



California Investment Recommendation

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Business Problem



The goal of this analysis is to build time series models to predict **top 5 zipcodes** in California with highest ROI.

Data

14,723

Total # of zipcodes in the dataset

April 1994 - April 2018

Contains ~20 years of median housing value data



Methods

Quartile

Between 30% - 70%

Risk Profile

Coefficient of Variation and built risk profile (~ <60%)



Methods

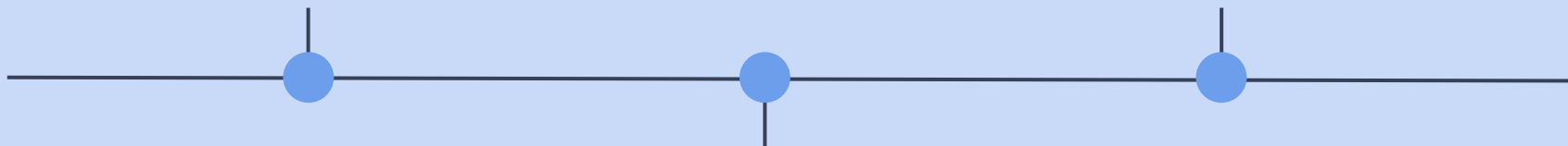


Top 10 Counties

Select top 10 counties with the highest average ROI

Top 5 zipcodes

Select zipcodes with the highest expected ROI after running times series models



Top 10 zipcodes

Select zipcode with the highest ROI from individual selected counties

Methods (Modeling)



Model 1

Random Walk
model

Model 3

ARIMA model with manual
hyperparameter selection

Model 5

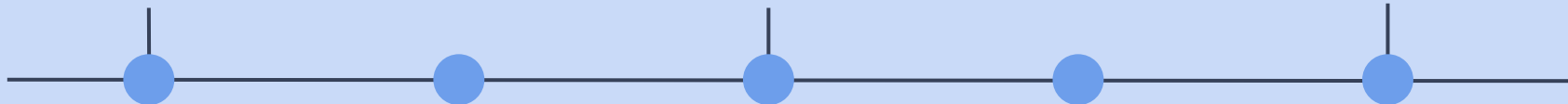
SARIMA model with
AUTO-ARIMA

Model 2

ARIMA model

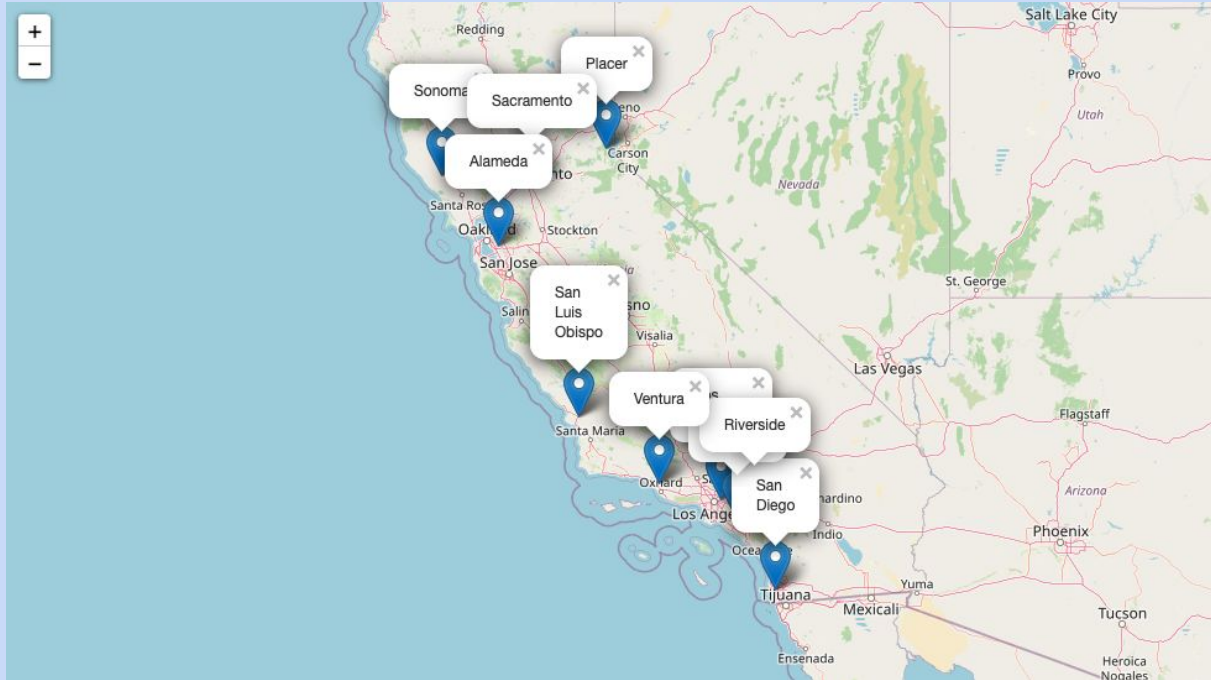
Model 4

ARIMA model with
AUTO-ARIMA



Results

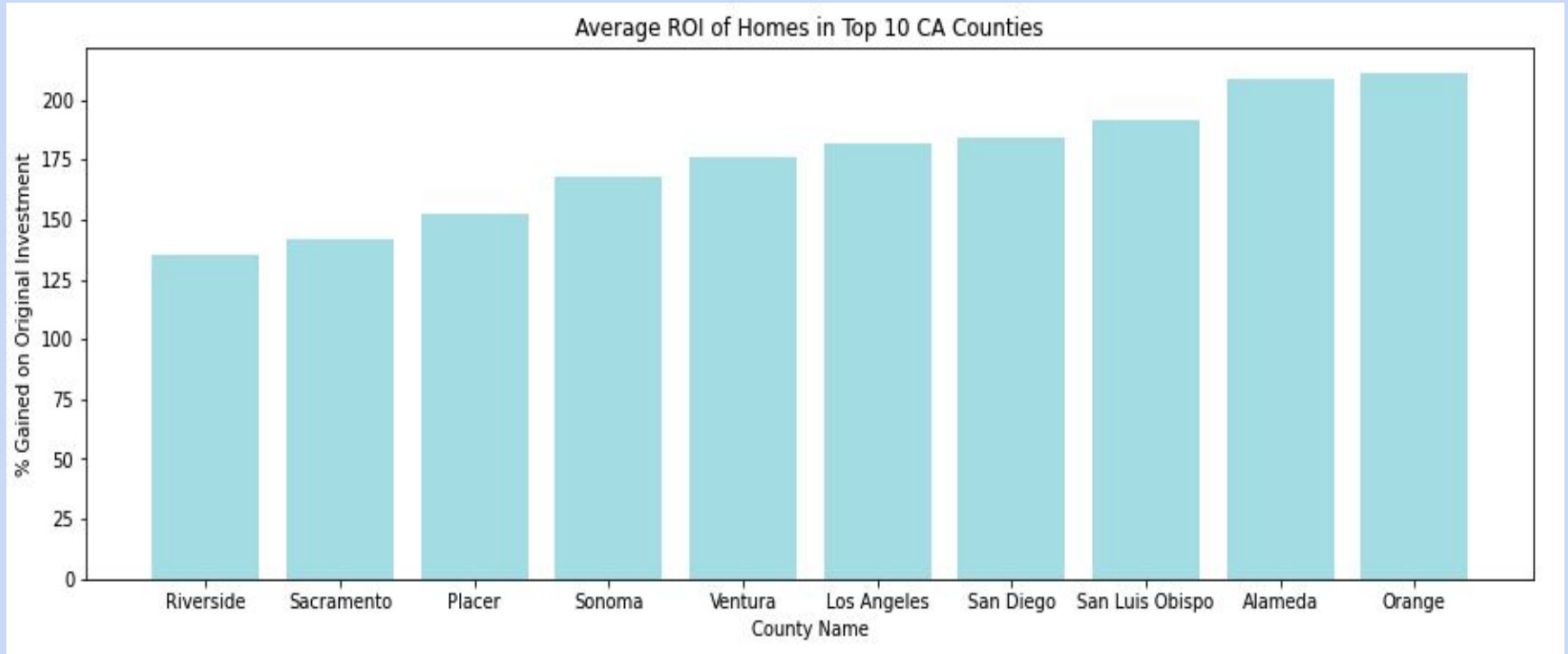
- Top 10 counties with highest average ROI between 1994-2018



Results

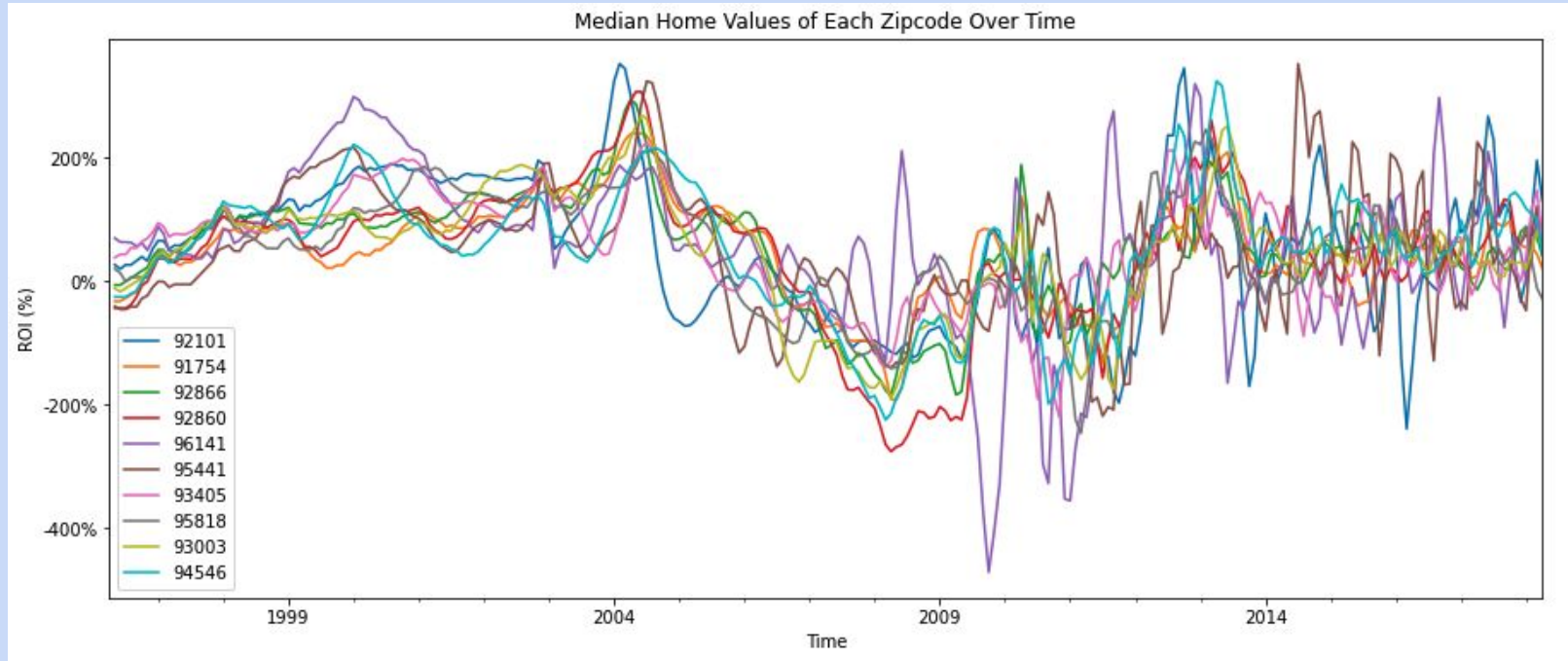


- Average ROI in each county



Results

- ROI trend of zipcodes with the highest average ROI in the selected counties (from the previous slides)

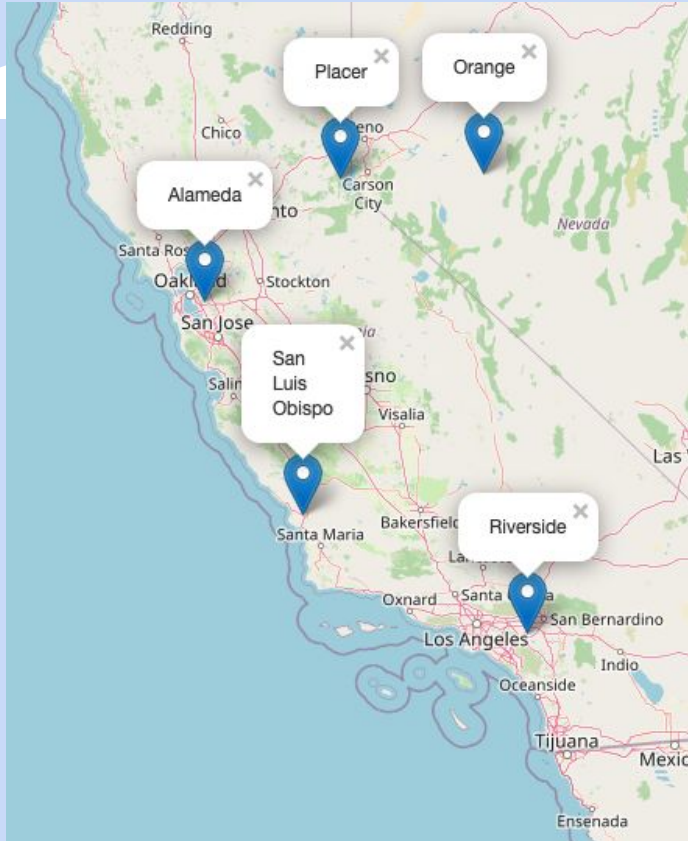


Recommendation



Zipcode	1 year	3 years	5 years	10 years
91754 (Orange)	2.94%	8.74%	14.42%	27.90%
92860 (Riverside)	2.81%	4.25%	4.45%	4.49%
96141 (Placer)	9.06%	26.99%	44.99%	89.22%
93405 (San Luis Obispo)	2.01%	3.55%	3.95%	4.08%
94546 (Alameda)	3.19%	9.50%	15.72%	30.62%

Recommendation



- **91754 (Orange)**
Buy and hold for at least 10 years due to continued ROI growth.
- **92860 (Riverside)**
Buy and sell after 3 years as expected ROI levels out.
- **96141 (Placer)**
Buy and hold for at least 10 years due to continued ROI growth.
- **93405 (San Luis Obispo)**
Buy and sell after 3 years as expected ROI levels out.
- **94546 (Alameda)**
Buy and hold for at least 10 years due to continued ROI growth.

Next Steps

1. Updated Data

Add more recent data to increase the effectiveness of the model

2. Additional Contributing Factors

Population, tax rate, school ranking, and property size





THANKS

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