

Where to buy in Houston's Booming Housing Market



"Executive Summary" by Jacob Tadesse

Methodology

We used the **OSEMN** framework to help Houston investors select the top 5 best zip codes to invest in short to long term periods.

- 1. Obtain Data
- 2. Scrub Data
- 3. Explore Data
- 4. Model Data
- 5. Interpreting Data

Obtaining, Scrubbing, & Exploring Data

- **Obtain Data** - We used data from Zillow with data from all over the United States
- **Scrub Data** - We broke down the data by country, then by state, then by city, then by zip code
- **Explore Data** - We did a time-series analysis to see which zip codes had trends, seasonality, and other features that may influence price.

Modeling Data

- We used a trial and error to select the best features in creating a price prediction model
- We trained the model on the entire dataset
- We made forecasts to see which zip codes would yield better return on investments in the short to long term periods

Interpreting Data based on R.O.I.

Short Term - We looked at the average Return on Investment from 05/01/2018 to 11/01/2018.

MidTerm - We looked at forecasts for the couple years and the average Return on Investment from 05/01/2018 to 11/01/2019.

Long Term - We looked at forecasts for three years and the average Return on Investment from 05/01/2018 to 11/02/2020.

Our Findings & Recommendations

Our model predicts a decline in price across all zip codes in Houston. Here are the top 5 best zip codes that will hold the most value during the predicted decline.

1. 77028

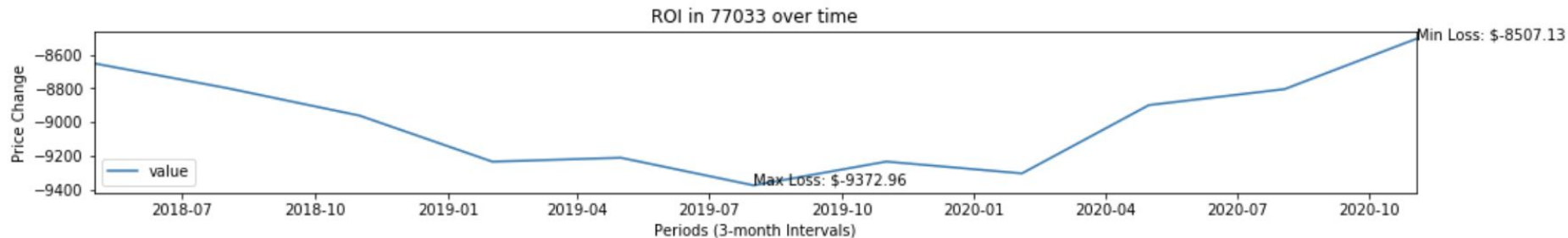
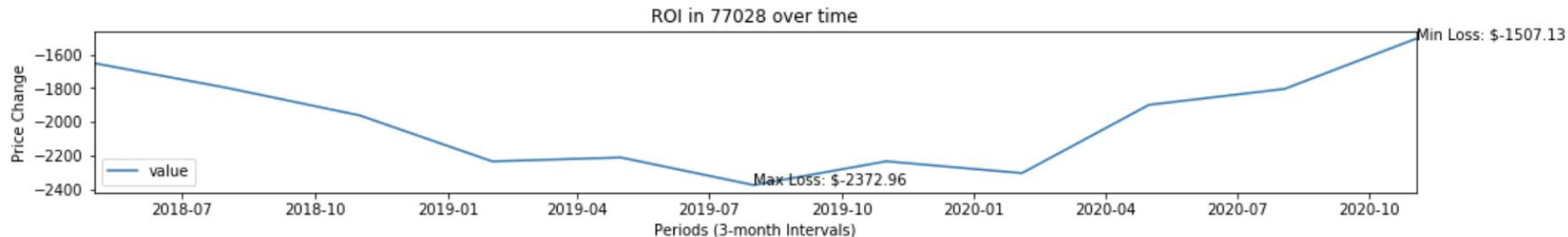
2. 77033

3. 77029

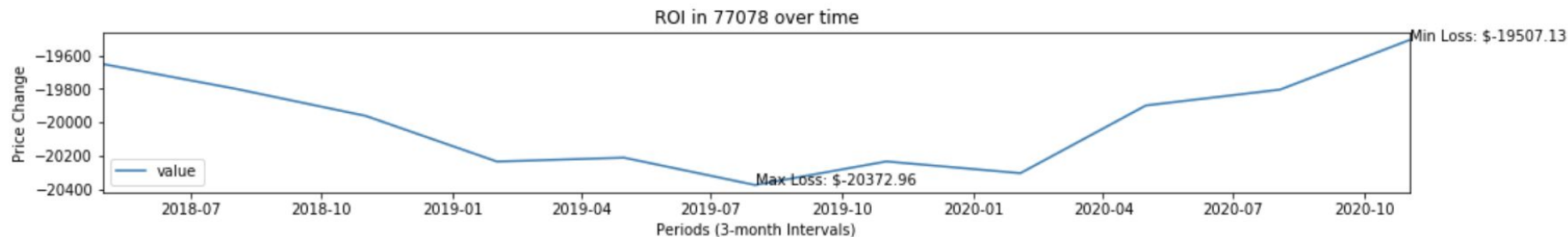
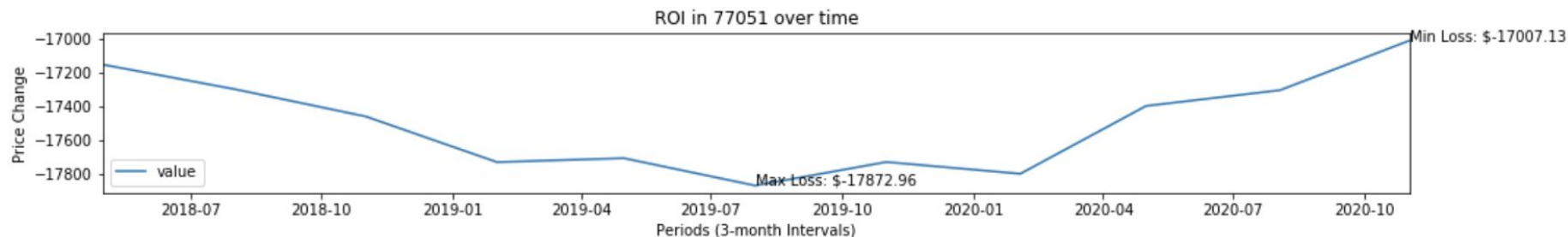
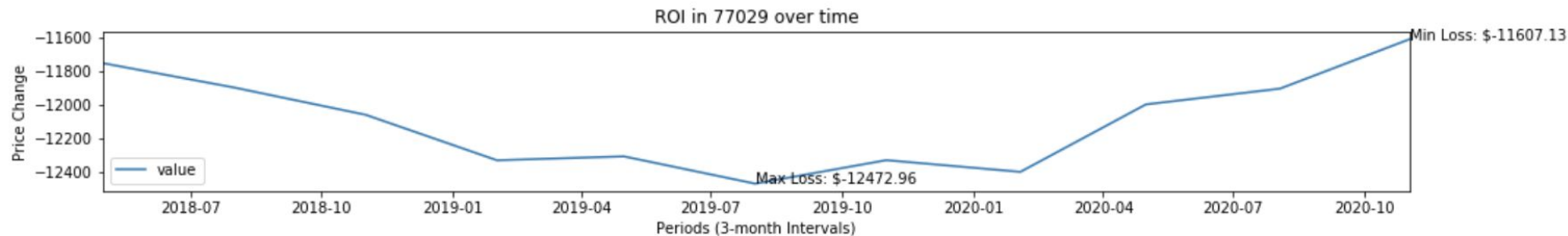
4. 77051

5. 77078

Visual Summary (Top 2 of 5 Zipcodes)



Visual Summary (Last 3 of 5 Zipcodes)



Future Work

EXPAND SEARCH TO METRO AREAS AROUND HOUSTON

- Just like we analyzed **Houston zip codes**, we can look at the metro area surrounding Houston to include suburbs.

EXPAND SEARCH TO OTHER METRO AREAS NEAR OR AROUND TEXAS

- In addition to **Metro Areas Around Houston**, we can also analyze **Metro Areas Around or Near Texas**.

EXPAND SEARCH TO INCLUDE PLACES OUTSIDE OF METRO AREAS

- Finally, we can analyze **Places Outside of Metro Areas**. This will include small town areas outside of major metropolitan areas.

Thank You!

Contact Me

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Appendix:

Zillow Research Page - <https://www.zillow.com/research/data/>

Statsmodels - <https://www.statsmodels.org/stable/index.html>

Pandas - <https://pandas.pydata.org/pandas-docs/stable/>

Learn.co - <https://learn.co/>