

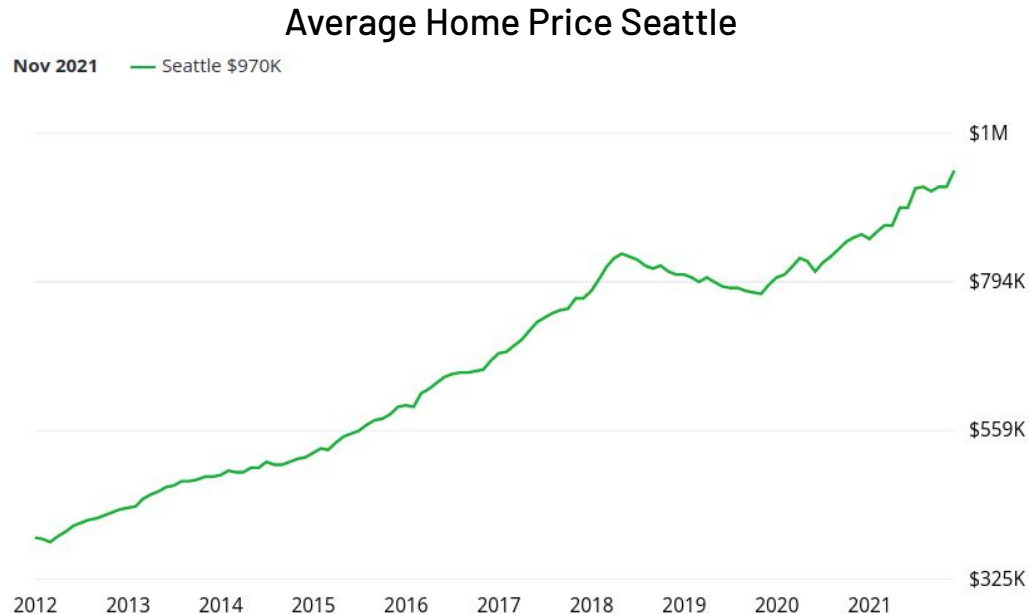
# Seattle Home Price Prediction Application



# BACKGROUND

## The Problem

- Seattle house prices steadily increasing
- Difficult to know present day value of home



Source: Zillow

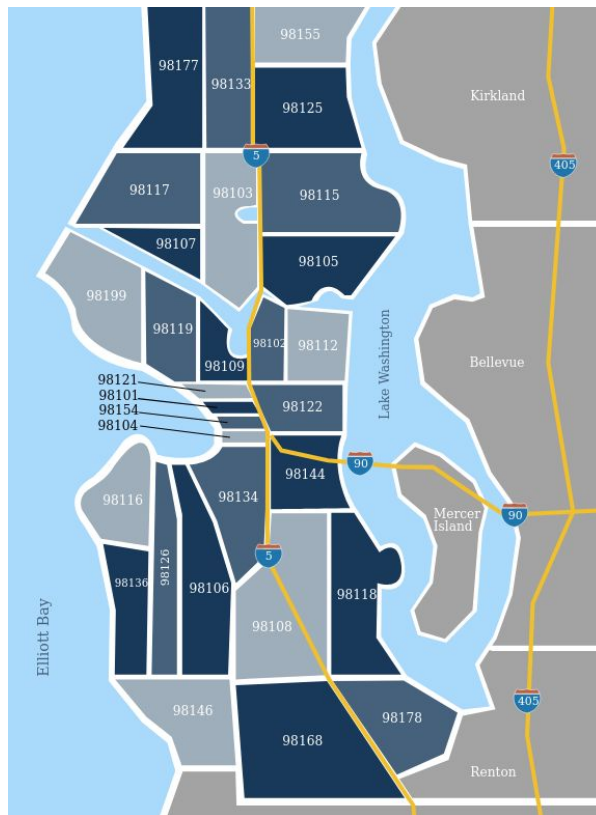
# INTRODUCTION

## Goal

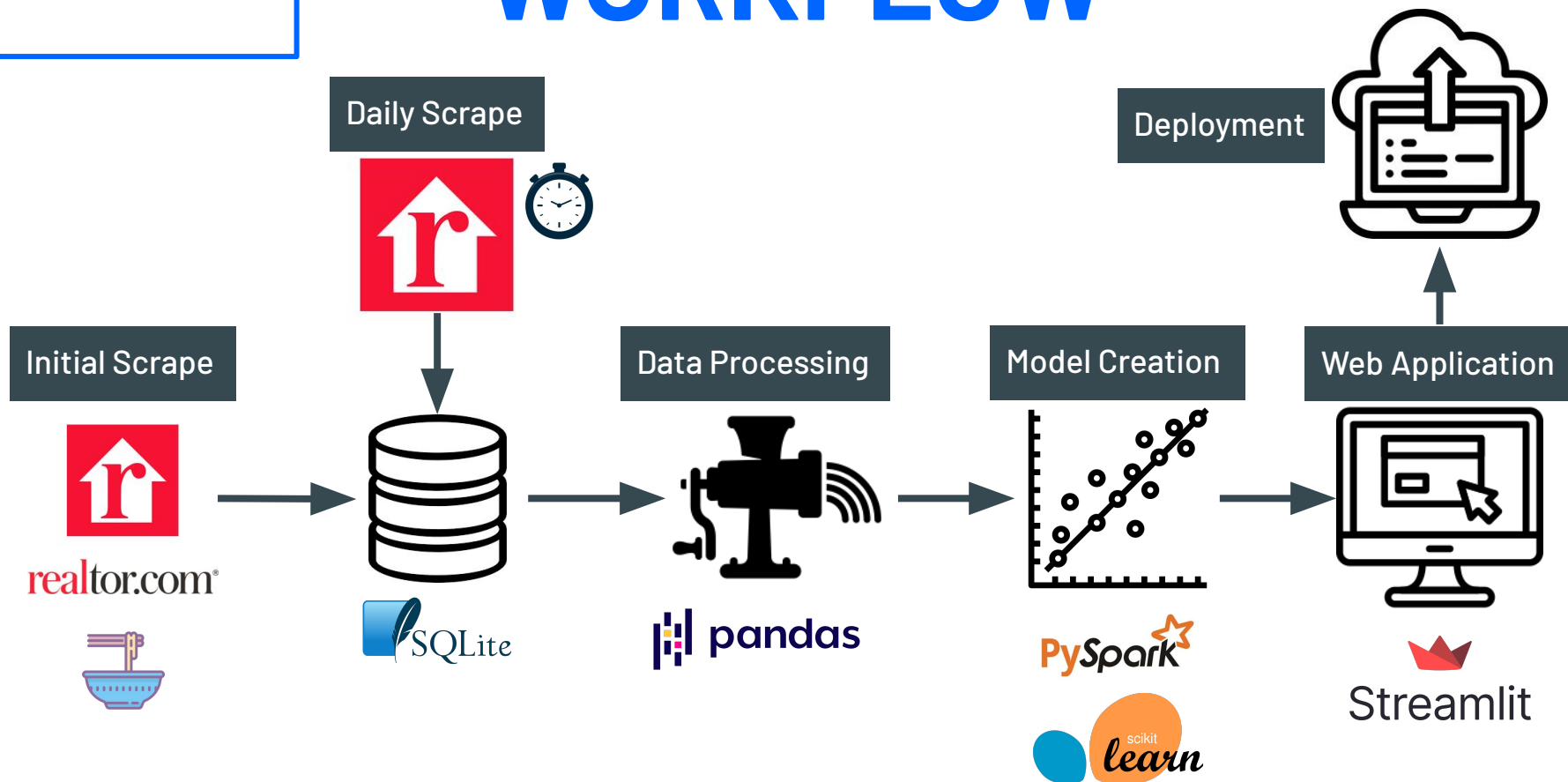
- Ensure buyers are not overpaying
- Ensure sellers are not under valuing

## Solution

- Construct a Linear Regression model to predict home price
- Develop and deploy user facing house price prediction app



# WORKFLOW





Seattle, WA



Price ▾

Property Type ▾

Beds ▾

Baths ▾

Listing Status ▾

More Filters ▾

Save Search

List

Map

## Seattle, WA Real Estate & Homes for Sale

1,450 Homes Sort by Newest Listings ▾

Brokered by COMPASS



NEW - 3 HOURS AGO



For Sale

**\$699,950**

3 bed 2 bath 1,040 sqft 6,860 sqft lot

3316 SW 102nd St,  
Seattle, WA 98146

Email Agent

Brokered by JOHN L. SCOTT REAL ESTATE - UNIVERSITY PLACE



NEW - 9 HOURS AGO

NEW CONSTRUCTION



For Sale

**\$699,950**

3 bed 3 bath 1,623 sqft 1,908 sqft lot

528 S Concord St,  
Seattle, WA 98108

Email Agent

Brokered by Columbia Property Services



NEW - 9 HOURS AGO



For Sale

**\$225,000**

2 bed 1 bath 720 sqft

101 SW 119th St Apt 305,  
Seattle, WA 98146

Email Agent

Brokered by Bushwick Real Estate Services



NEW - 9 HOURS AGO



For Sale

**\$2,400,000**

5 bed 3 bath 1,992 sqft 7,000 sqft lot

3236 24th Ave W,  
Seattle, WA 98199

Email Agent

Brokered by Windermere Real Estate/East



NEW - 9 HOURS AGO

Brokered by Alchemy Real Estate



NEW CONSTRUCTION

Brokered by Alchemy Real Estate



NEW CONSTRUCTION

Brokered by Windermere R.E. Northwest



NEW - 15 HOURS AGO

# Data Collection

- 1,730 homes (growing daily)
- 5 features (33 with encoding)

**Target Variable:**  
Sale price

**Numeric Features:**  
Beds  
Baths  
House Size  
Lot Size

**Categorical Features:**  
Zip Code

Brokered by JOHN L. SCOTT REAL ESTATE - UNIVERSITY PLACE

NEW - 9 HOURS AGO

NEW CONSTRUCTION



For Sale

**\$699,950**

**3 bed 3 bath 1,623 sqft 1,908 sqft lot**

528 S Concord St,  
Seattle, WA

**98108**

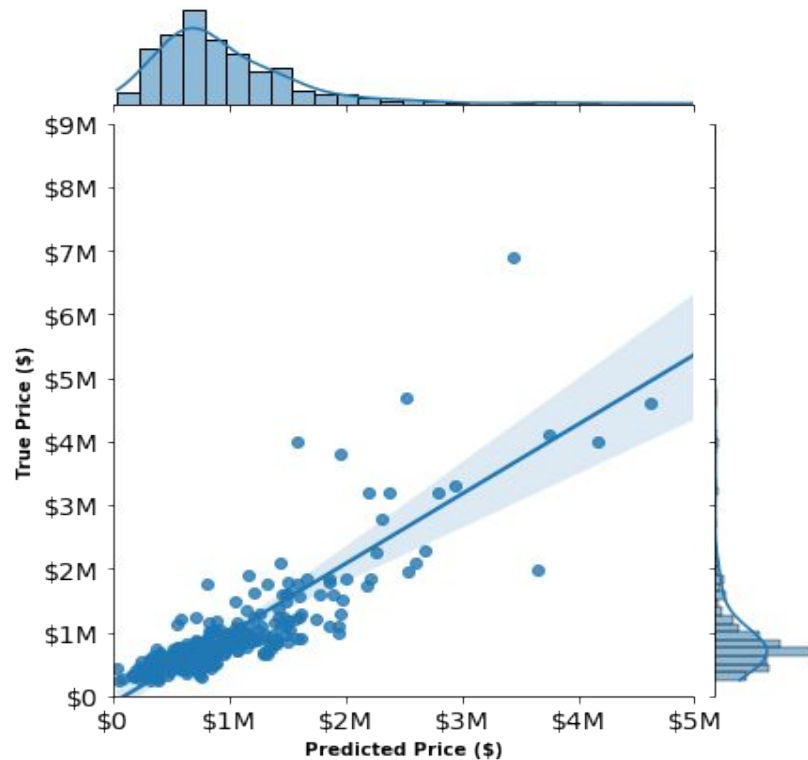
Email Agent

# RESULTS

## Model Analysis

- Data is right skewed
  - Lower value home = better prediction

Model Type	# of Features	R <sup>2</sup>	MAE
Linear Regression	33	0.716	\$258,400





# APPLICATION DEMONSTRATION

## Seattle Home Value Predictor

Select Zip Code

98146

Number of Bedrooms

2

Number of Bathrooms

1.00

Size of Home (sqft)

1000

Lot Size (sqft)

5300

If no lot size exists, set equal to Size of Home

1 Acre = 43,560 Square Feet





# FUTURE WORK

- Continue to build out dataset
- Remove outliers
- Scrape large number of features
- Fit different regression model
- Tune model parameters more rigorously

# Thank You

Any Questions?

