

PHASE FOUR FINAL PROJECT

A large, abstract graphic element consisting of numerous thin, curved purple lines that curve and overlap to create a sense of depth and motion, resembling waves or a stylized neural network.

Top Five Zipcodes for Optimizing ROI

PRESENTED TO

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Business Objective



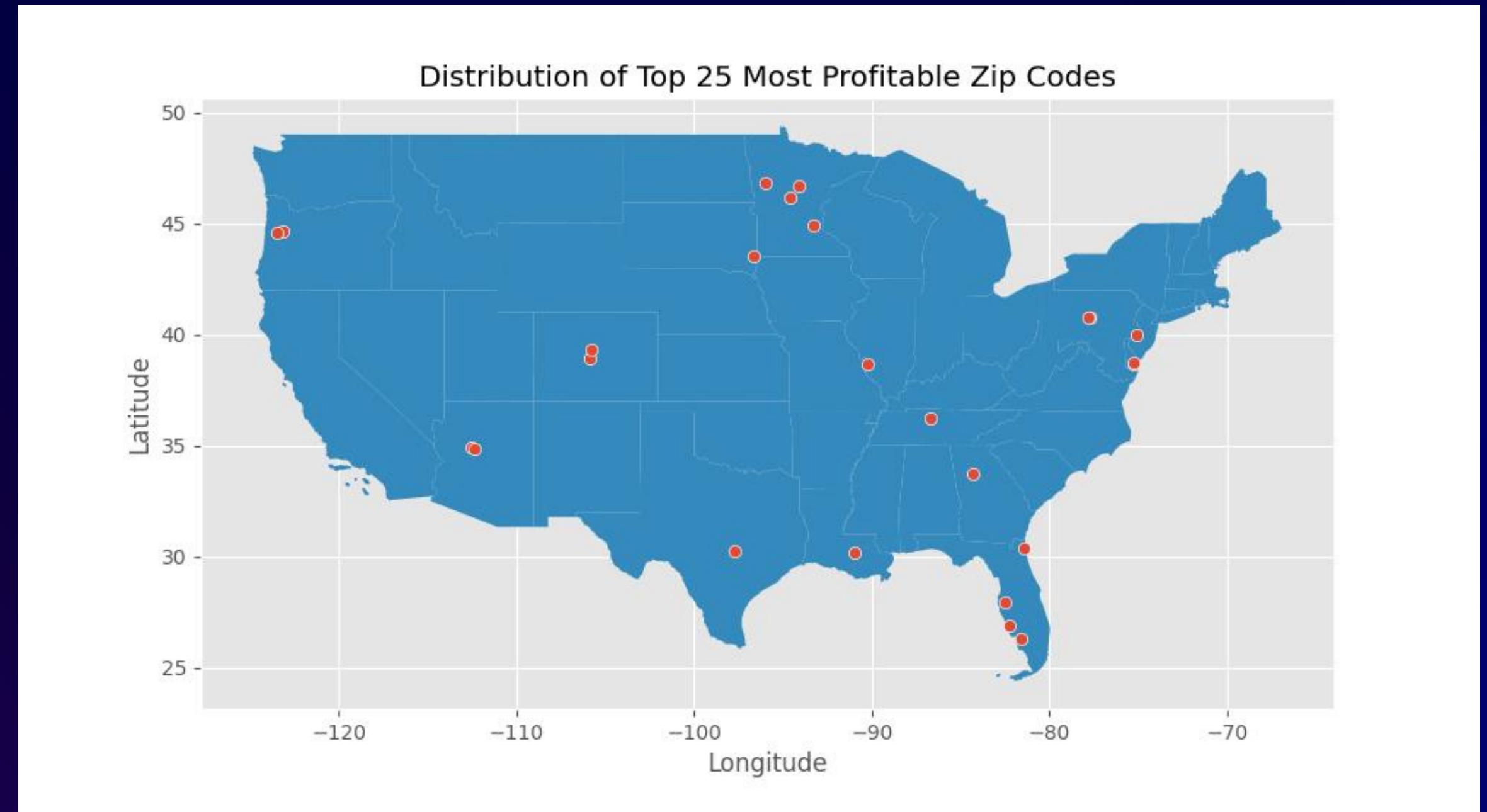
Compass Real Estate is interested in investing in **lower-priced housing** for a smaller but more consistent revenue stream. Compass would like to test this new approach by **identifying and investing in Five Zipcodes** with the **highest Return on Investment (ROI)** over the next two years (2018 to 2020).

Zillow Dataset

- The original dataset had 14723 zipcodes with average housing prices between April 1996 and April 2018

- Zipcodes were filtered to only include Properties with an average price under \$300,000 as of April 2018

- Top 25 Zipcode were selected after being ranked by ROI



Methods

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Build Models

Using the data, multiple models were created

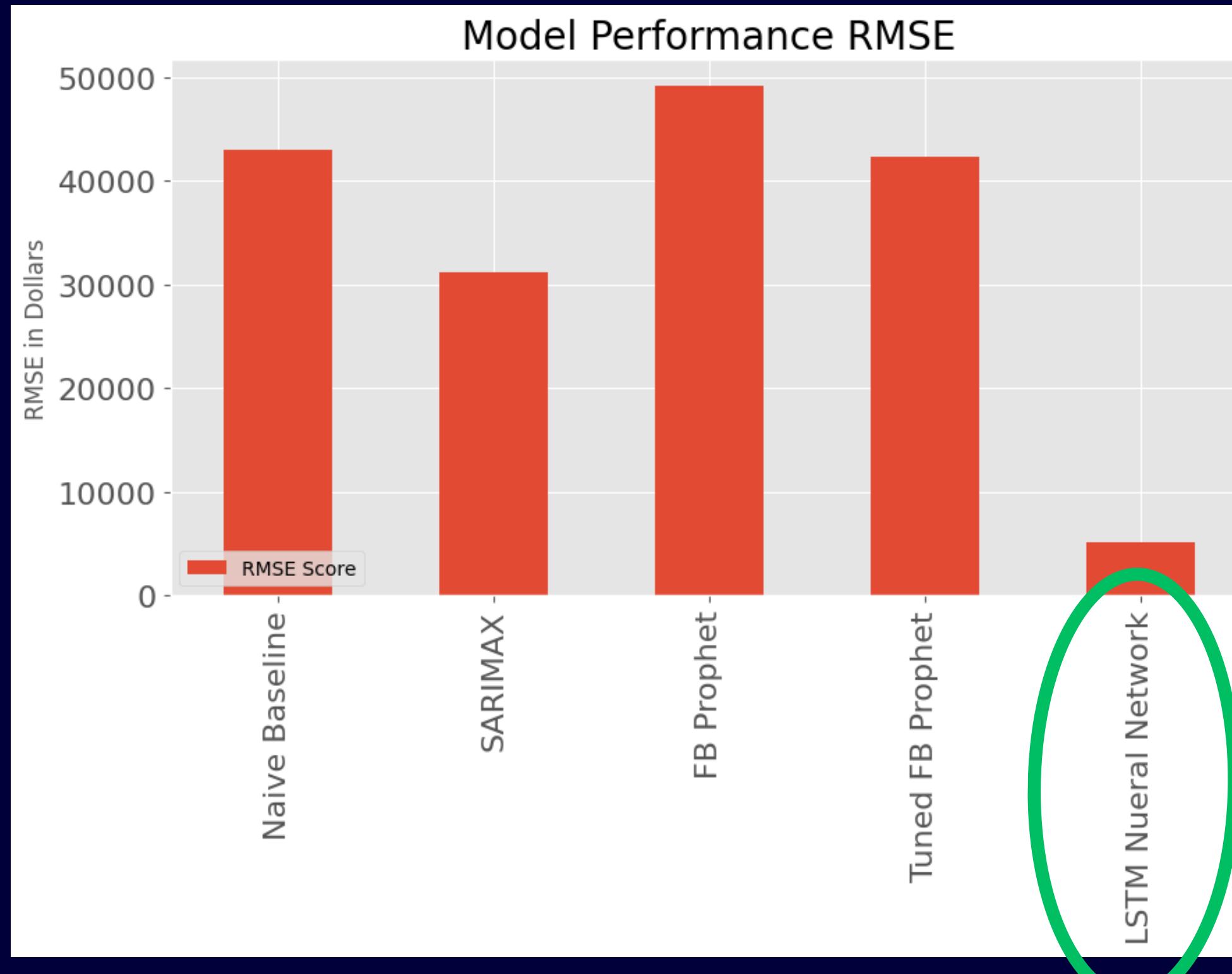
Evaluate Model Performance

Accuracy of predictions were evaluated against test data to select a final model for forecasting

Two Year Forecast

Final model was used to forecast ROI two years in the future (2018-2020)

Results

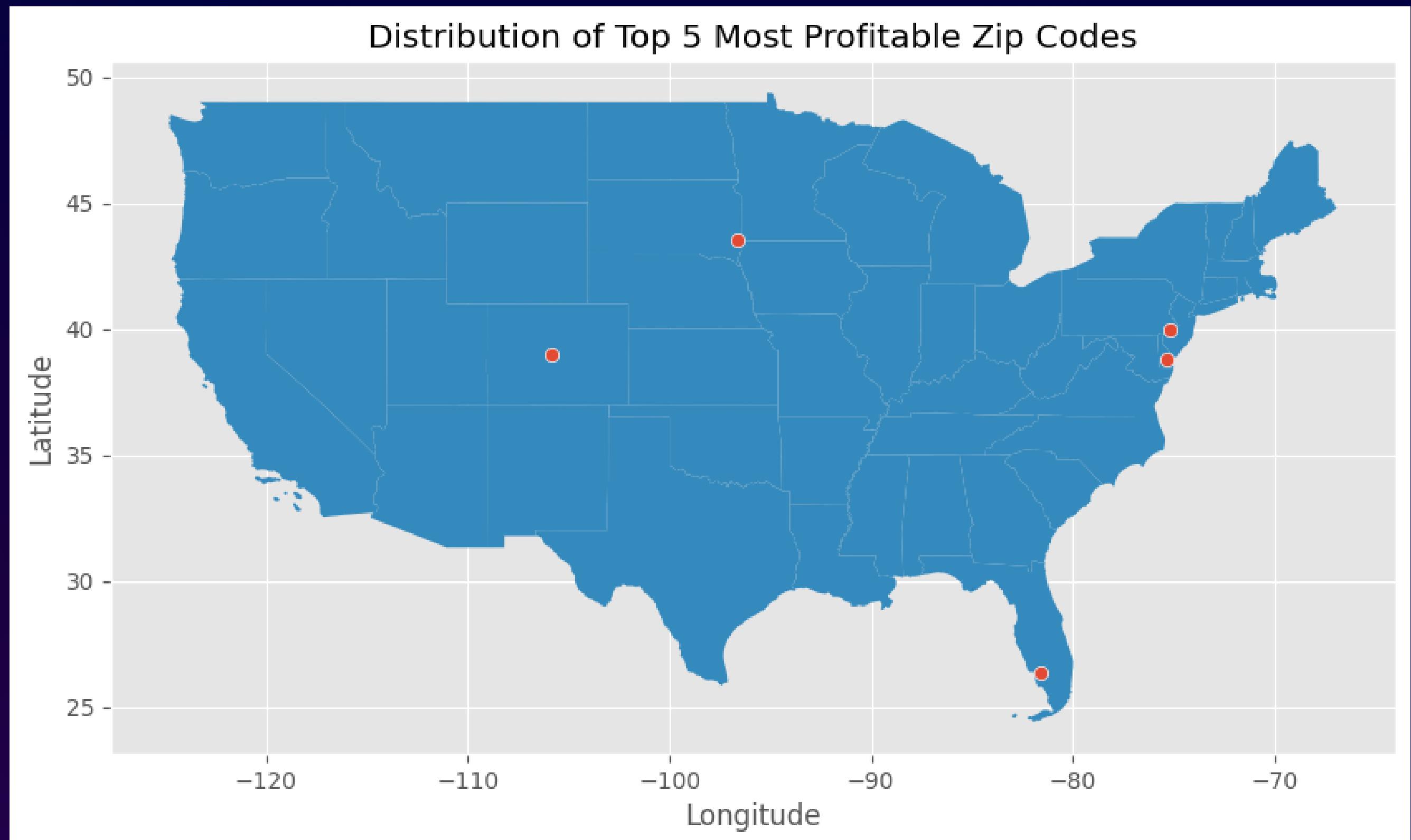


Several models were developed and evaluated. **LSTM Neural Network Model** was found to have the lowest error score on the test data.

Conclusions

According to the final model, the following **five zip codes** will experience the **greatest ROI over two years**:

- **80449: 2.97% Growth**
- **57110: 2.49% Growth**
- **19125: 2.17% Growth**
- **19968: 1.9% Growth**
- **34120: 0.95% Growth**



Recommendations



80449: Hartsel, Colorado

- Middle Aged Population
- Near Metropolitans (Denver & Colorado Springs)
- Cheaper Prices compared to surrounding zip codes



19125: Fishtown, Philadelphia, Pennsylvania

- Young Population
- Near Metropolitan
- Recently Gentrifying Area



19968: Milton, Delaware

- Older Population
- Near Tourist Destination
- Majority of Housing Construction in 2000s



34120: Naples, Florida

- Large Family Population
- Near Tourist Destination
- Majority of Housing Construction in 2000s



57110: Sioux Falls, South Dakota

- Late 20s to Mid 40s Population
- Largest Metropolitan in South Dakota
- Majority of Housing Construction in 2000s

Next Steps



Include current pricing for more up-to-date predictions



Conduct additional research into feature importance of zipcodes for impact on growth



Additional exploration into optimized parameters for the LSTM Neural Network model to increase RMSE scores

Any Questions?



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