Home,
Home Alone

Common Real Estate Problems

Leveraging ML to Better Inform Real Estate Agents

Leveraging ML to Better Inform Potential Homeowners

Potential Impact

New Home Owners

Real Estate Agents

FOR SALE

Potential Impact

New Home Owners

- Home-Price Fit
- Increased Utility
- Faster Closing Process

Potential Impact

- Increased Satisfaction
- Targeted Customer Outreach
- Faster Closing Process
- Efficient Use of Inventory

Real Estate Agents

FOR SALE

EFFICIENCY

More Efficient Real Estate Market

Intro to Raw Dataset

- 5,484,743 Rows, 58 Total Columns
- Kaggle data set, updated frequently
- 02/01/2012 - 05/31/2024
- Redfin
- 5,215,6152 null values
- Senate Political Stance
- Data Dictionary

	period_begin	period_end	period_duration	region_type	region_type_id	table_id	is_seasonally_adjusted	region	city	state
1714340	2020-08-01	2020-08-31	30	place	6	1544	f	Bethel Acres, OK	Bethel Acres	Oklahoma
5396593	2019-05-01	2019-05-31	30	place	6	18896	f	Waianae, HI	Waianae	Hawaii
151574	2019-02-01	2019-02-28	30	place	6	25659	f	Quinnesec, MI	Quinnesec	Michigan

state	state_code	property_type	property_type_id	median_sale_price	median_sale_price_mom	median_sale_price_yoy	median_list_price
Oklahoma	OK	All Residential	-1	162250.0	-0.366211	-0.122736	235000.0
Hawaii	HI	All Residential	-1	385000.0	0.170213	0.026667	188900.0
Michigan	MI	Single Family Residential	6	80000.0	NaN	NaN	NaN

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},
"2013": {
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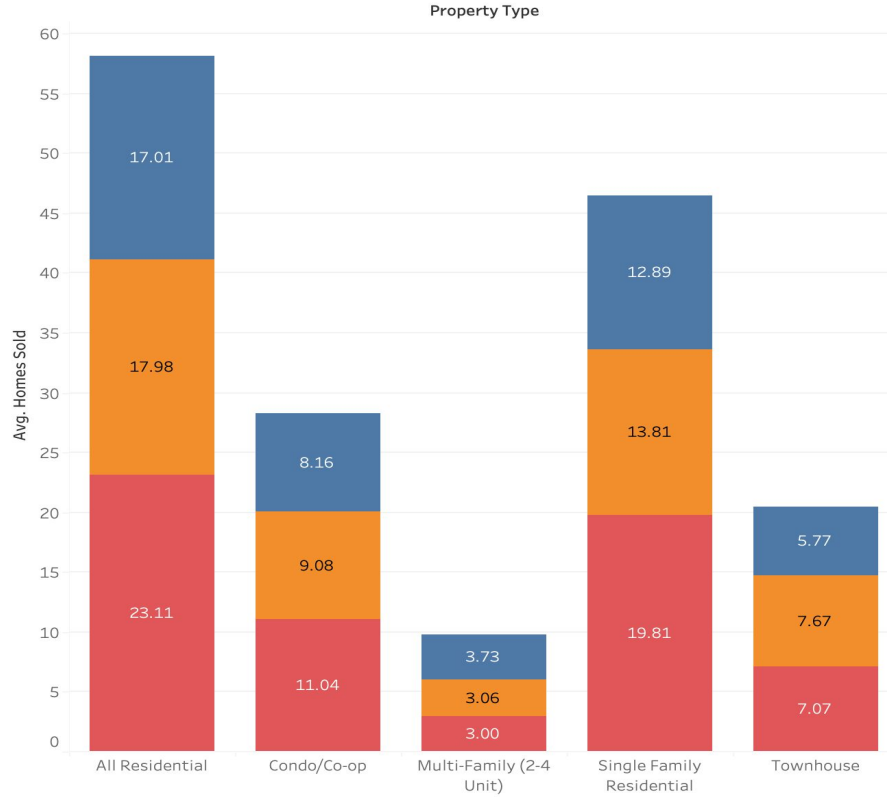   "Indiana": "mixed",
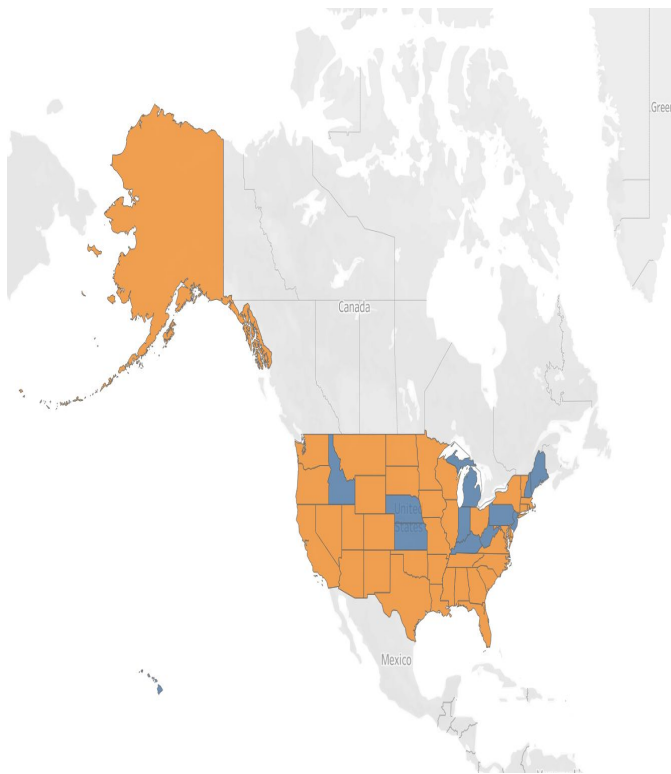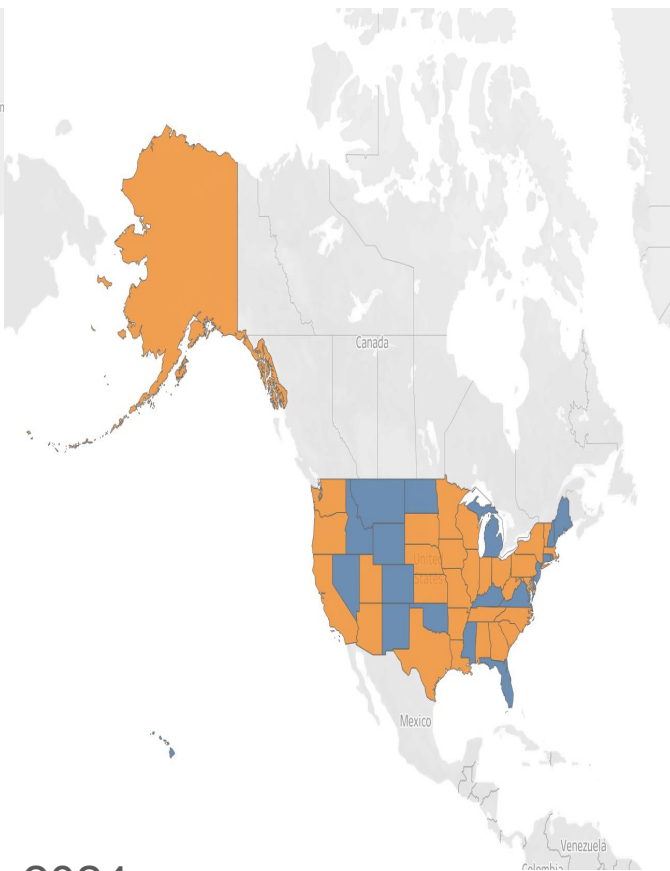
Owner Utility Direction

Negative

Positive

OU = [MLP-MSP] / MLP

2012

2024

Average Number of Homes Sold Across Property Type
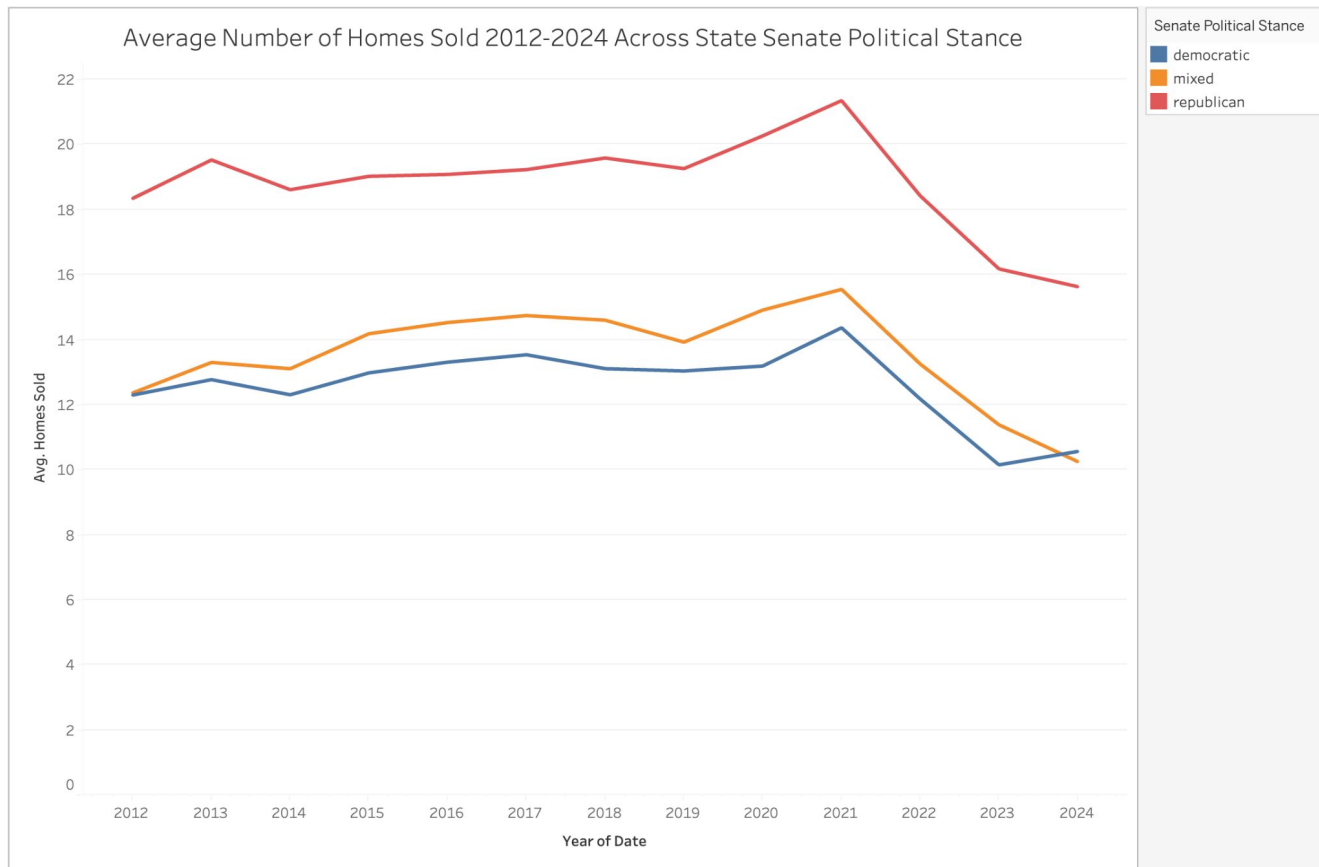
Percentage Difference for Homes on Market and Homes Sold Across Time

Measure Names
█ % Difference in Hom..
█ % Difference in Inve..

Average Number of Homes Sold 2012-2024 Across State Senate Political Stance

Average Median Listing and Sale Price of Homes 2012-2014

Measure Names
- Avg. Median List Price
- Avg. Median Sale Pri..
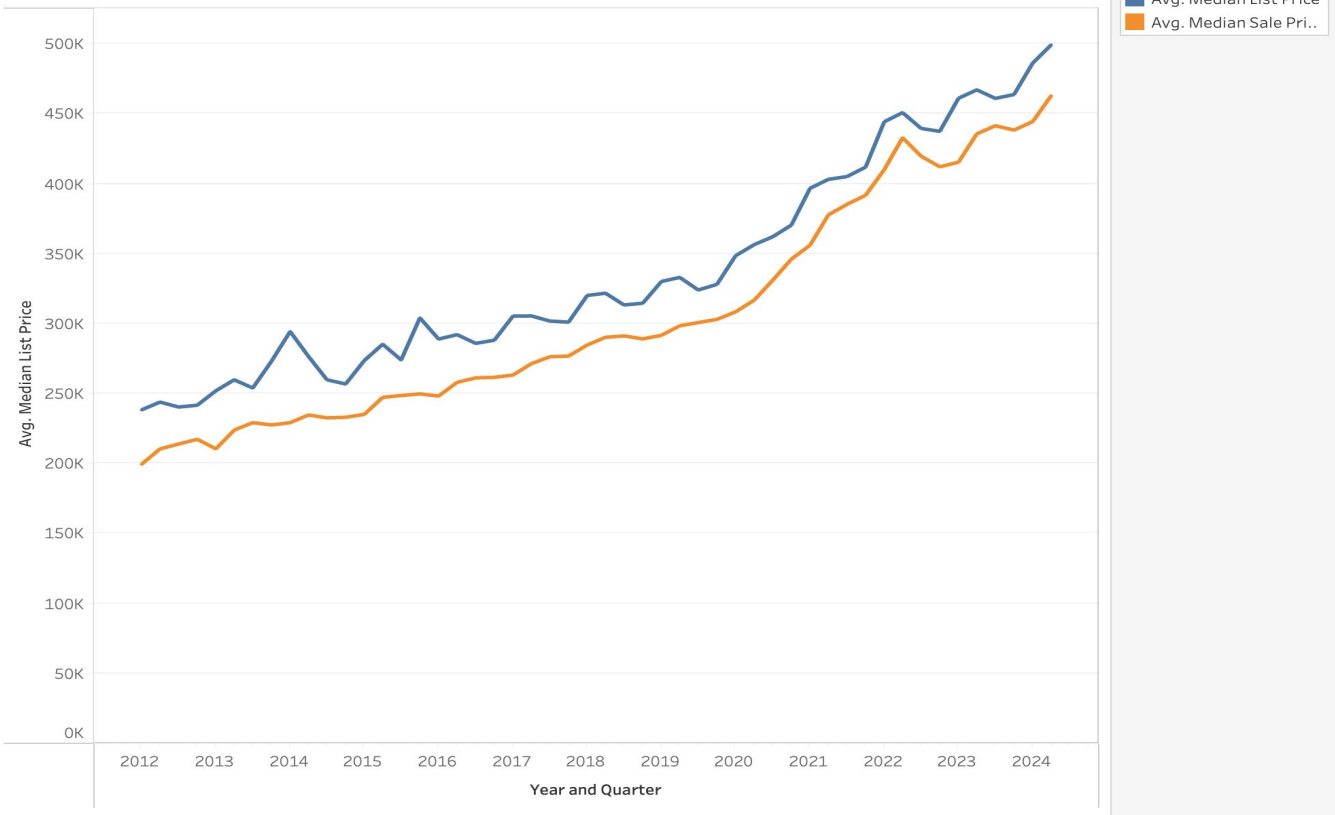
Top 10 States for Total Number of Homes Sold By Property Type

State
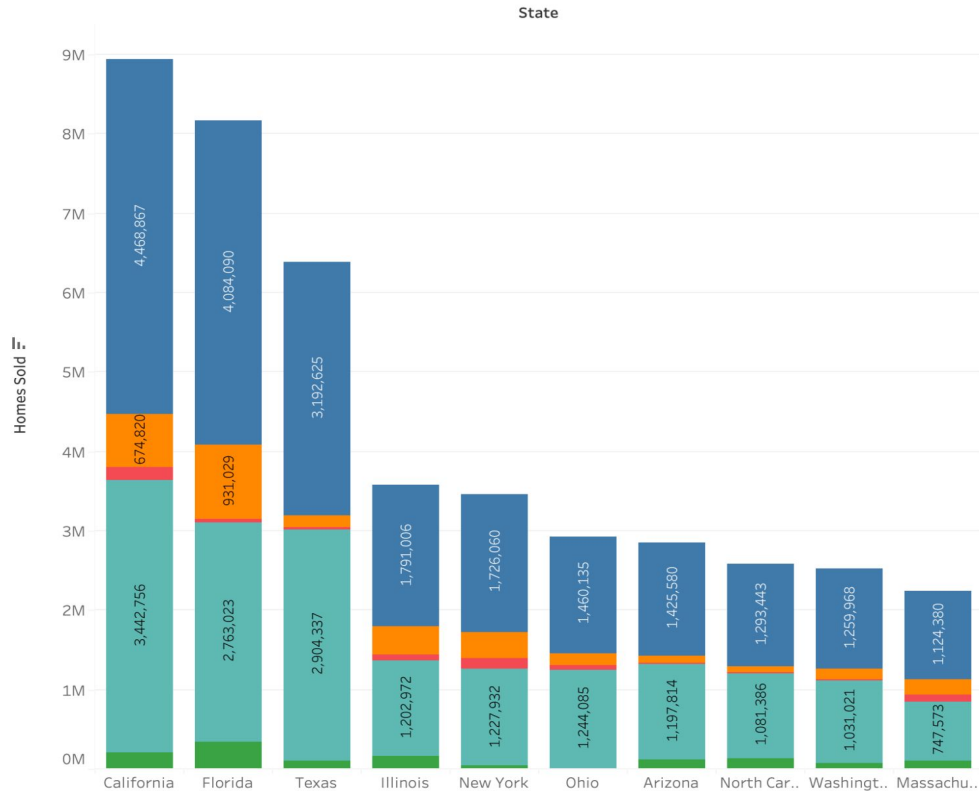
Property Type
- All Residential
- Condo/Co-op
- Multi-Family (2-4 Uni..
- Single Family Reside..
- Townhouse

Homes Sold

State	All Residential	Condo/Co-op	Single Family Residence
California	4,468,867	674,820	3,442,756
Florida	4,084,090	931,029	2,763,023
Texas	3,192,625		2,904,337
Illinois	1,791,006		1,202,972
New York	1,726,060		1,227,932
Ohio	1,460,135		1,244,085
Arizona	1,425,580		1,197,814
North Car..	1,293,443		1,081,386
Washingt..	1,259,968		1,031,021
Massachu..	1,124,380		747,573

- Owner Utility/Direction, Inventory Turnover, Cash Flow (Revenue), etc.
- Predicting number of houses sold in different regions (Northeast, Southwest, West, Southeast, and Midwest)
- Further Data Gathering/Processing

THANK YOU FOR WATCHING