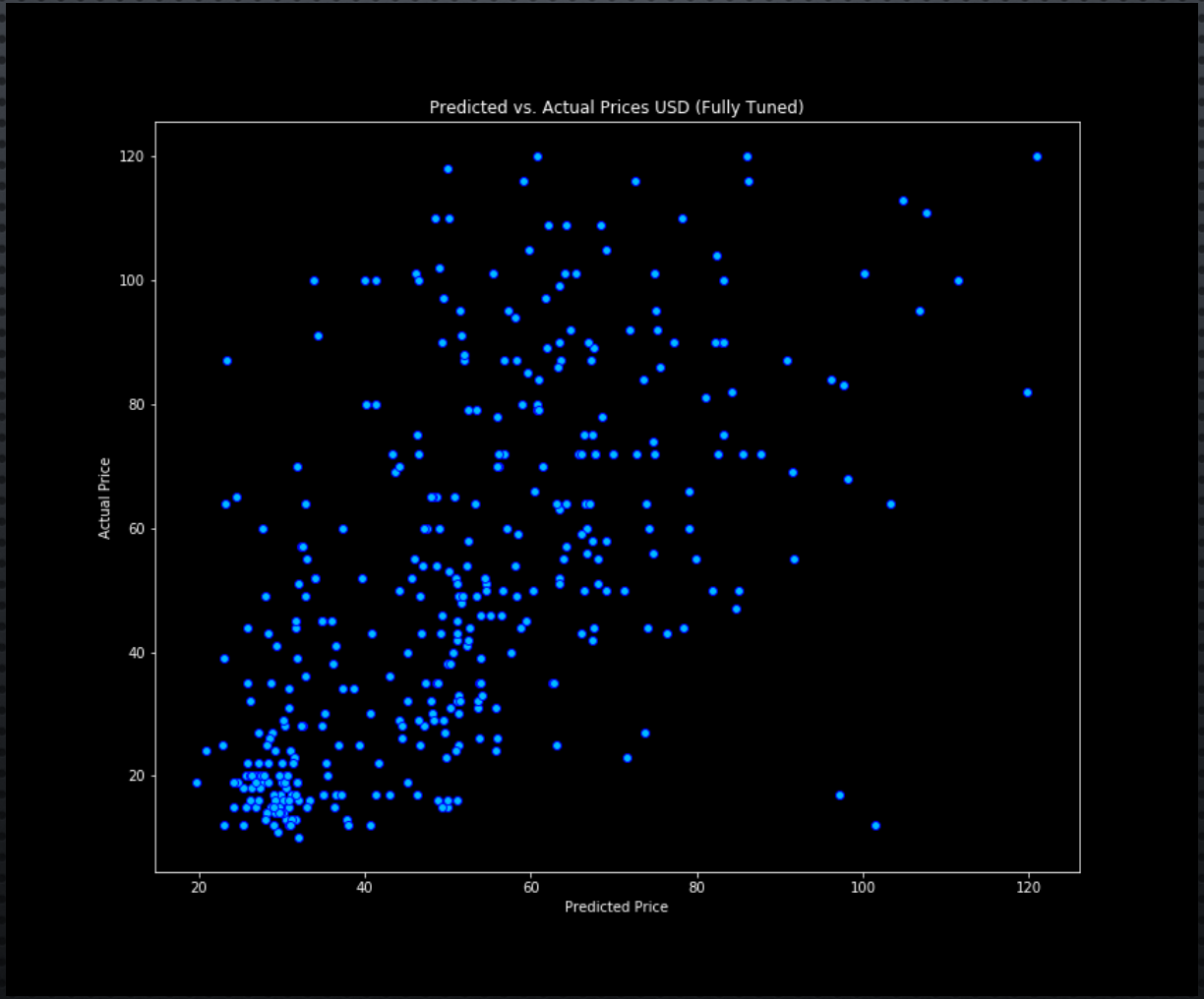
Price prediction results

- Linear regression
- Root mean square error: $23.26

Tuned results

- Linear regression
- Root mean square error: $22.97

TUNED RESULTS



Heavy Hitters

Bedrooms: $8+ Each

Bathrooms: $7+ Each

Distance: Up to $20

Free Parking: $18

Recommendations

- Open up any additional space
- Take location into account
- Give up your parking spot

Future work

- Adding more features
- Further investigate location effects
- Dig deeper into parking and its impact

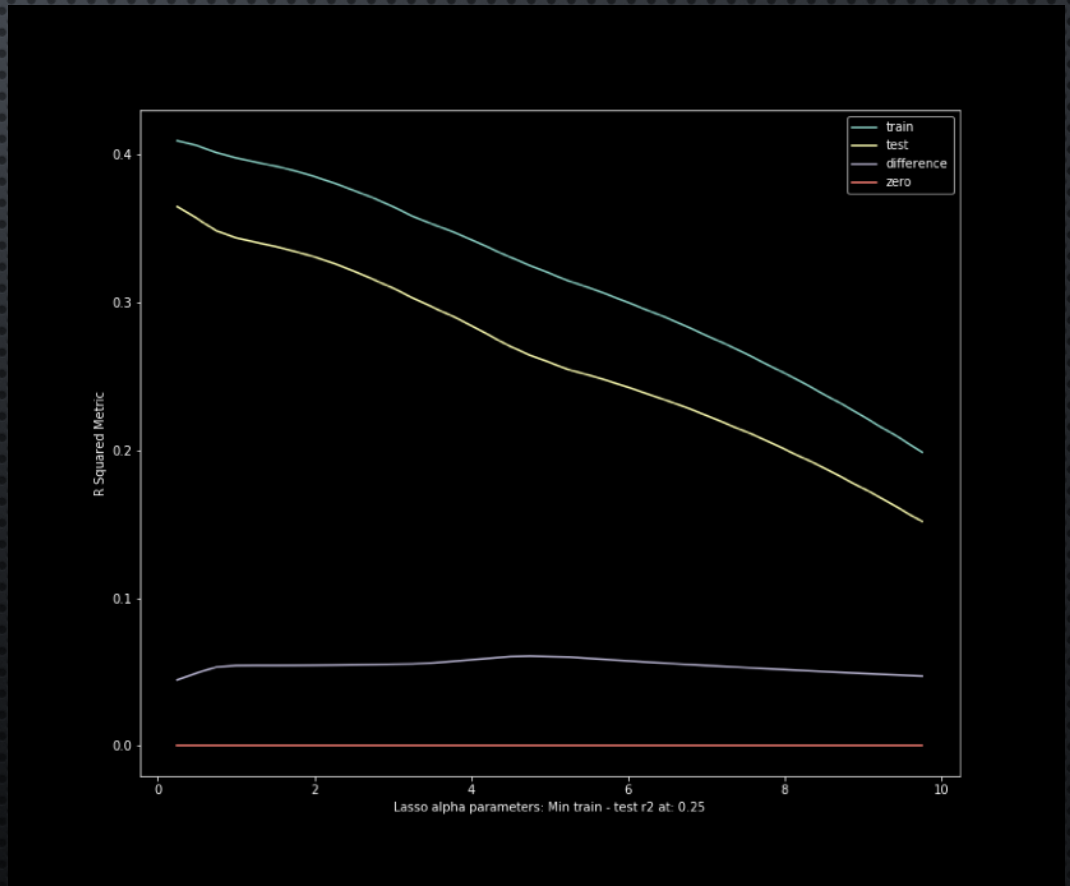
QUESTION?

Appendix

- Lasso Regression
- Ridge Regression
- Json

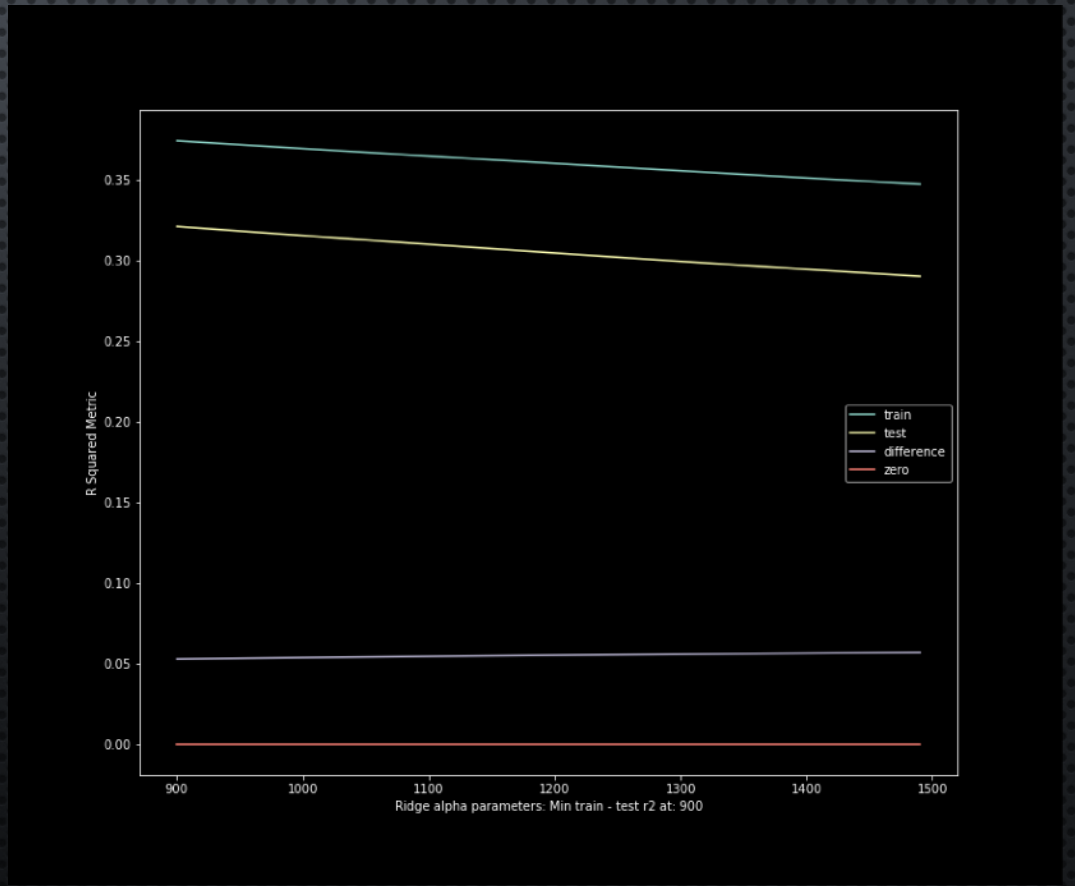
LASSO

Attempts were made to implement Lasso regression to obtain a better fit were unsuccessful. No beneficial alpha value could be found.



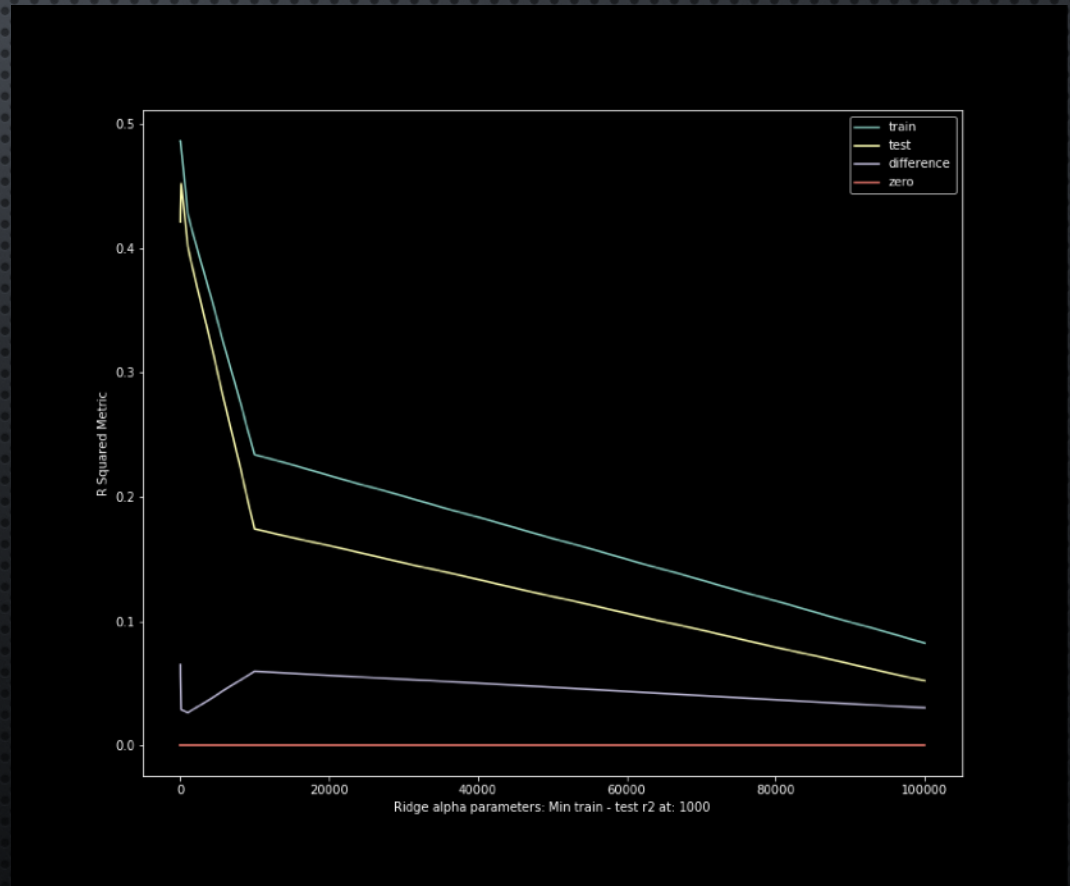
RIDGE

Attempts with Ridge Regression were also unsuccessful.



RIDGE

Pushing the alpha values ever higher did not help.



JSON

Airbnb places a json object in some of there pages which made scraping smpler once the appropriate object locations were located.

More legitimate scraping and cleaning was performed in previous notebooks located in my repository. Including: Airbnb_get_details.ipynb, Airbnb_Iteration_2.ipynb