

Location, Location, Location

Does Location Really Drive Home Price?





Problem Statement

Looking to invest in real estate in Ames,

Iowa? Today we'll explore some ways to determine what features really matters when evaluating home prices.

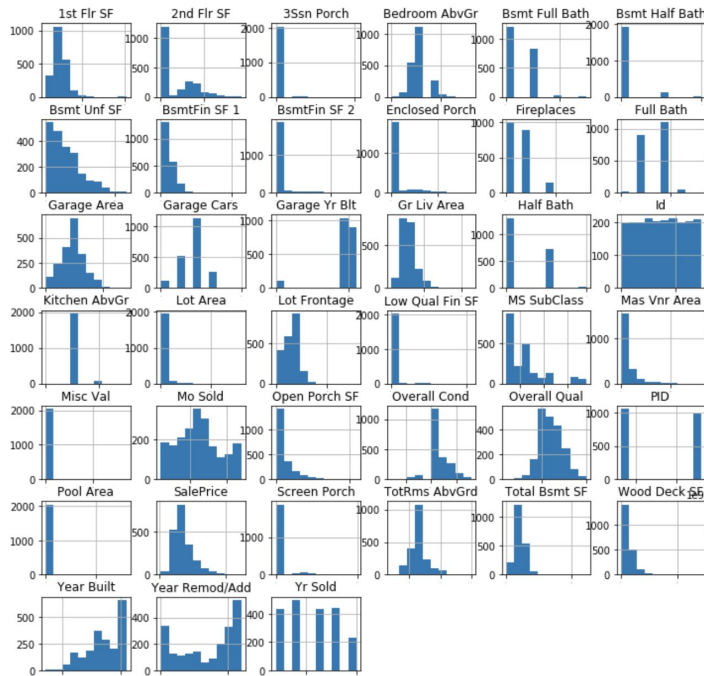
Data Sources

DESCRIPTIVE ABSTRACT: Data set contains information from the Ames Assessor's Office used in computing assessed values for individual residential properties sold in Ames, IA from 2006 to 2010.

SOURCES: Ames, Iowa Assessor's Office

- NAME: AmesHousing.txt
- TYPE: Population
- SIZE: 2930 observations, 82 variables

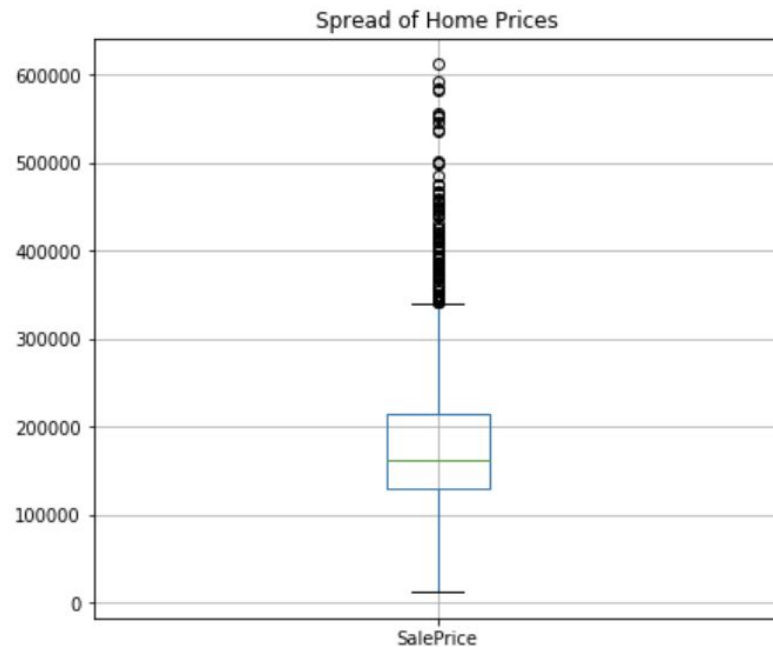
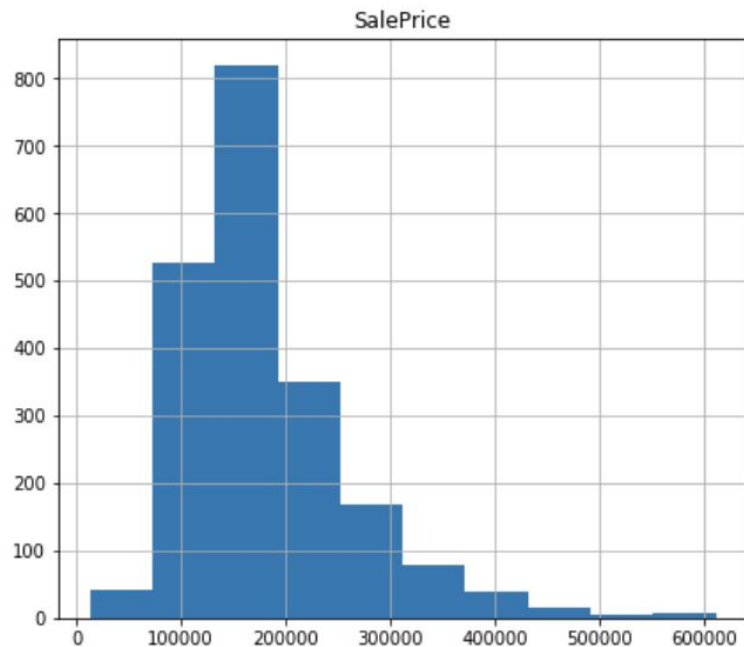
What's in the data?



- Many have basements
- Few have finished basements
- A majority of homes do not have fireplaces
- Less variability in lot and area
- Most of the homes were built in the 2000s
- Few have porches
- Overall quality and condition for most homes is about average



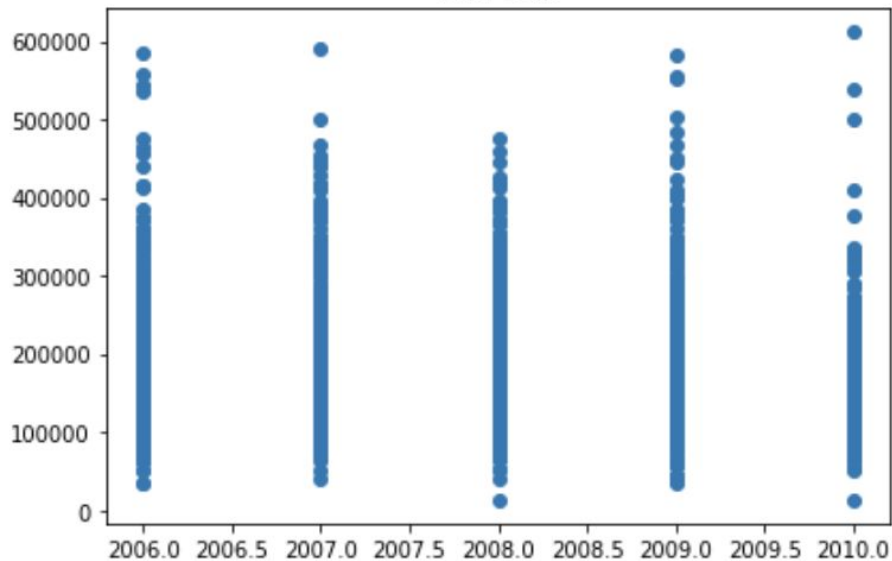
Home Prices in Ames



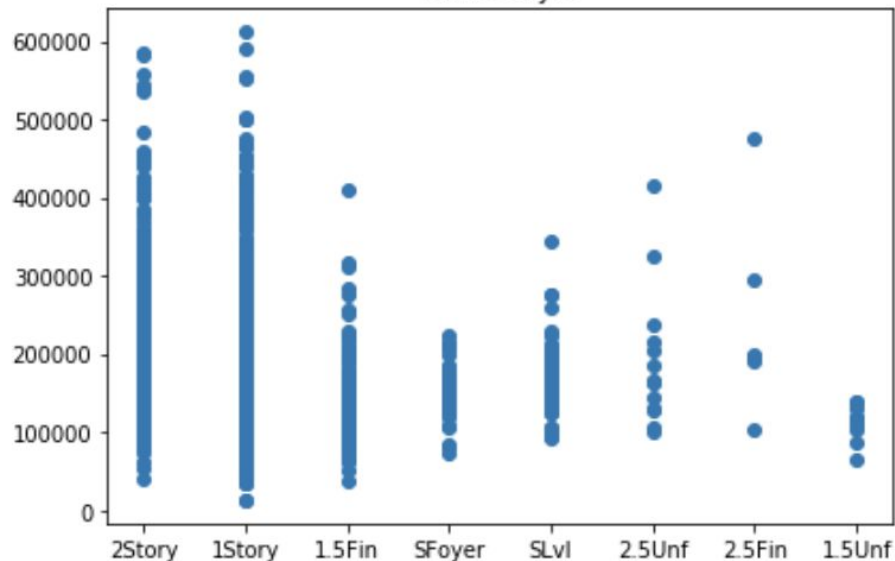


Features that May Influence Sale Price

Year Sold

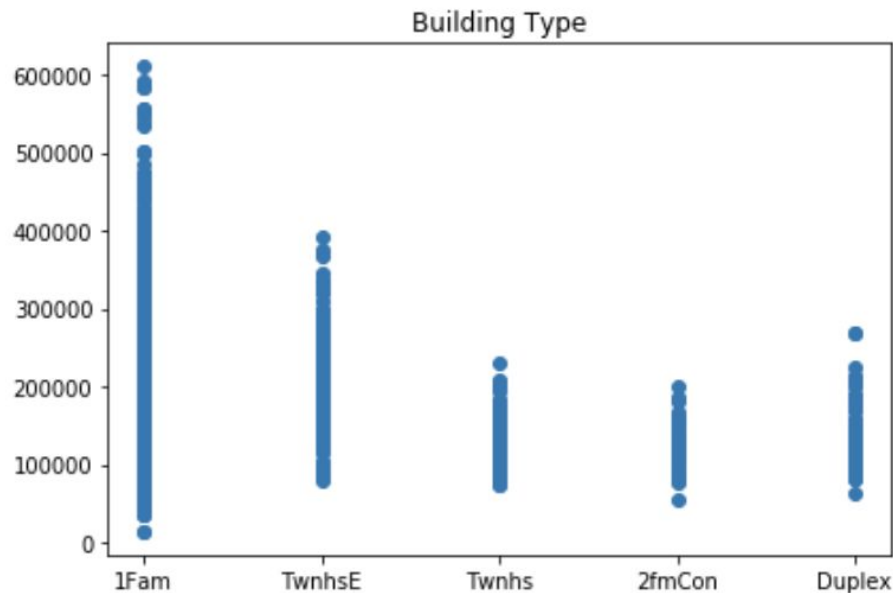
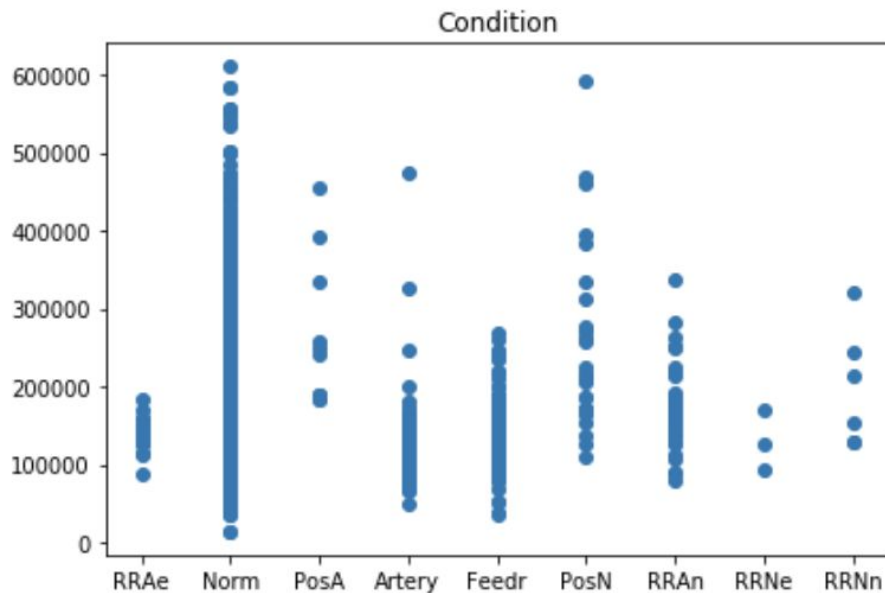


House Style



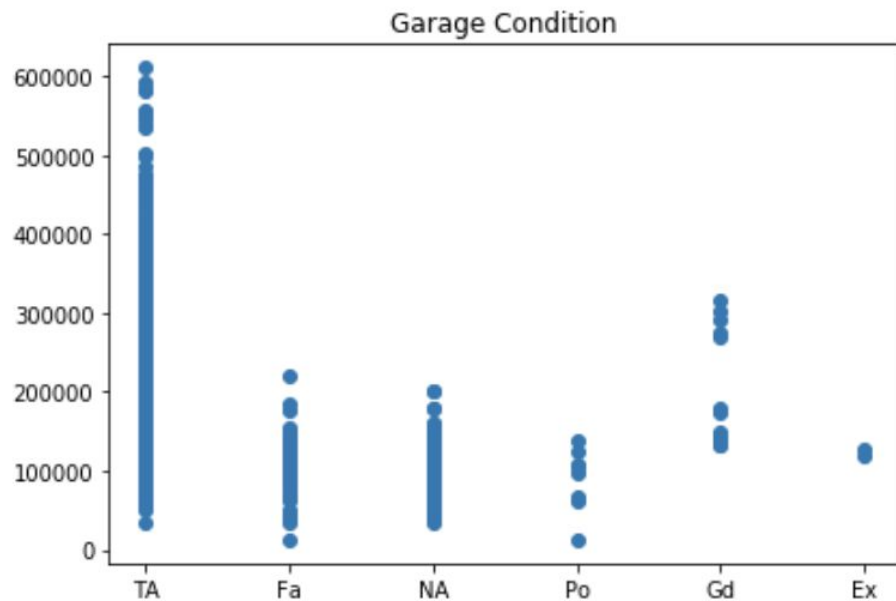
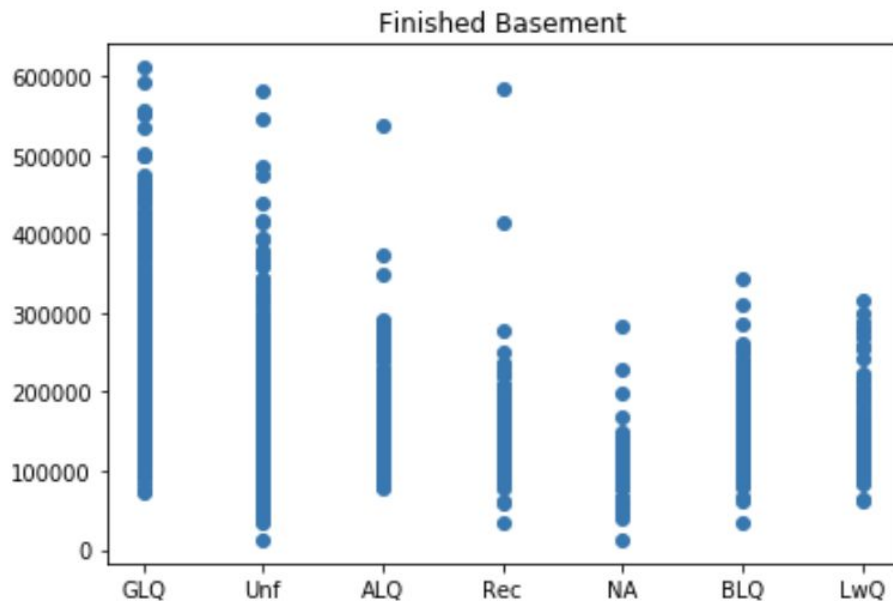


Features that May Influence Sale Price





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Features Used in The Model

Continuous

- Square Footage
- Lot Size
- Number of Bedrooms
- Number of Bathrooms
- Year and Month Sold

Total = 36

Categorical

- Neighborhood
- Condition
- Style of Home
- Garage
- Paved Driveway

Total = 6



Three Regression Models Evaluated

Linear Regression

- R^2 Train: .883
- R^2 Test: .843

LassoCV Regression

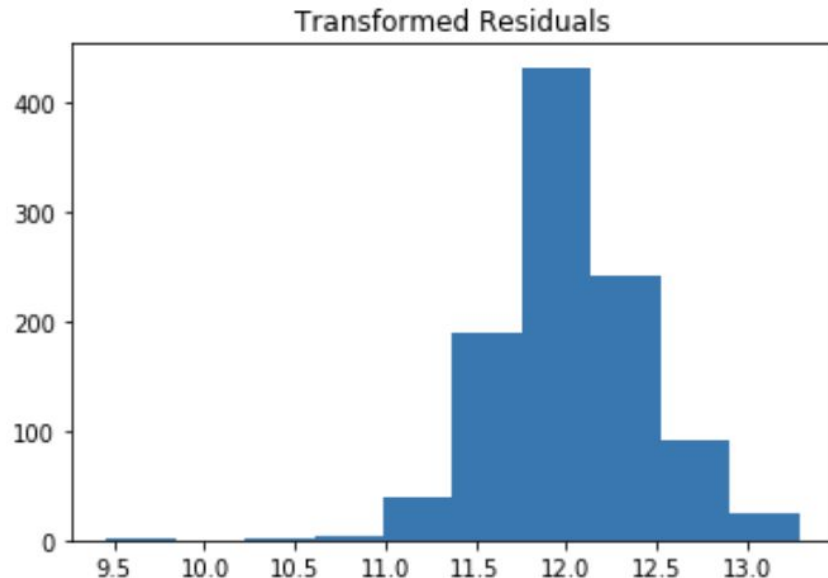
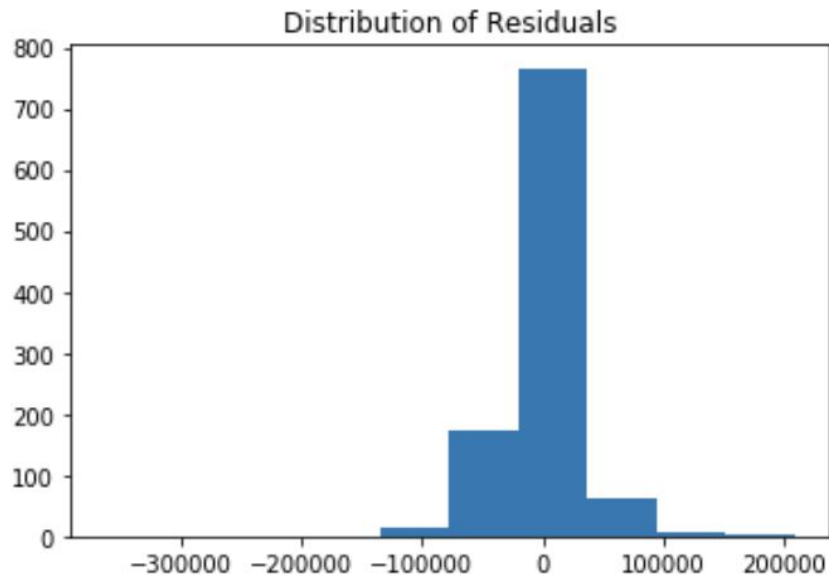
- R^2 Train: .822
- R^2 Test: .844

RidgeCV Regression

- R^2 Train: .817
- R^2 Test: -.103

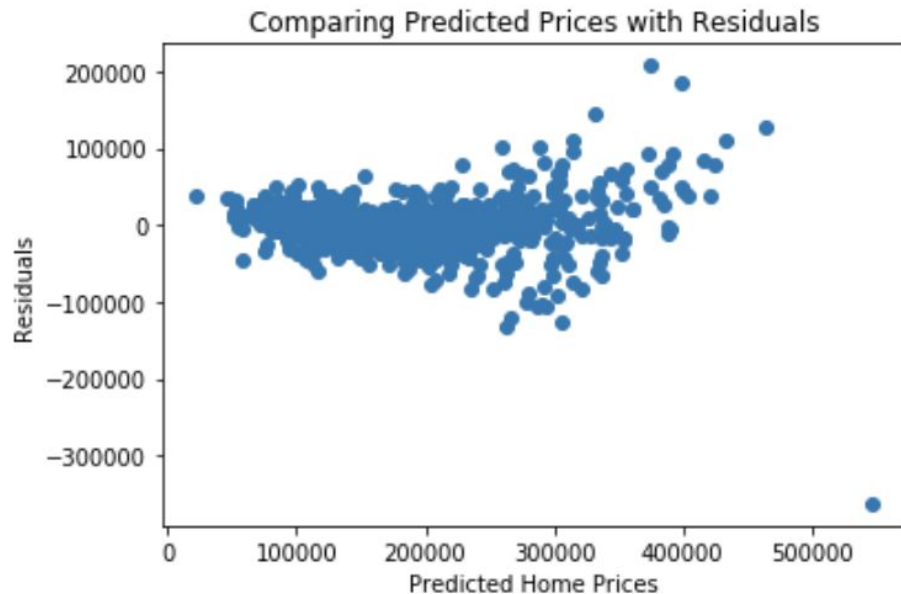


Estimate of Model Performance



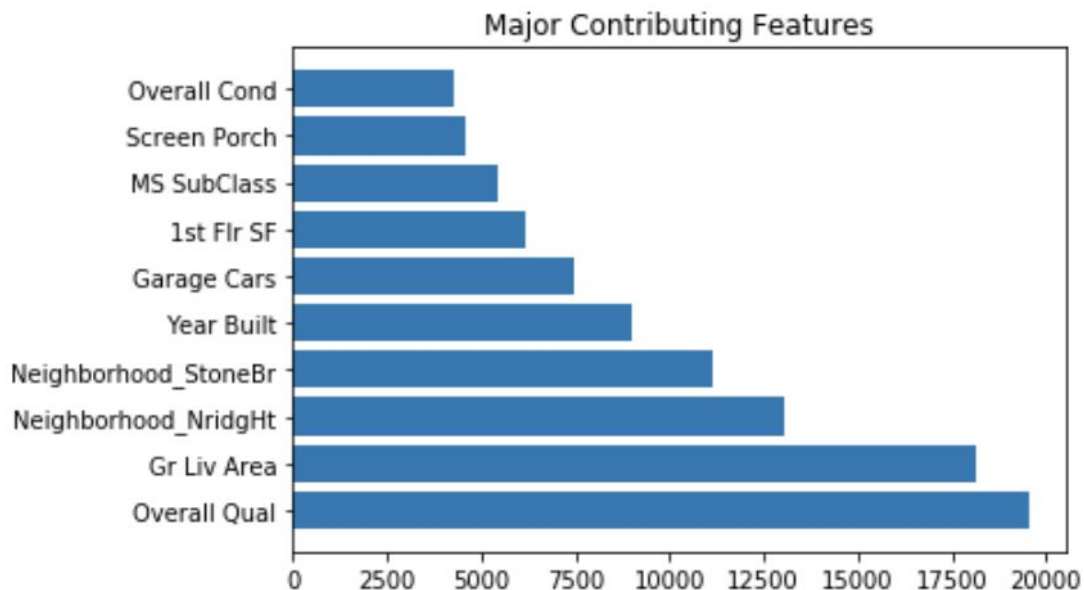


Estimate of Model Performance



What matters most?

Features	Coefficients
Overall Qual	19551.9
Gr Liv Area	18113.3
Neighborhood_NridgHt	13065.2
Neighborhood_StoneBr	11130.9
Year Built	9018.73
Garage Cars	7444.56
1st Flr SF	6152.22
MS SubClass	5453.19
Screen Porch	4586.79
Overall Cond	4297.38





Conclusion

Preliminary research suggests:

While **Location** is important.....

Size and **Quality** are the most important

factors that influence home prices.