

# PREDICTING PROPERTY RENTAL PRICE

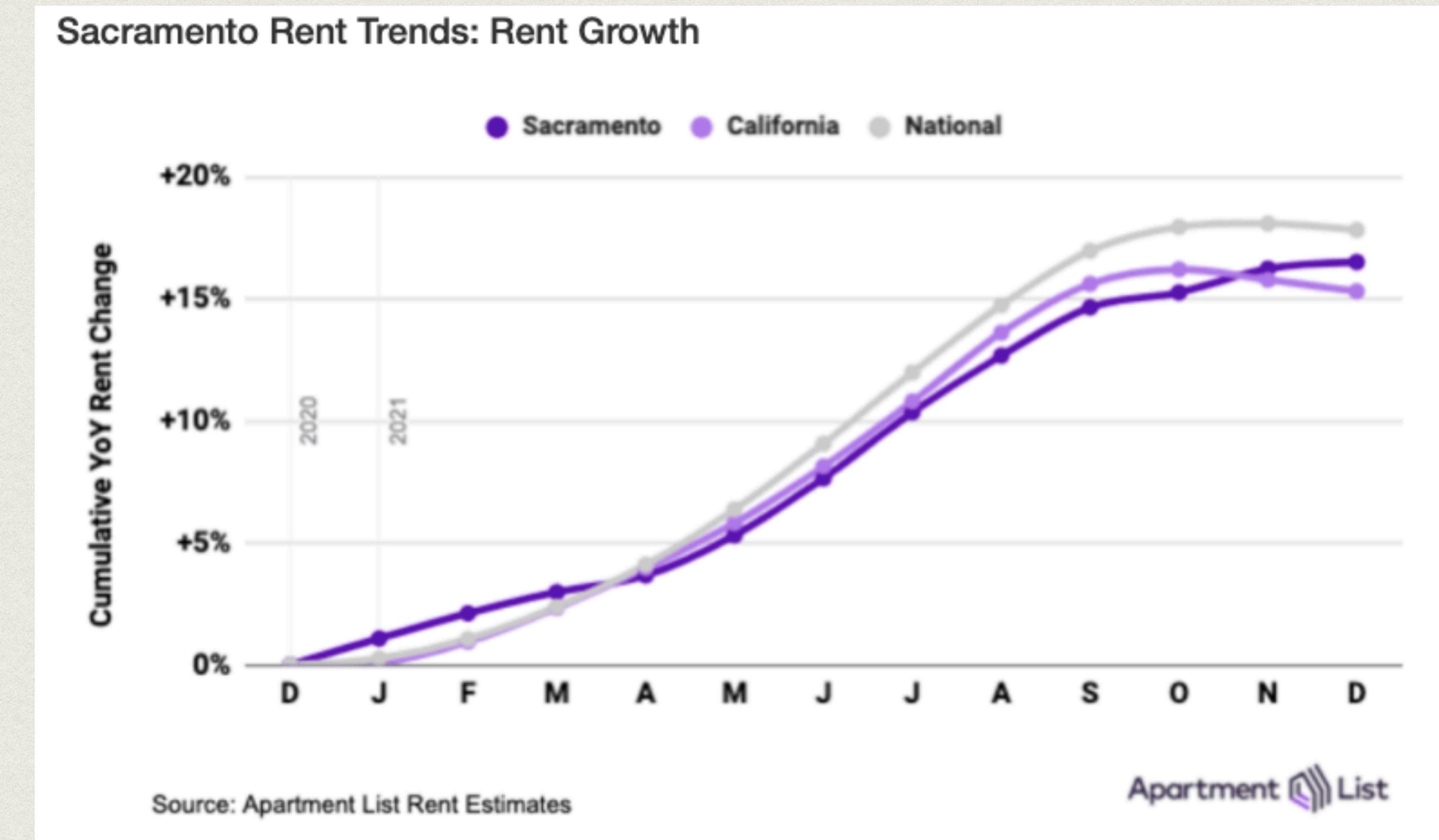
*By:*

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*Jan, 2022*

# INTRODUCTION

- Rental prices has increased by 17% over the past year
- Build a model to predict renal prices

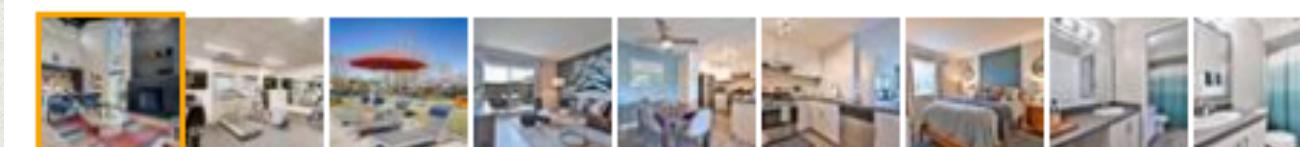


- <https://www.apartmentlist.com/renter-life/average-rent-in-sacramento>

# THE DATA

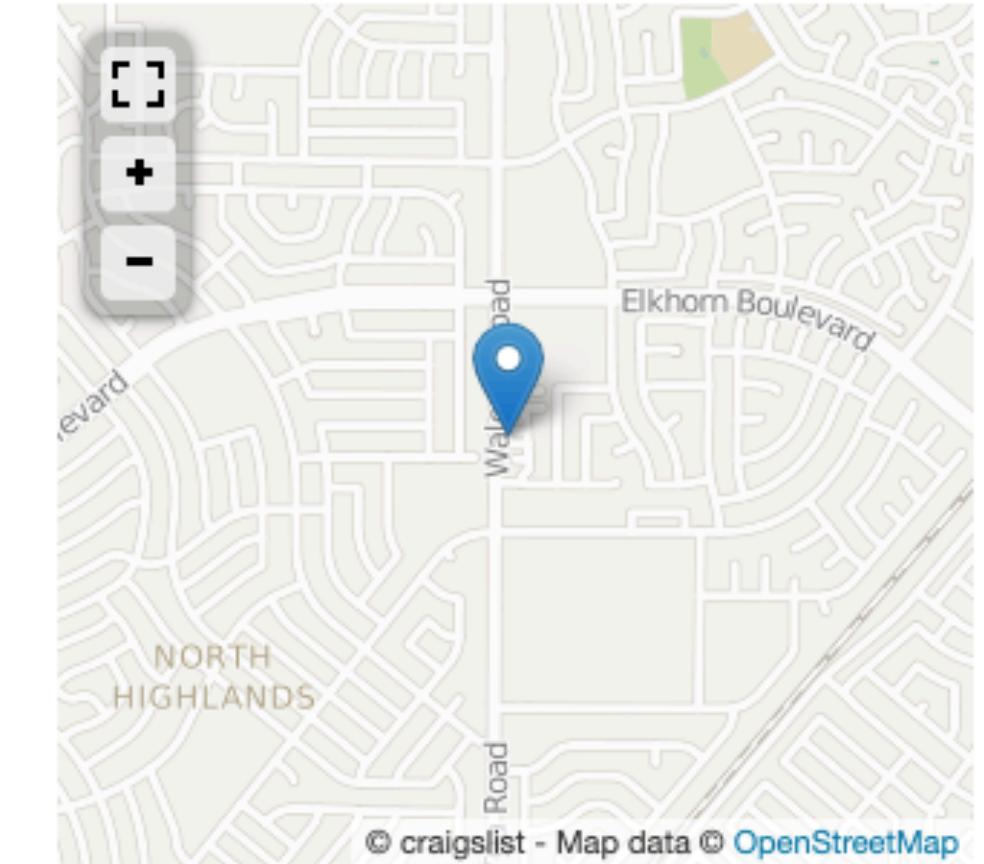
- Sacramento Craigslist Housing Posts <https://sacramento.craigslist.org/>

**\$2,100 / 2br - 938ft<sup>2</sup> - Amazing Roommate Style Two Bedroom Two Bath includes W/D! (Sacramento, CA)**



**2 bedroom 2 bath 938Sq.Ft. From \$2,100/mo**

\* Unit 050 - Available Now



© craigslist - Map data © OpenStreetMap

6830 Walerga Road near Elkhorn Blvd  
([google map](#))

2BR / 2Ba   938ft<sup>2</sup>   available jan 25

cats are OK - purrr

dogs are OK - woof

flooring: wood

apartment

w/d in unit

no smoking

carport

# SCRAPE THE DATA

- Sacramento Craigslist
- <https://sacramento.craigslist.org/>
- Over 2,700 listings
- Over 10 Features
- Tools
  - BeautifulSoup
  - Selenium
  - Requests

# EDA

- After EDA:
    - Over 2, 400 listings
    - Over 10 Features
  - Missing
  - Outliers
  - Error Data Points
- Tools
- Pandas
  - Numpy
  - Matplotlib
  - Seaborn

# MODEL SELECTION

## Models

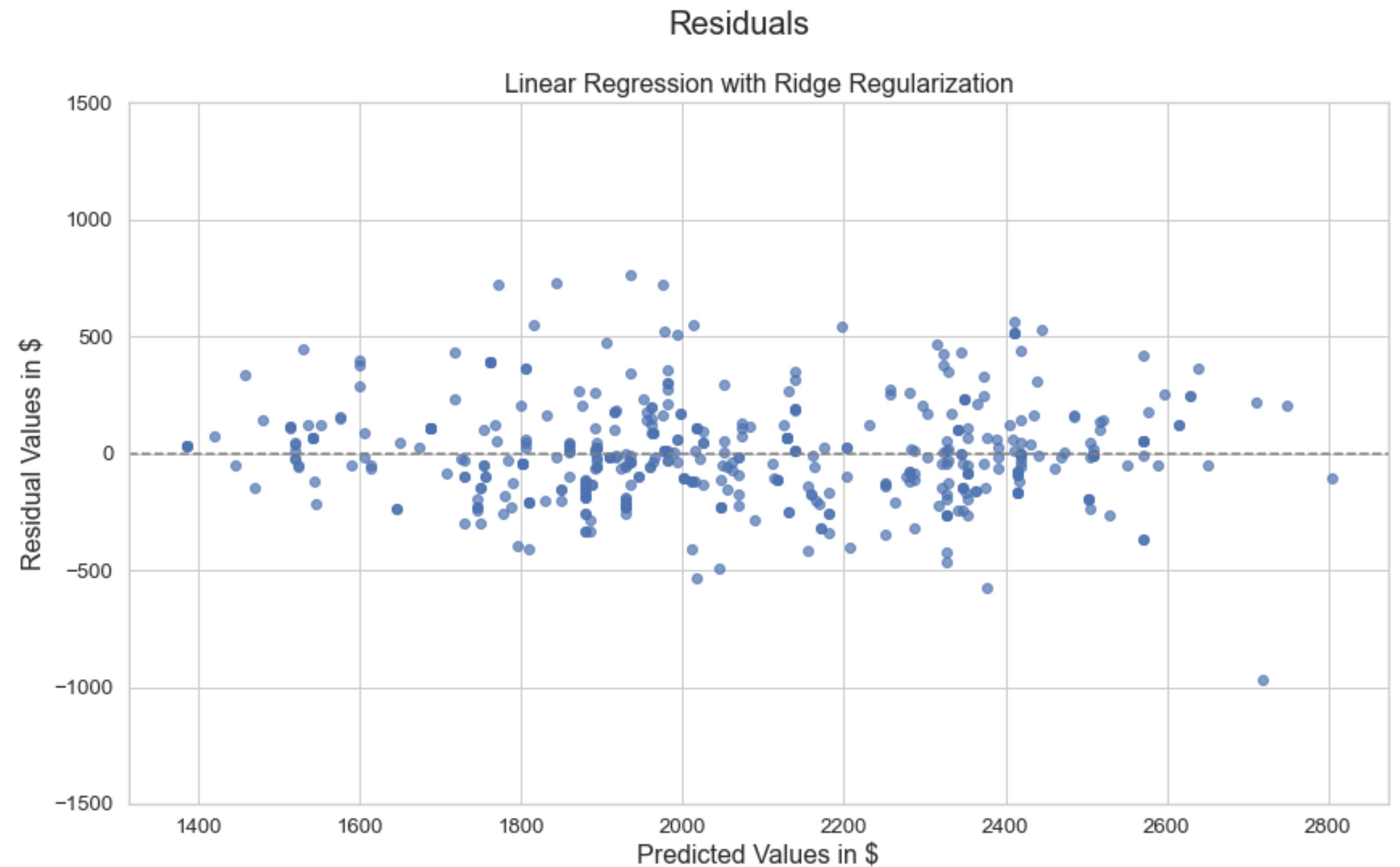
- Simple Linear Regression
- Ridge
- Lasso
- Polynomials
- Feature Engineering
- Regularization
- Interaction Terms

## Tools

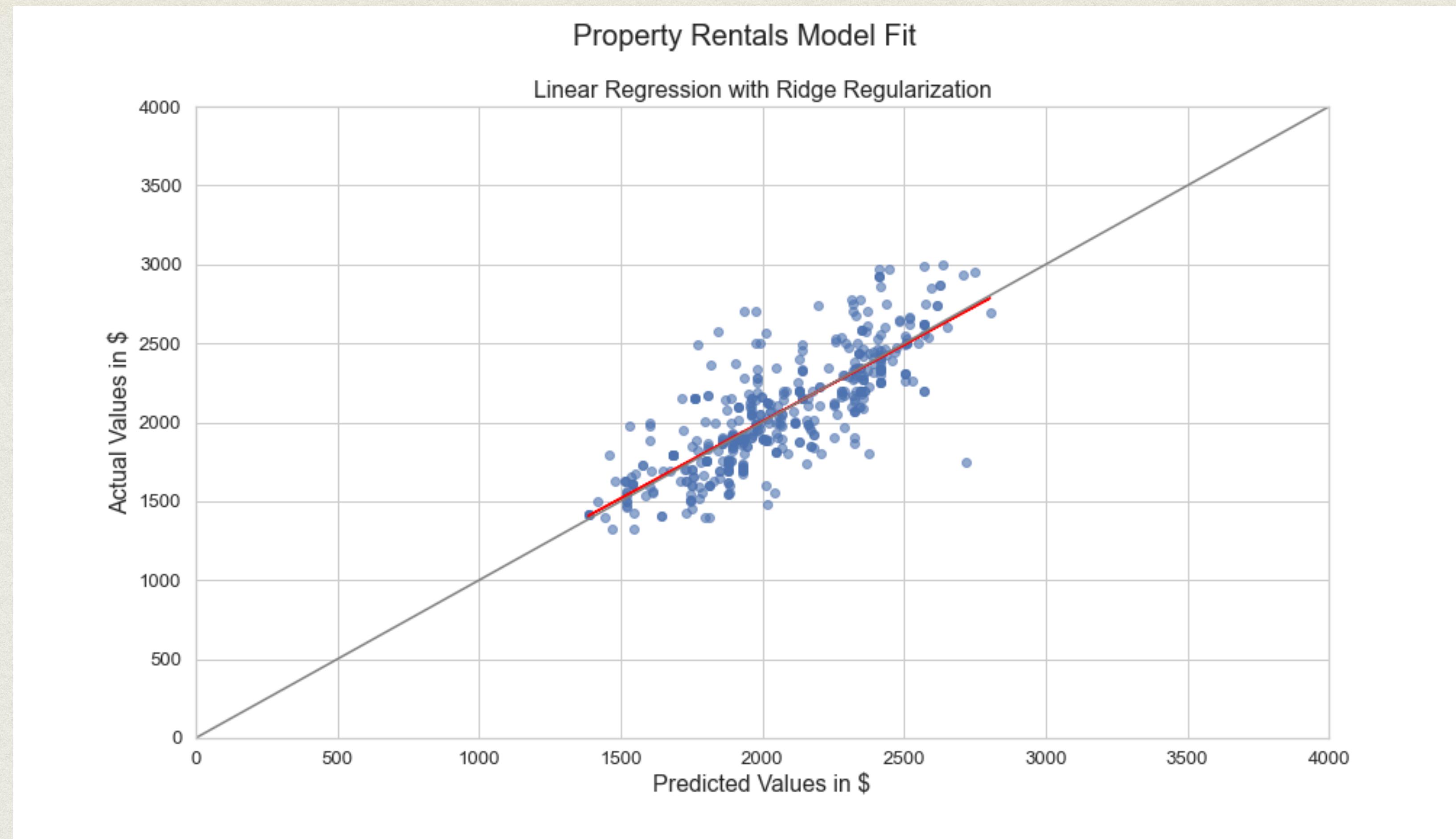
- Scikit-Learn
- StatsModel

# RESIDUALS

- Lasso showed greater variance
- Ridge more consistent



# MODEL FIT



Ridge - training score: 0.6746031094742542  
Rige - test score: 0.6898606383099264  
  
RMSE - training: 250.68140099376248  
RMSE - test: 256.0903058470375  
  
MAE - training: 180.91952088286098  
MAE - test: 181.50082233865282

# FUTURE WORK

- Incorporate local city data
- Gather data over a longer range