The Impact of COVID-19 on Housing Prices

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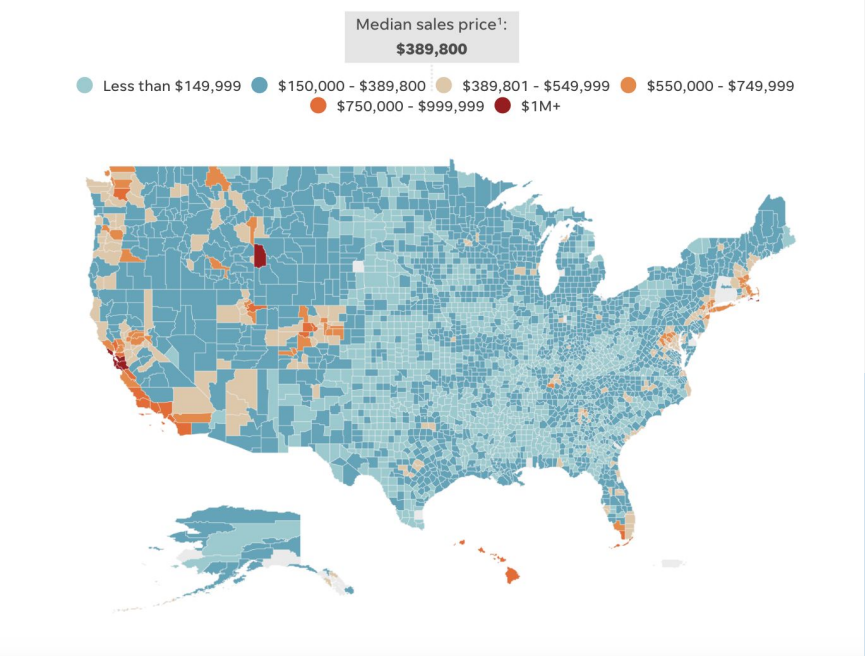
Project Background

How have the effects of a global pandemic impacted the US housing market?

- Without any analysis, we first predicted that a **rise** in COVID cases would lead to a **decrease** in housing prices
- More populated areas are more likely to be affected
  - California is one of the largest and most populous states, and the **most expensive**



Median US House Prices by County in 2023

Project Datasets

Zillow Home Value Index Dataset

- Zillow has predicted a **home value index** for every month
  - Allows us to see direct **fluctuations of housing prices per month**
- Data starts in the 2000s, we focused on the 2020 - onward data

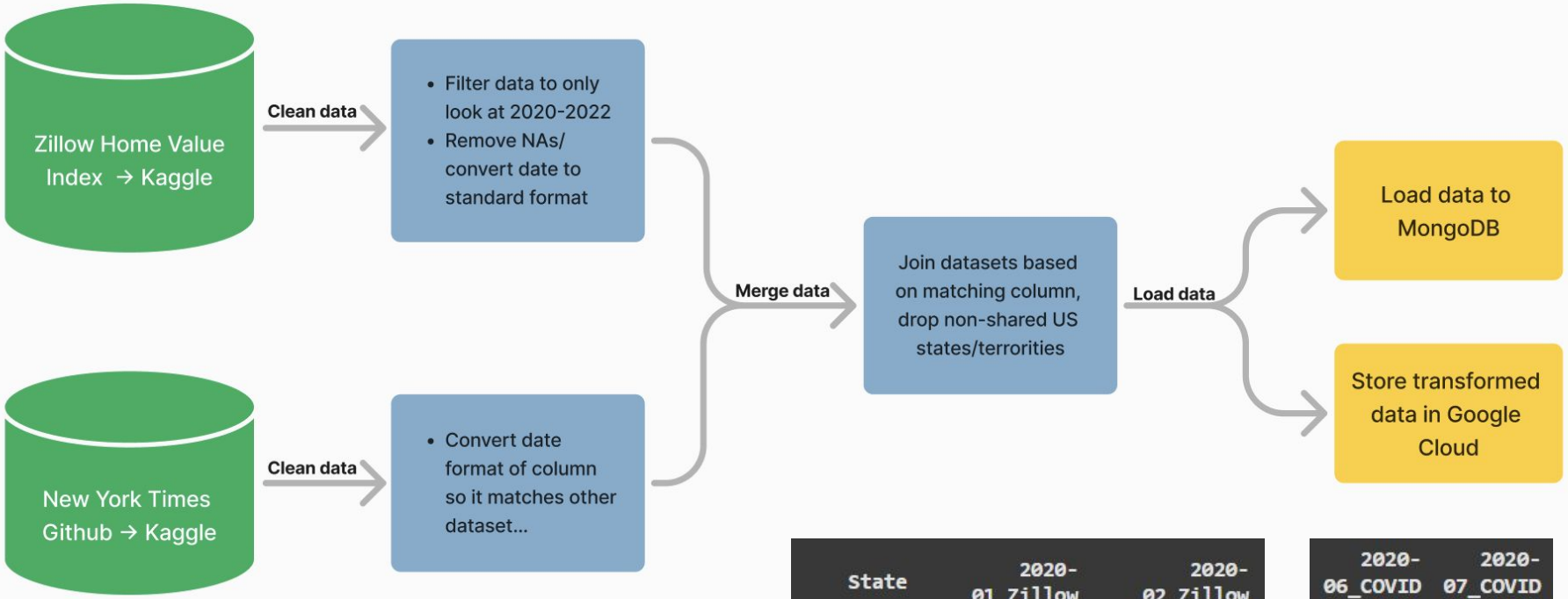
Zillow®

New York Times COVID-19 Dataset

- NYT released cumulative counts of **COVID cases** at the state and county level
  - Real-time tracking with **1932 counties**
- Grouped the county data up to the **state level** for our analysis

The New York Times

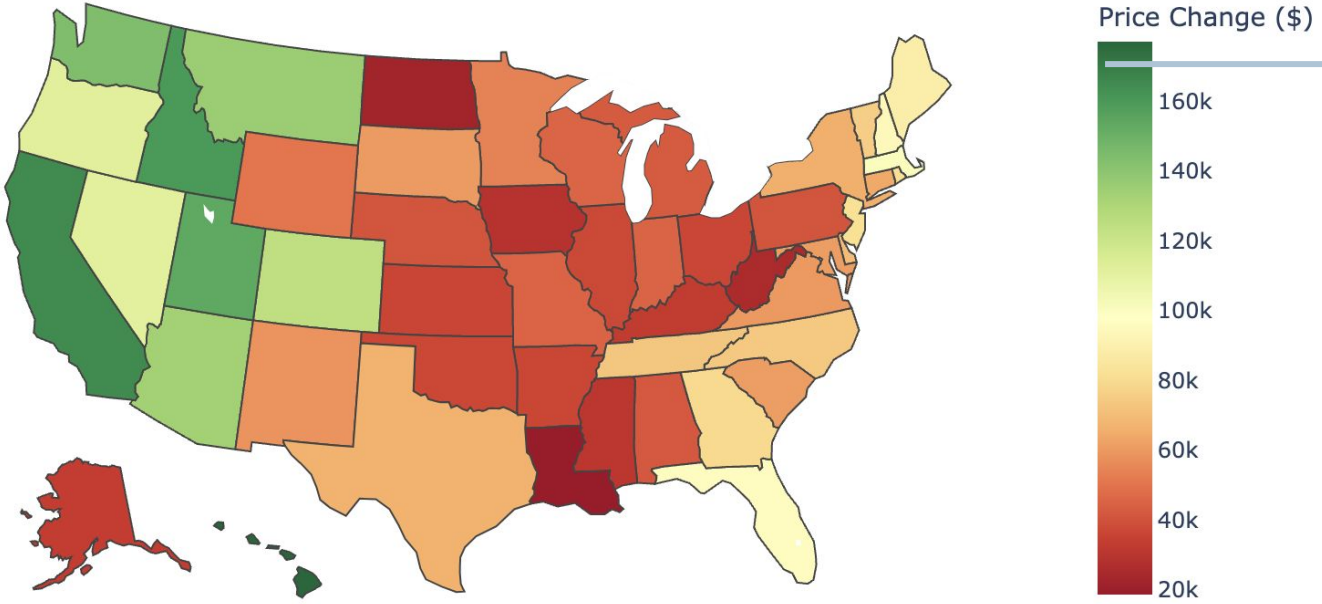
ETL Process



State	2020-01_Zillow	2020-02_Zillow
Alabama	163344.497952	164399.843436
Alaska	314003.626425	314802.410243

2020-06_COVID	2020-07_COVID
231.0	1015.0
11.0	68.0

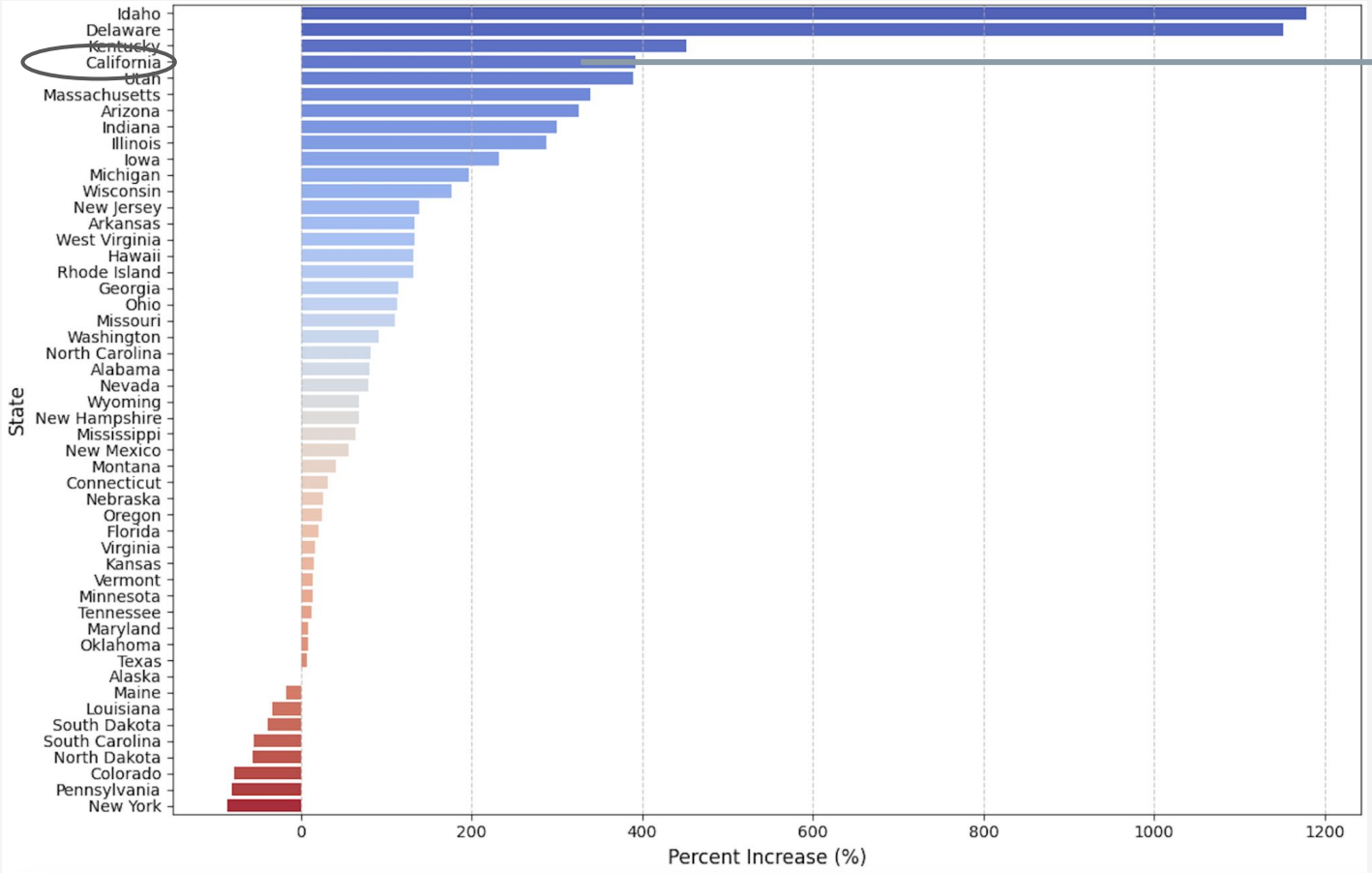
Change in Average Zillow Housing Prices (2020 v. 2022)



NOTABLE STATES

Compared to other states, **California** and **Hawaii** had the largest price increase. The west coast as a whole the biggest rise in home value.

Percent Increase in COVID Cases



NOTABLE STATES

California was among the top 5 states who saw the largest % increase (**391.5%**) in COVID cases from 2020-2021.

Project Reflection

01 Takeaways

1. Importance of data normalization
2. How the data science/ETL life cycle is iterative
3. Insights on U.S. response to economic disturbances

02 Challenges

1. Data compatibility, unexpected results with datasets
2. Potential improvements to make

03 Limitations

1. Dataset constraints (e.g. NYT dataset did not have data on COVID cases in 2022)
2. File format constraints

04 Conclusion

1. Our initial prediction was incorrect - housing prices **increased** as COVID cases rose
2. This could be due to increased demand driven by low mortgage interest rates and work-from-home policies

Thank you for listening!

Any questions?