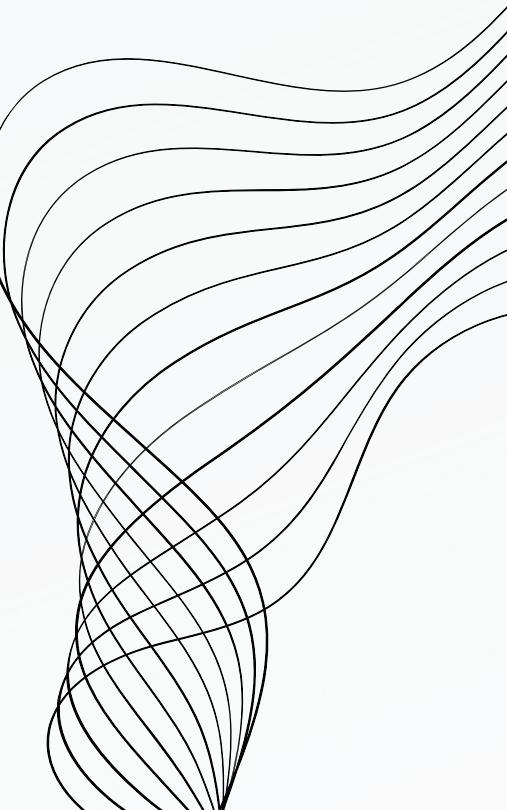


FORECASTING ZILLOW REAL ESTATE PRICES





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INTRODUCTION



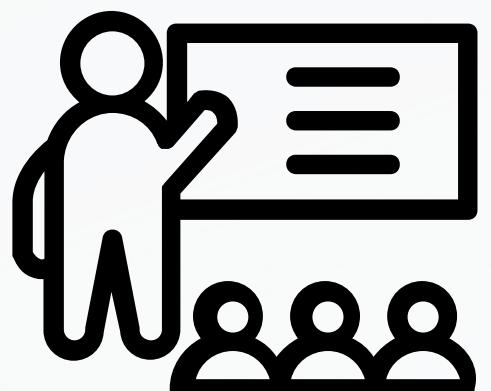
The real estate industry in the United States had a valuation of USD 3.69 trillion in 2021, and it is expected to grow at a compound annual growth rate of 5.2% between 2022 and 2030.



This growth, combined with the increasing population rates, presents a highly profitable opportunity for real estate investors.



To capitalize on this potential, investors need to manage risk wisely and make astute investment choices.



PROBLEM STATEMENT

- The United States real estate industry had a valuation of USD 3.69 trillion in 2021, with a projected compound annual growth rate of 5.2% from 2022 to 2030.
- Residential properties offer an average annual return of 10.6%, and commercial properties yield an average return of 9.5%, underscoring the potential for profitable investments in the real estate market, contingent on informed decision-making and risk management.



BUSINESS OBJECTIVES



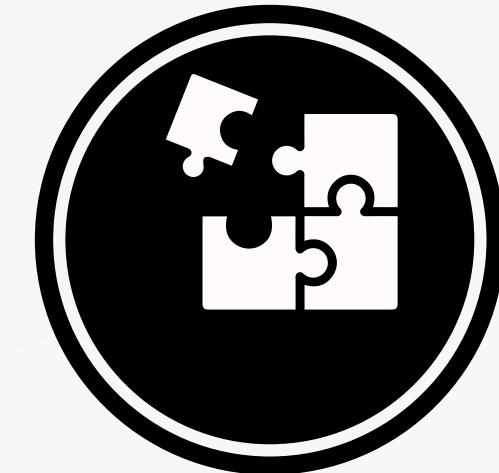
Objective n° 1

1. Provide effective real estate investment recommendations to the stakeholder.



Objective n° 2

2. Identify the locations/zip codes of houses with the highest price volatility by analyzing price fluctuations over a specific time period.



Objective n° 3

3. Explore the effectiveness of predicting future median house prices using statistical models, machine learning algorithms, and relevant factors to gain insight

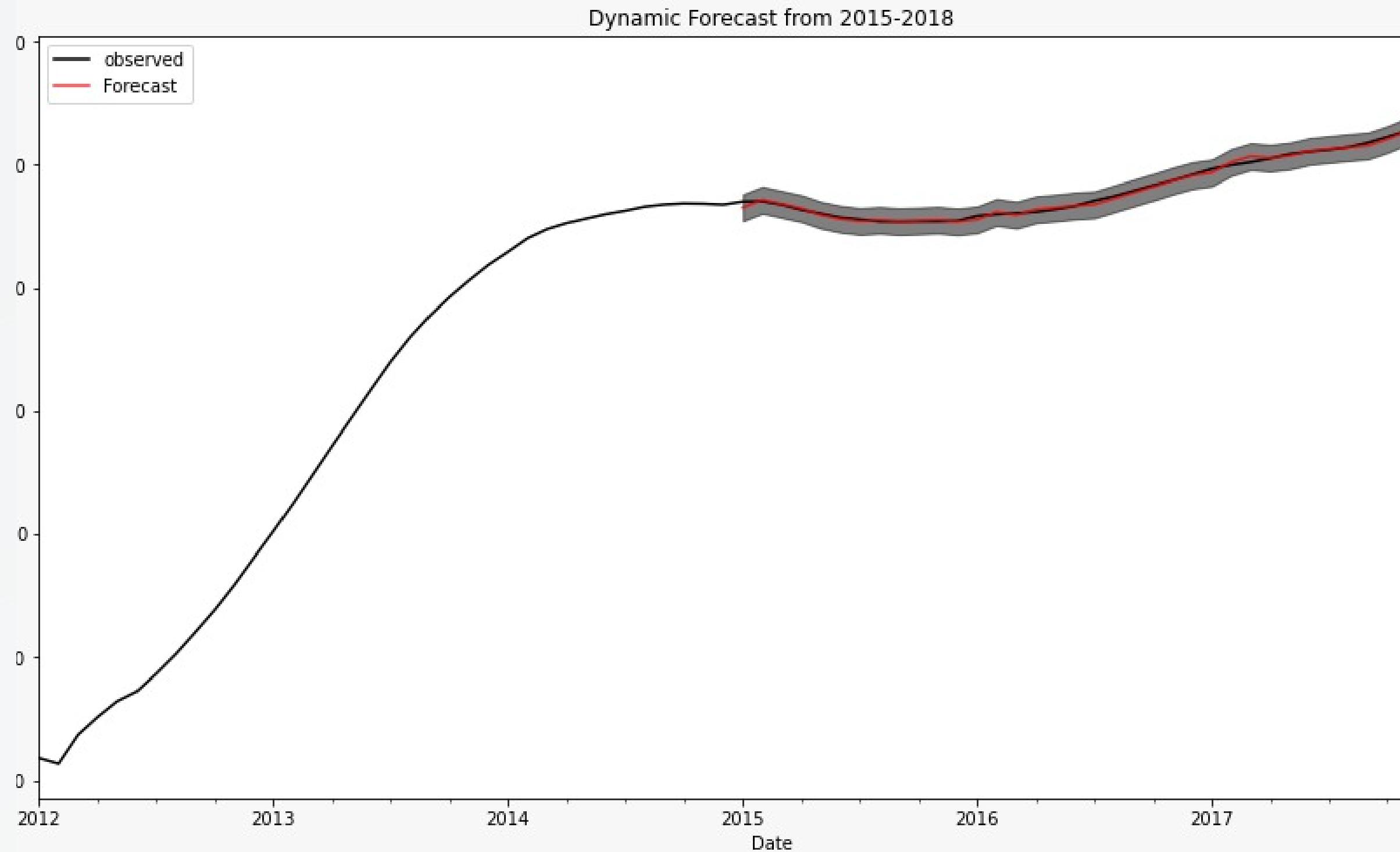
METRICS OF SUCCESS



By setting a threshold of 20% for the MAPE, we aim to ensure that the forecasted values do not deviate significantly from the actual values



MODELLING



Shows the non-dynamic forecast from 2015 to 2018, comparing the predicted values (labeled as "Forecast") to the observed values of the time series. The shaded area represents the confidence interval for the forecasts. please summarize

MODEL EVALUATION

- In simple terms, the MAPE (Mean Absolute Percentage Error) is a measure of how accurately a forecasting model predicts future values.
- A lower MAPE indicates a better fit of the model to the actual observed data.
- In this case, the MAPE value of 0.055 (or 5.5%) this indicates that the model performed well and had a relatively small margin of error in its forecasts.



CONCLUSION

1. Forecast disparity: Variations between your model and the prophet model's forecasts require investigation into methodologies, assumptions, and data inputs.



2. Analysis of different zip codes: To provide valuable insights for investors, analyze various zip codes separately due to location-based differences in real estate dynamics and market conditions.



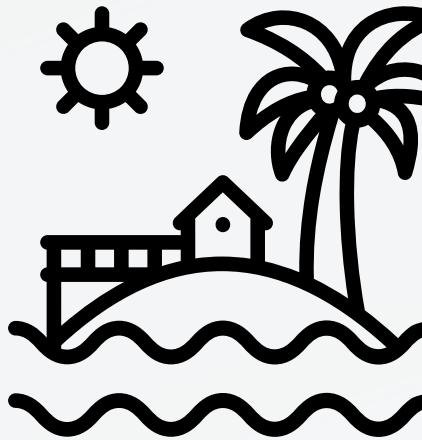
3. Higher MAPE in prophet model: The prophet model's higher Mean Absolute Percentage Error (MAPE) suggests potential accuracy advantages for your dynamic model, but consider model complexity and validation techniques for a comprehensive assessment.



RECOMMENDATION

STRATEGY N°1

Prioritize locations with attractive beaches and abundant outdoor activities, as they tend to have higher house prices.



STRATEGY N°2

Exercise caution when considering investments in New York due to the potential for high ROI but also the risk of price decline.



RISK
OR
LOSE

STRATEGY N°4

Urbanization impact may not be the primary factor for investment decisions; consider other relevant factors.



THANK YOU



**ANYBODY HOME? ANY
QUESTION?**

