

ValueIT

Xue Feng | Wafir | Alvin | QingYi



Who We are?



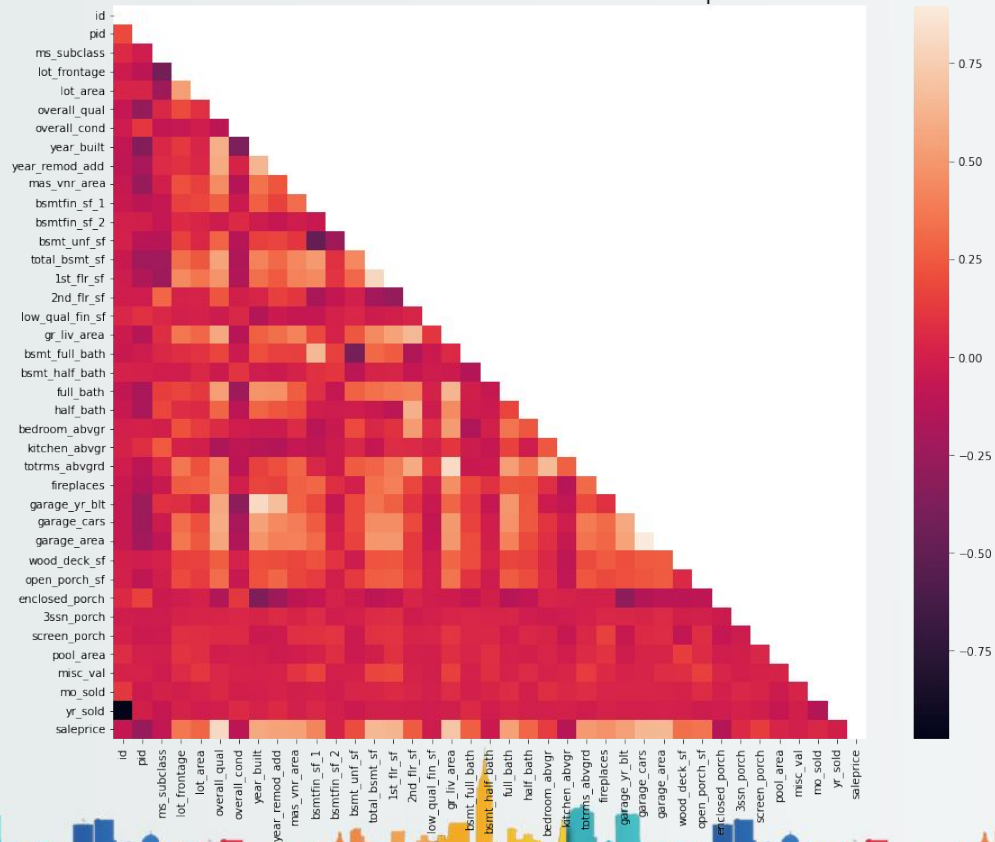
Problem Statement

Our clients are looking into the valuation of the houses in City of Ames and is asking what are the key variables that will affect the price of the house.

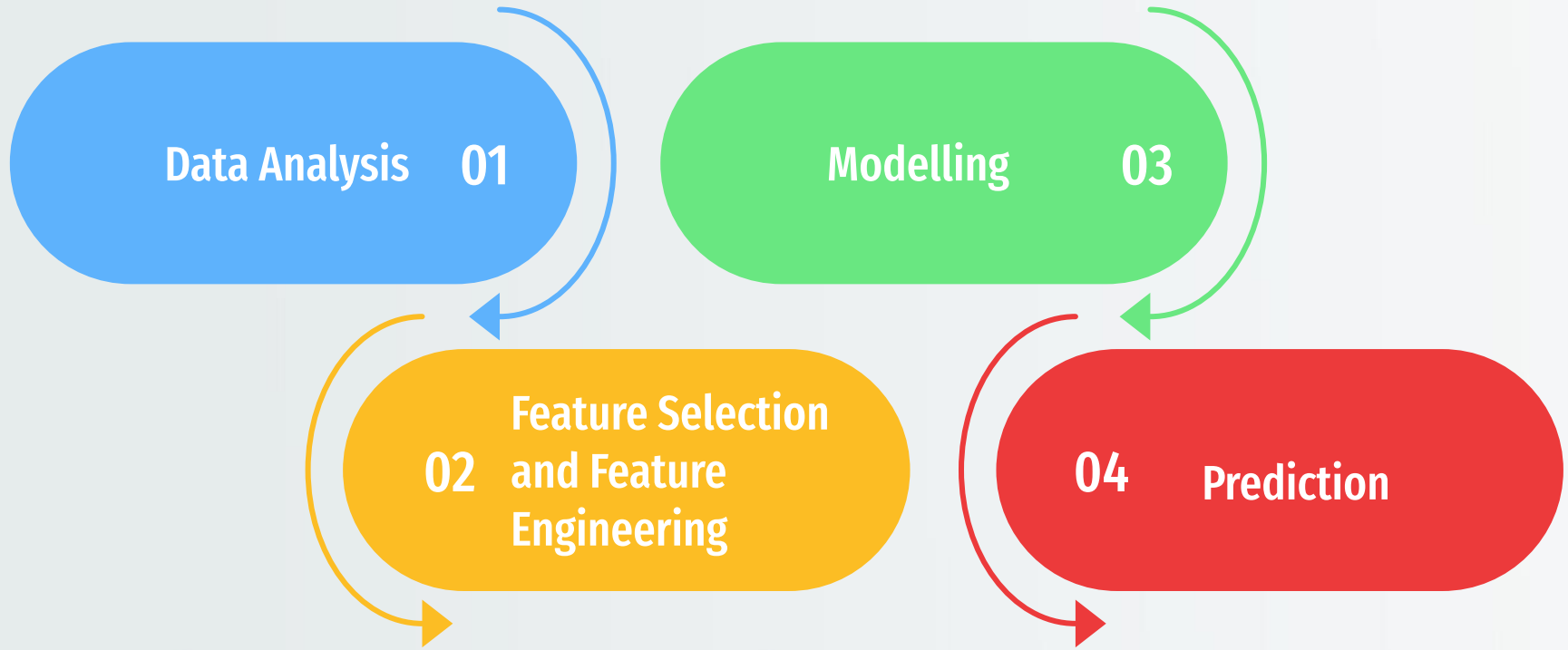


Features of Housing Property

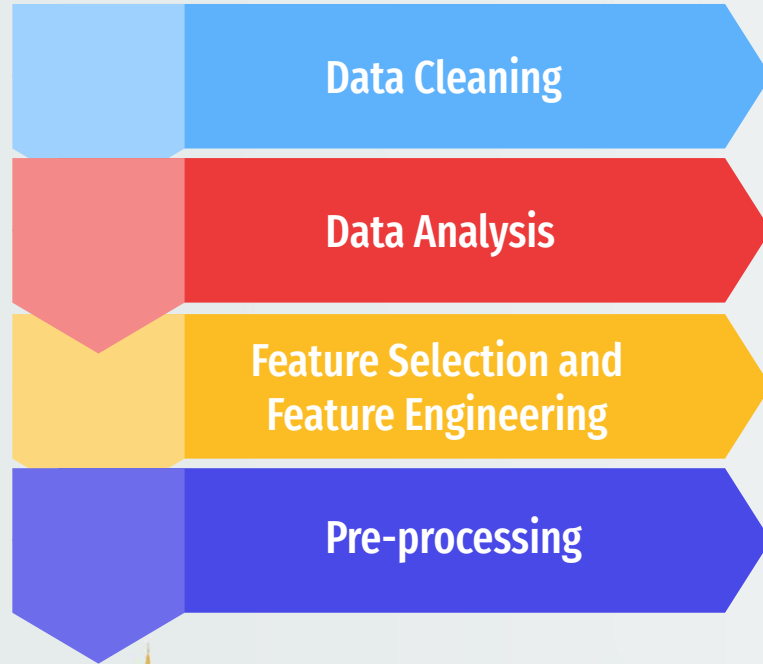
Correlation Between All Features and Saleprice



Process



Data Analysis and Feature Selection



Modelling & Prediction



Modelling

1. Linear
2. Lasso
3. Ridge



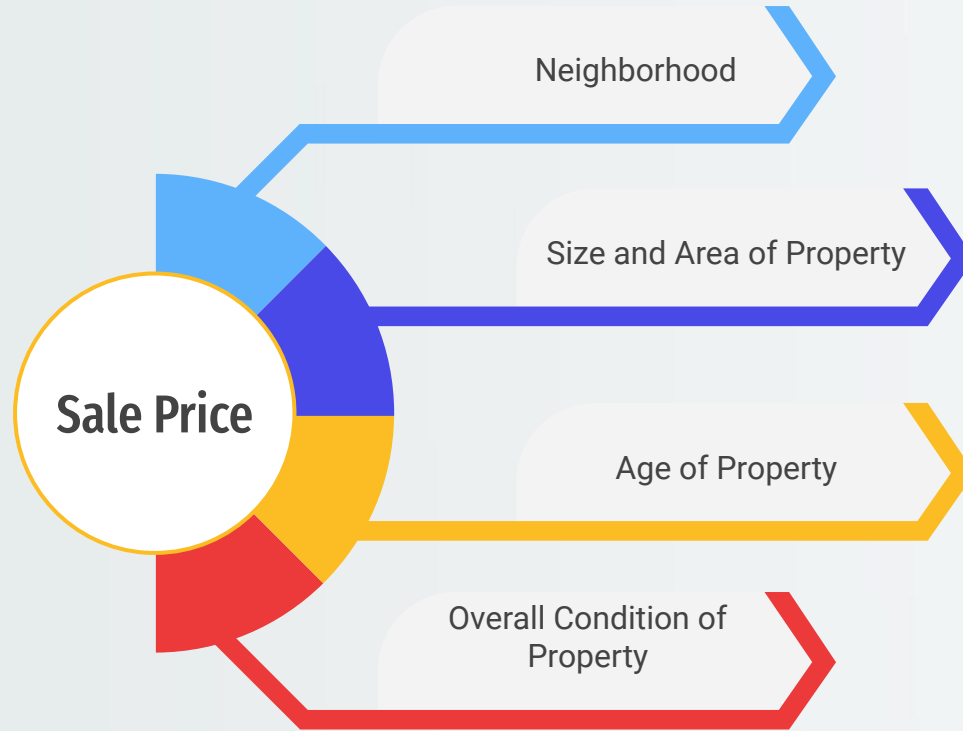
Prediction

Lasso Regression Model
(Recursive Feature
Elimination and
hyperparameter tuning)

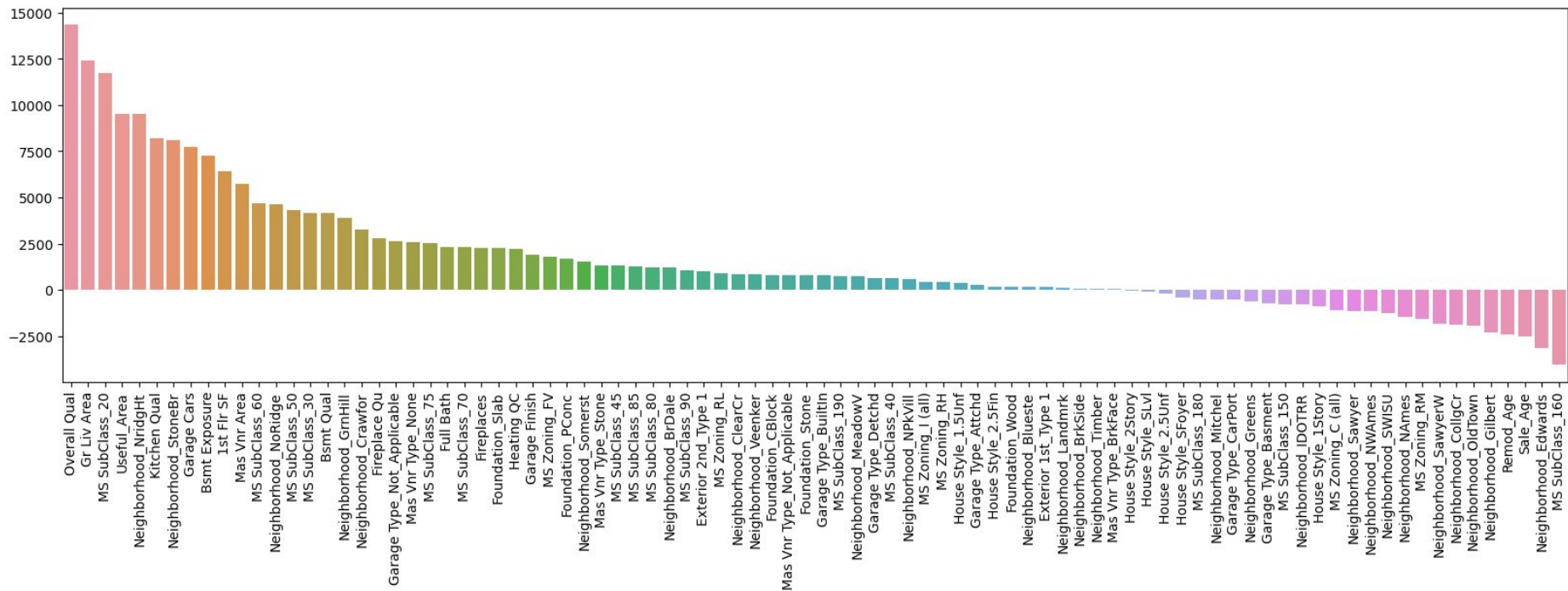


RMSE:
23531

Features Impacting Housing Prices



Outcome



DOES ...

MICRO FACTORS



Location



Home Size and Livable Space



Age and Condition



Upgrades

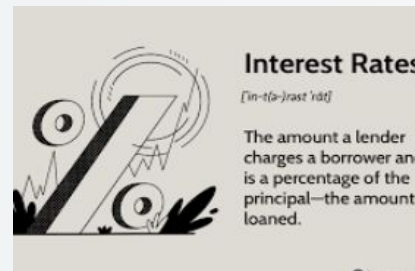
MACRO FACTORS



The Market



Economic Indicator



Interest Rates

— AFFECT PROPERTY PRICES?

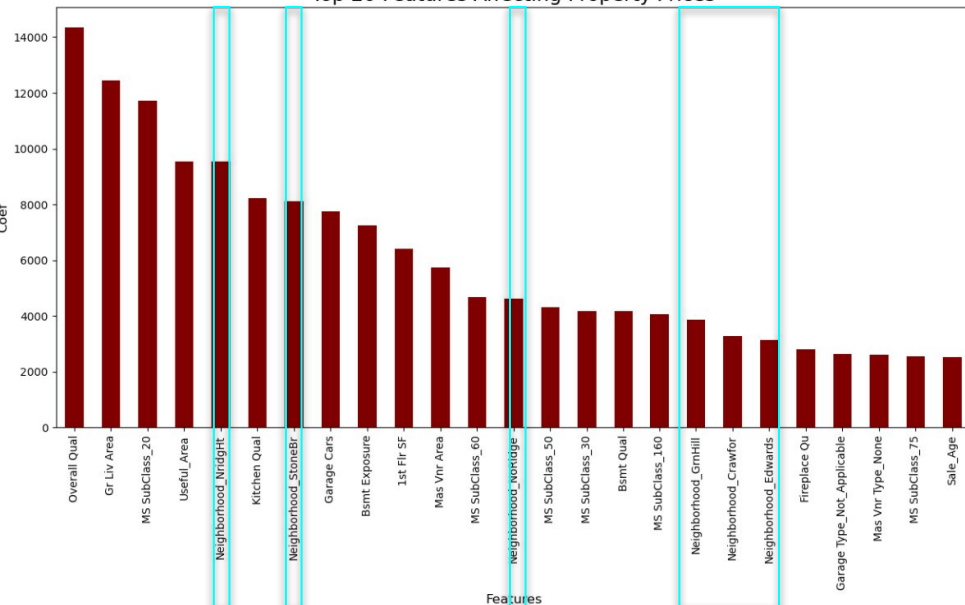


Neighborhood

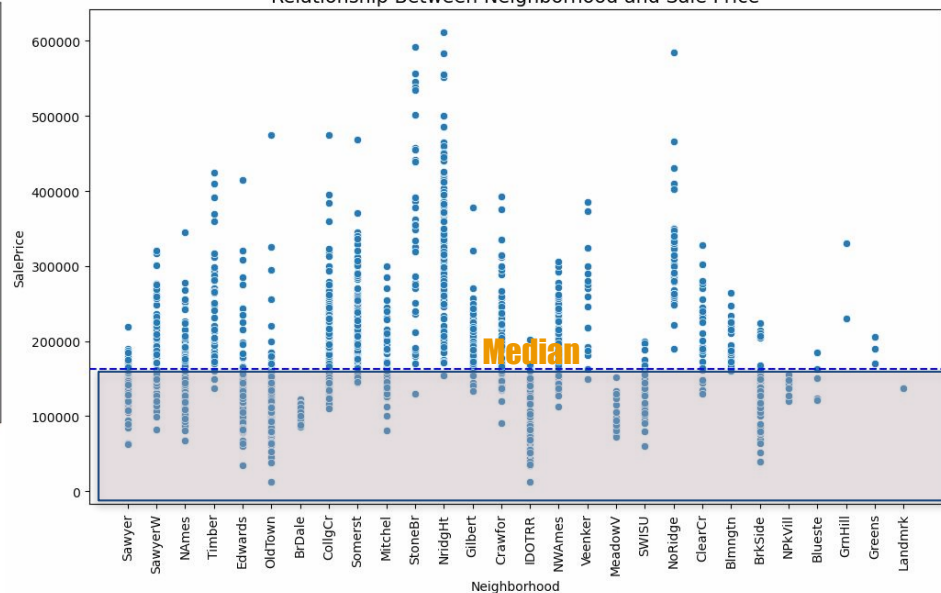
Definition:
Location



Top 20 Features Affecting Property Prices



Relationship Between Neighborhood and Sale Price



Home Size and Livable Space

Definition:

Total Area = Ground Living Area + Basement Area



Coefficient = 302519

Age

Definition:

Age - Number of years since property was built

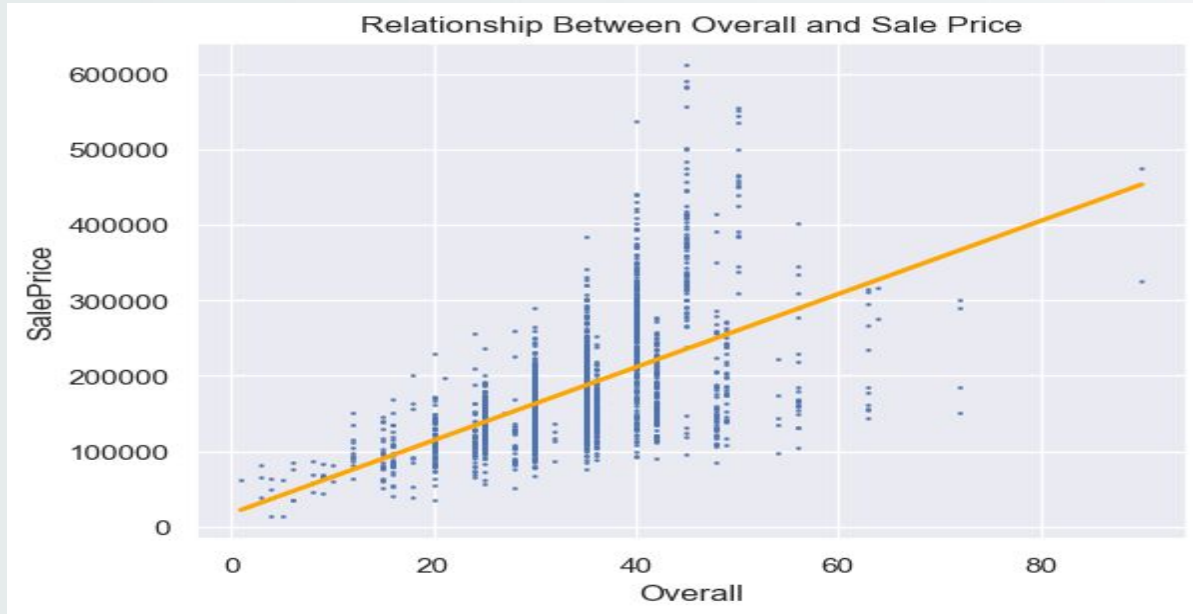


Coefficient = -11324

Condition

Definition:

Overall Quality x Overall Condition



Coefficient = 10500

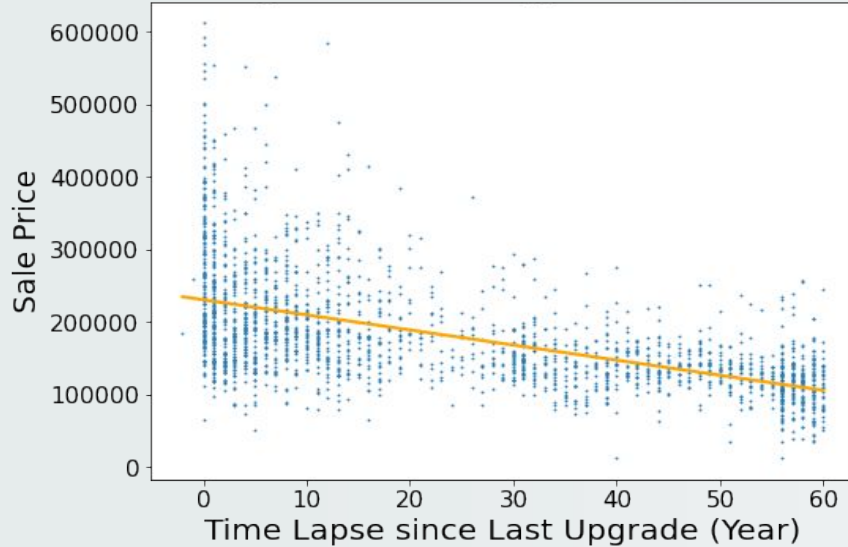
Upgrades

Definition:

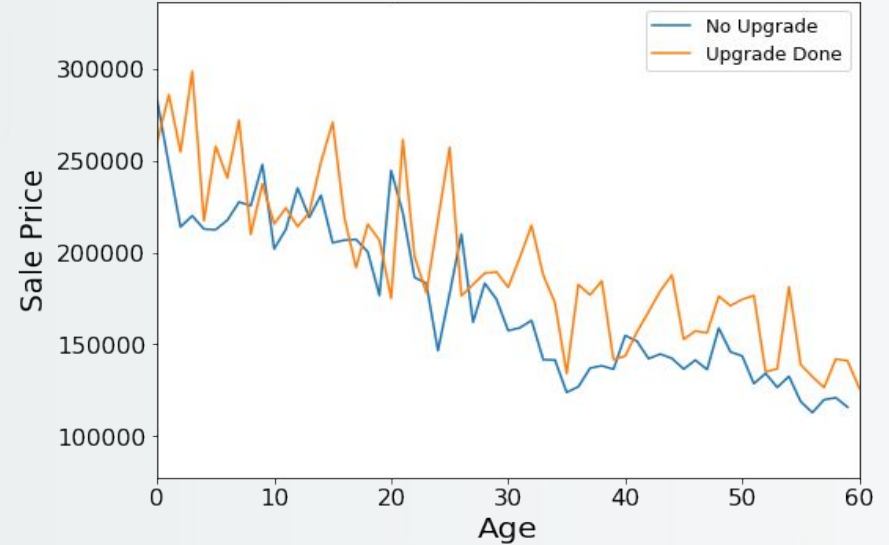
Home improvement works to renew outdated features



Time Lapse since Last Upgrade and Sale Price



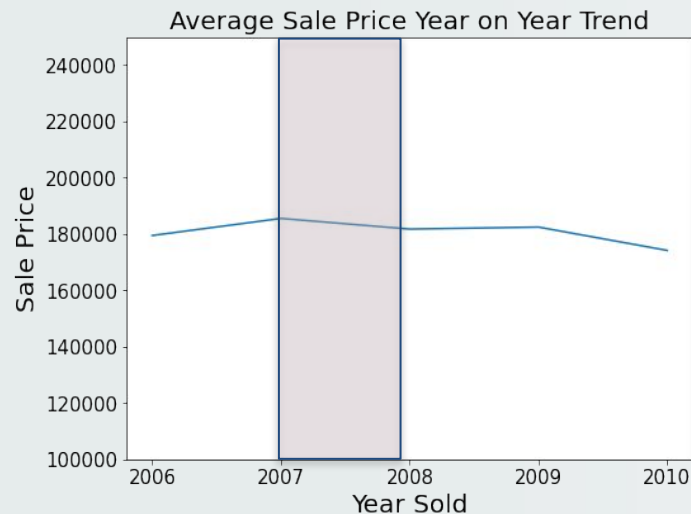
Age and Sale Price



Coefficient = -2825



The Market



Group by Quality

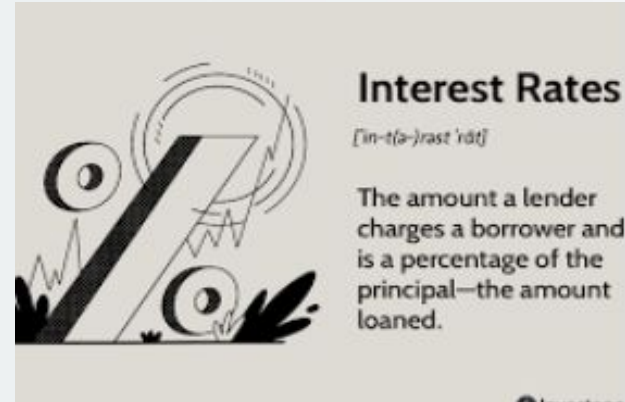


Other Macro Factors

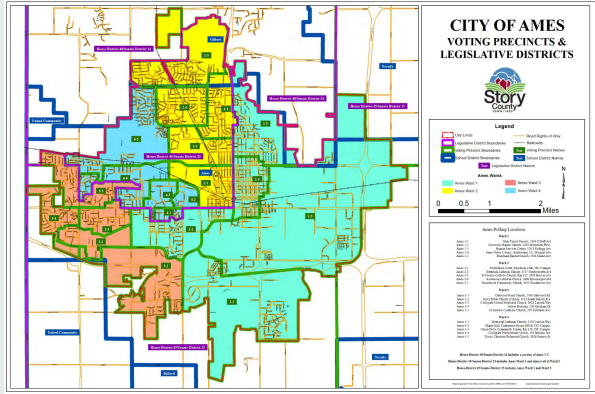
Economic Indicators



Interest Rates



Conclusions



Neighborhood/ Location



Size



Quality, Condition + Upgrades



Age

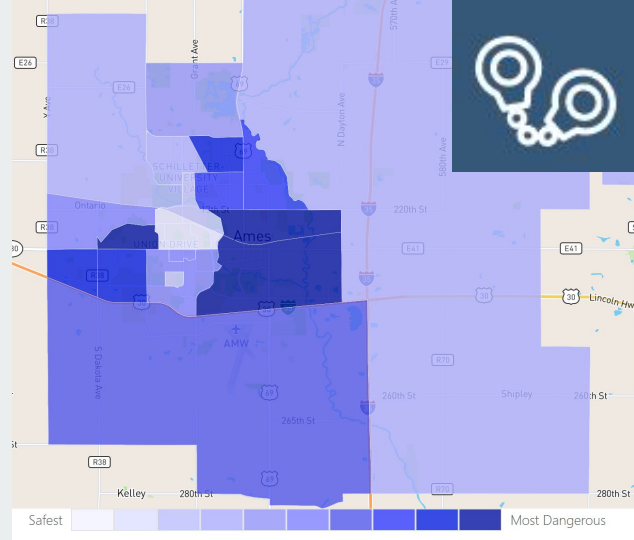


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Recommendations



Demographics



Crime Rate

117TH CONGRESS
1ST SESSION

S. 767

To amend the Home Mortgage Disclosure Act of 1975 to modify the exemptions from certain disclosure requirements.

IN THE SENATE OF THE UNITED STATES

MARCH 16, 2021

Ms. CORTES MASTO (for herself, Ms. SMITH, Mr. DURBIN, Mr. BROWN, Ms. CANTWELL, Mr. MENENDEZ, Ms. WARREN, Ms. KLOBUCHAR, Mr. BLUMENTHAL, and Mrs. FEINSTEIN) introduced the following bill, which was read twice and referred to the Committee on Banking, Housing, and Urban Affairs

A BILL

To amend the Home Mortgage Disclosure Act of 1975 to modify the exemptions from certain disclosure requirements.

- 1 *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*
- 2
- 3 **SECTION 1. SHORT TITLE.**
- 4 This Act may be cited as the “Home Loan Quality
- 5 Transparency Act of 2021”.

Policies



Thank You!

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