

FACTORS TAKEN INTO CONSIDERATION

While building model the factors that I take into consideration from past 20 years dataon FRED from 1/1/2005 to 31/3/2025 are

home_price,

gdp_growth,

mortgage_rate,

unemployment,

cpi,

housing_starts,

income,

population,

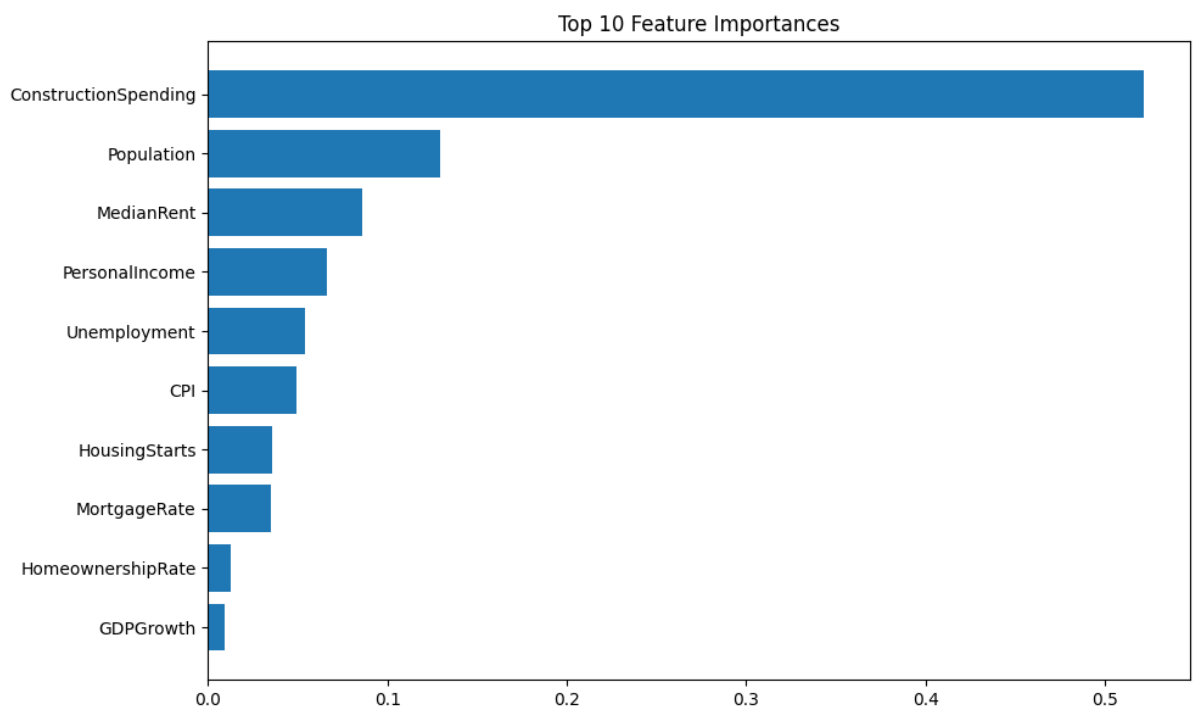
construction_spending,

median_rent,

homeownership_rate

KEY Colclusions

1. A spike in construction spending may signal increase housing supply , which impact prices
2. A growing population raises demand, pushes prices up.
3. Raising median rents may make home buying more appealing, thus affecting demand and home prices



Most Important Factor:

Construction Spending is the most influential feature. This suggests that changes in construction activity (like residential/commercial building investments) have the strongest relationship with home price movements in your model.

Other High-Impact Features:

Population and Median Rent follow, meaning population growth and rental prices also play strong roles in shaping home prices.

Moderate Importance:

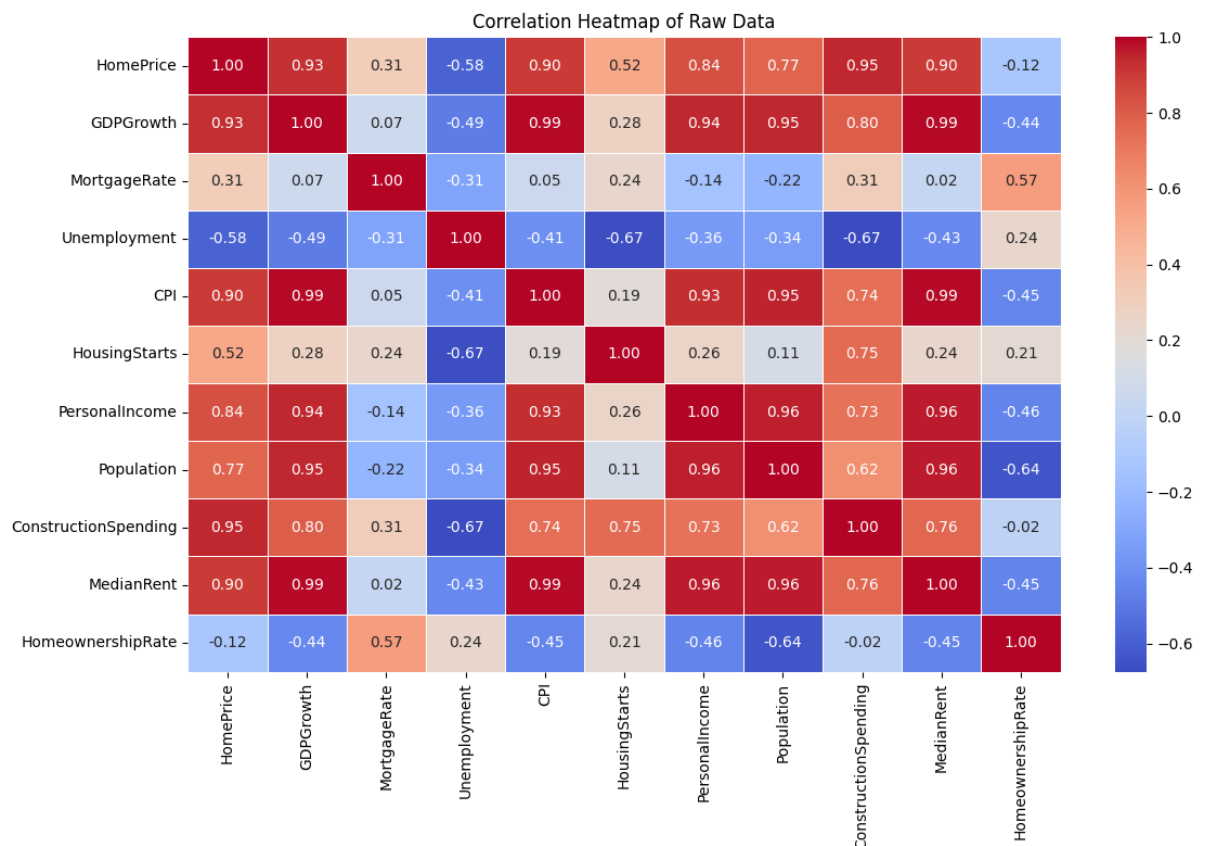
Personal Income and Unemployment are mid-range predictors, indicating economic stability and earnings influence housing demand but less than construction and population growth.

Least or not important factors:

Unemployment, CPI, and Mortgage Rates shows no significant co relation ithhous prices in usa so thses factors could be totally excludd while predicting house prices in a zone

WE CAN SEE THAT in HEATMAP ALSO

CORRELATION HEATMAP OF RAW DATA



Here features like construction spending ,median rent ,population and personal income are best to predict home prices in The USA . Because they are strongly correlated.

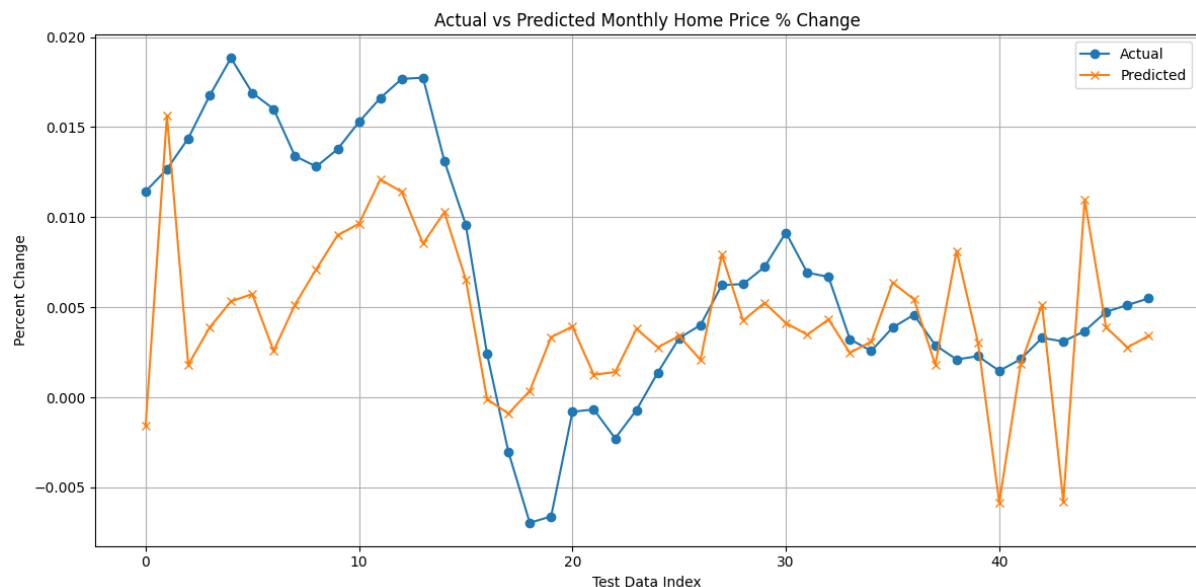
My Advice for Businesses

1. If you increase construction spending it may signal increase in housing supply which impacts prices positively so automatically prices could be higher.
2. Aim for areas of growing population because that raises demand and pushes price up , this will give more margins per property sold .

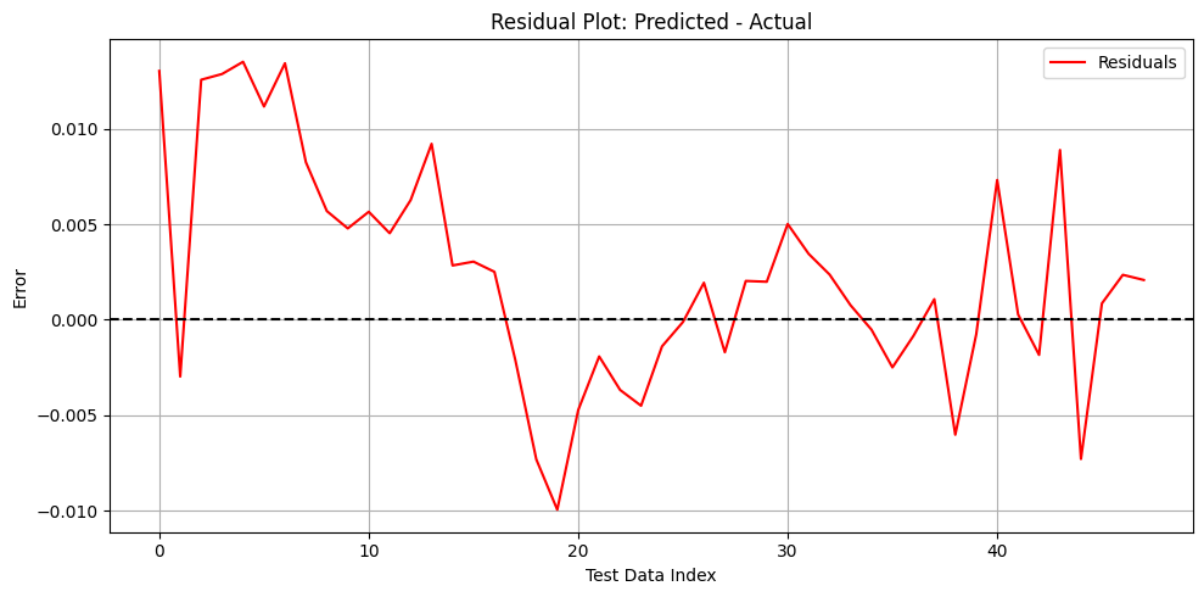
3. Aim for areas which have higher median rent , this may make home buying more appealing this may increase demand and house prices so more profit can be earned.
4. Looks for areas in which people have higher personal income that demonstrate buying capacity and prices could be adjusted more personal income means more buying capacity .

SO THESE ARE THE FINAL INSIGHTS AND TAKEAWAY FROM LAST 20 YEAR DATA ON FRED WEBSITE FOR PREDICTING FUTURE HOME PRICES IN USA .

For my model accuracy you can check



Residual plots



This shows that model is accurately predicting