



Ames Housing Price Prediction

By Jay Li 10/20/2021

Problem Statement



What feature is most important for house buyers to consider?

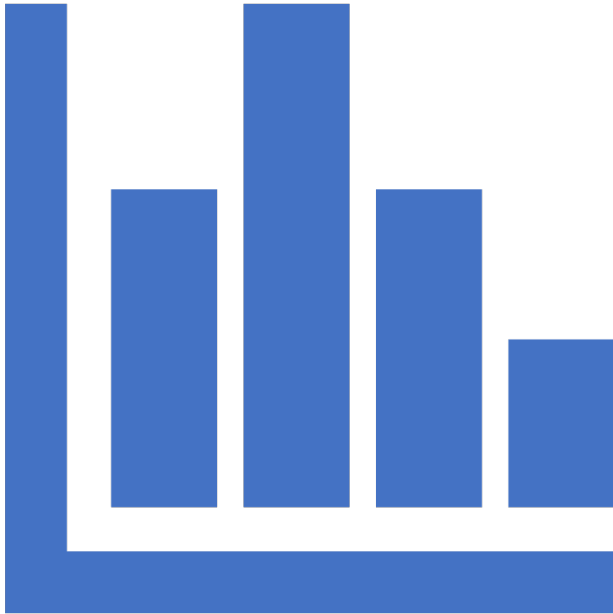


What feature add the most value to a home.



What can home seller do to improve home values.

Understanding the Data



- Total Features
- Numerical Features
 - Continuous Variables
 - Discrete Variable
- Categorical Variables

Feature Engineer

The following feature are combined

Combined	Feature in Original Data	Feature in Original Data	Feature in Original Data	Feature in Original Data	Feature in Original Data
FloorSqft	1st Flr SF	2nd Flr SF			
Total Bath	Half Bath	Bsmt Half Bath	Bsmt Full Bath	Full Bath	
total age	Yr Sold	Year Built			
remod age	Yr Sold	Year Remod/Add			
garage age	Yr Sold	Garage Yr Blt			
Total Porch SF	3Ssn Porch	Enclosed Porch	Open Porch SF	Screen Porch	Wood Deck SF

Ordinal Variables

- **#Ex Excellent**
- **#Gd Good**
- **#TA Typical**
- **#Fa Fair**
- **#Po Poor**
- **#NA No**

Kitchen Qual

Exter Qual

Exter Cond

Garage Qual

Garage Cond

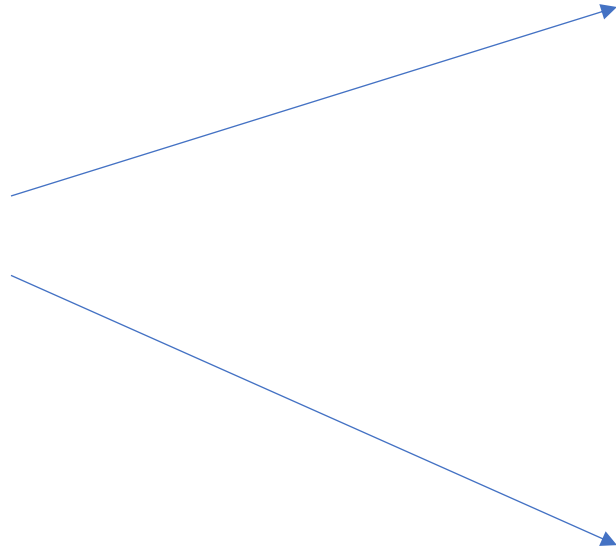
Bsmt Cond

Bsmt Qual

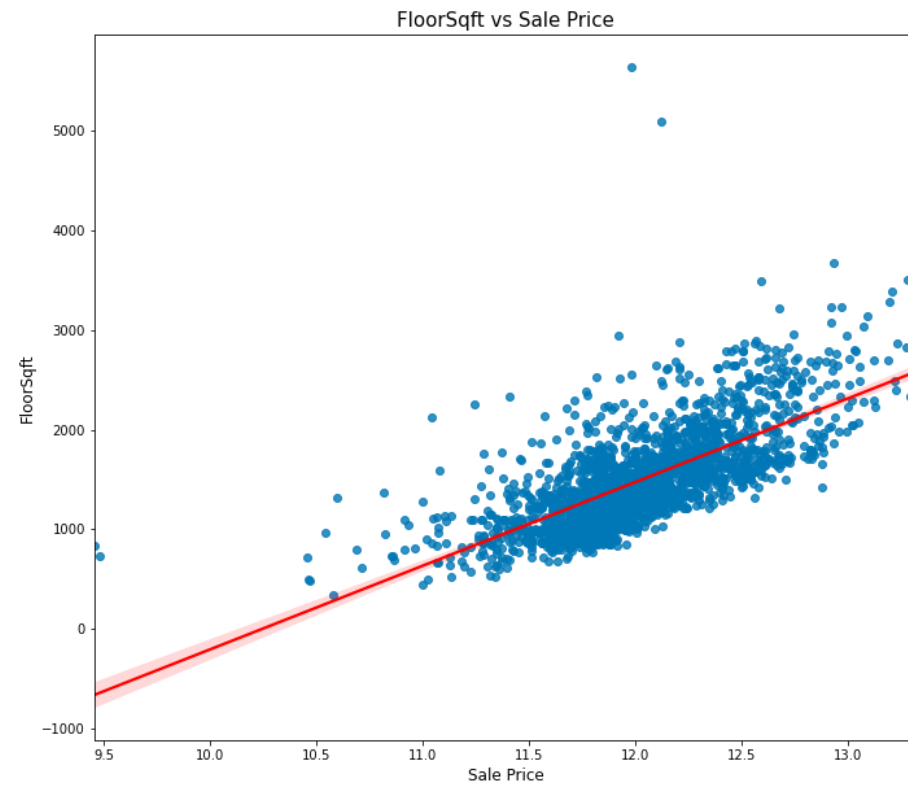
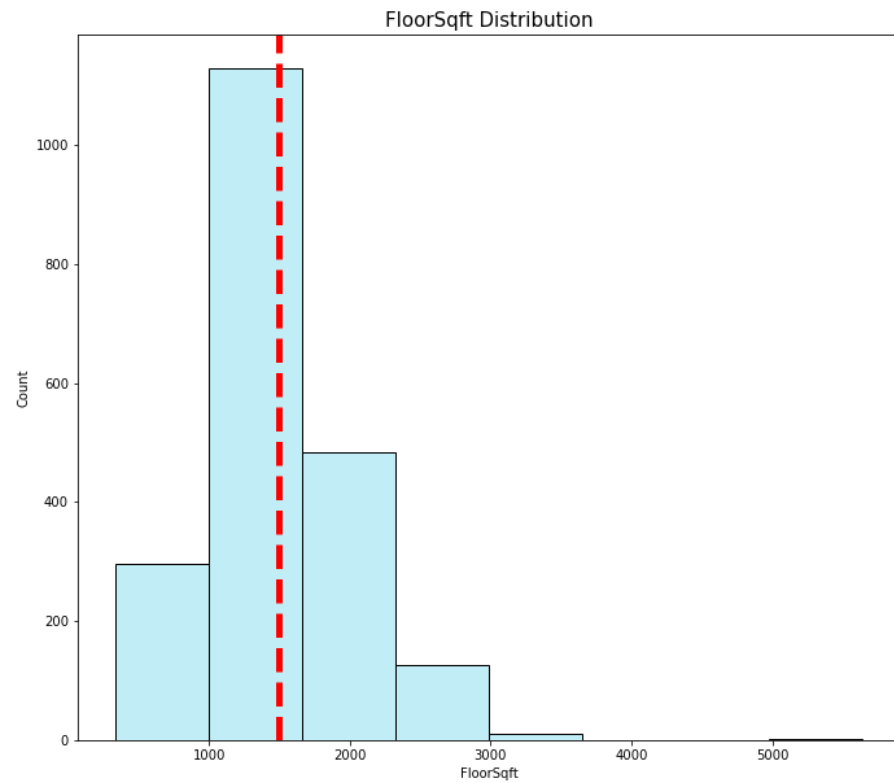
Correlation Method

Discrete Variables (Spearman)

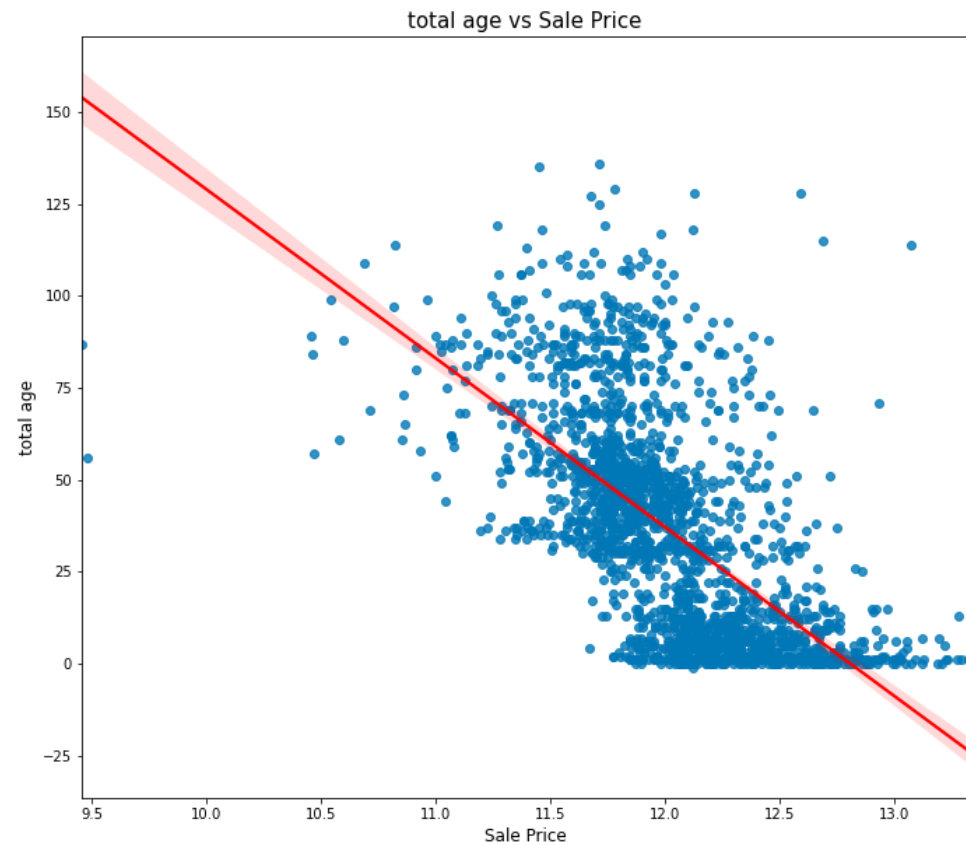
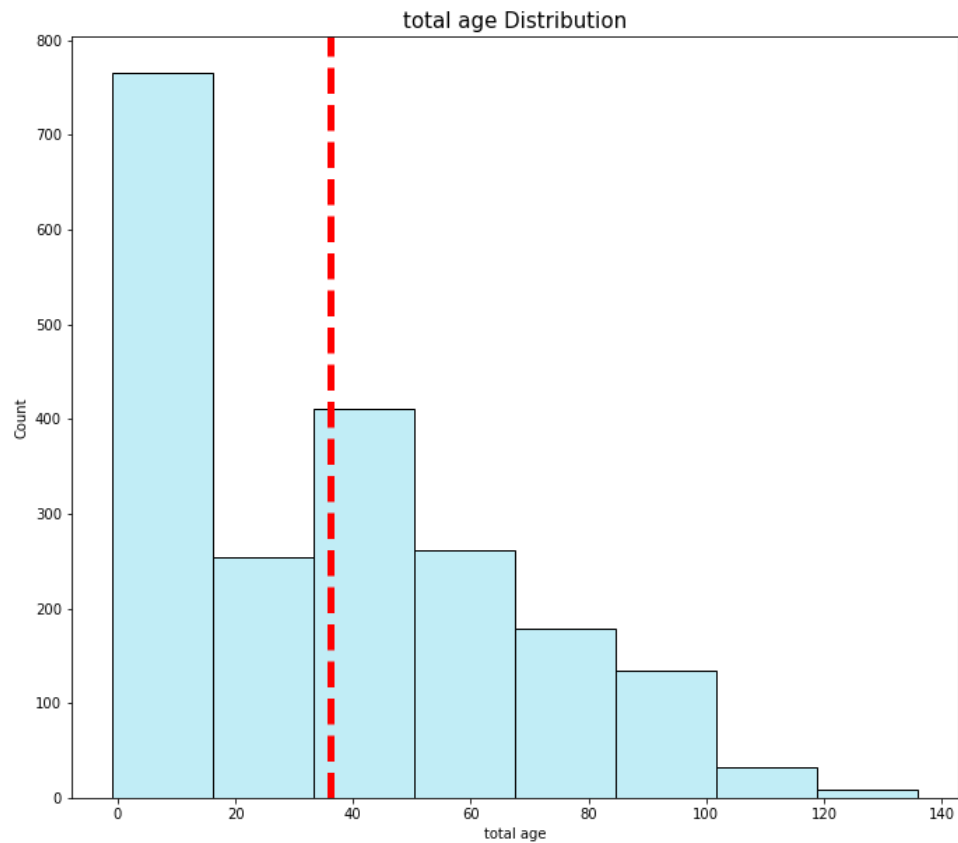
Continuous Variables (Pearson)



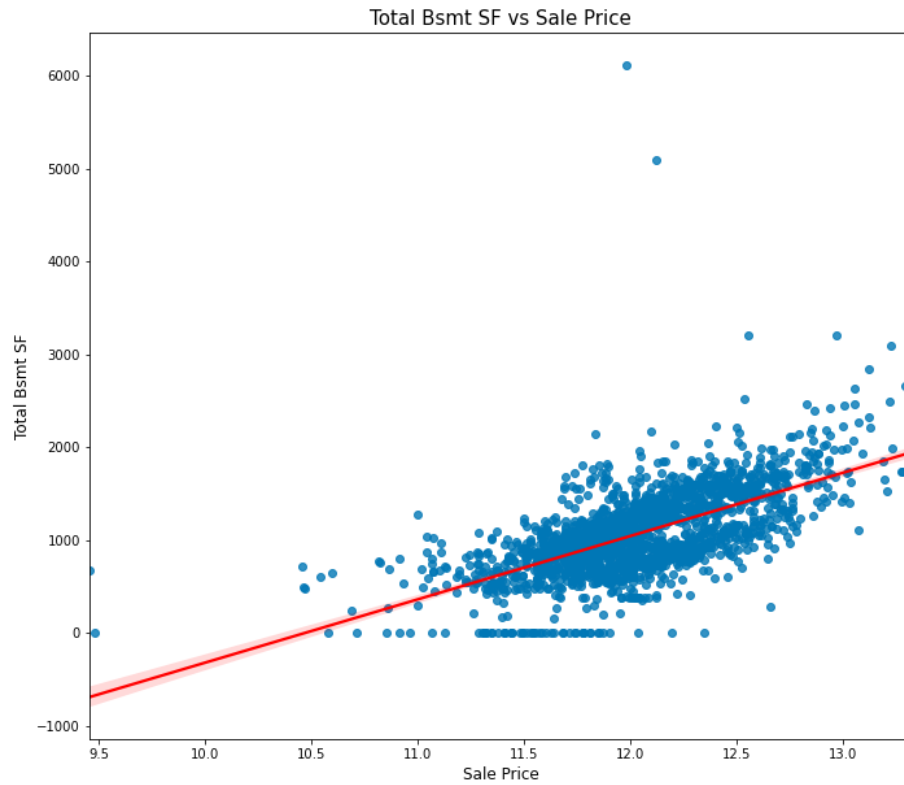
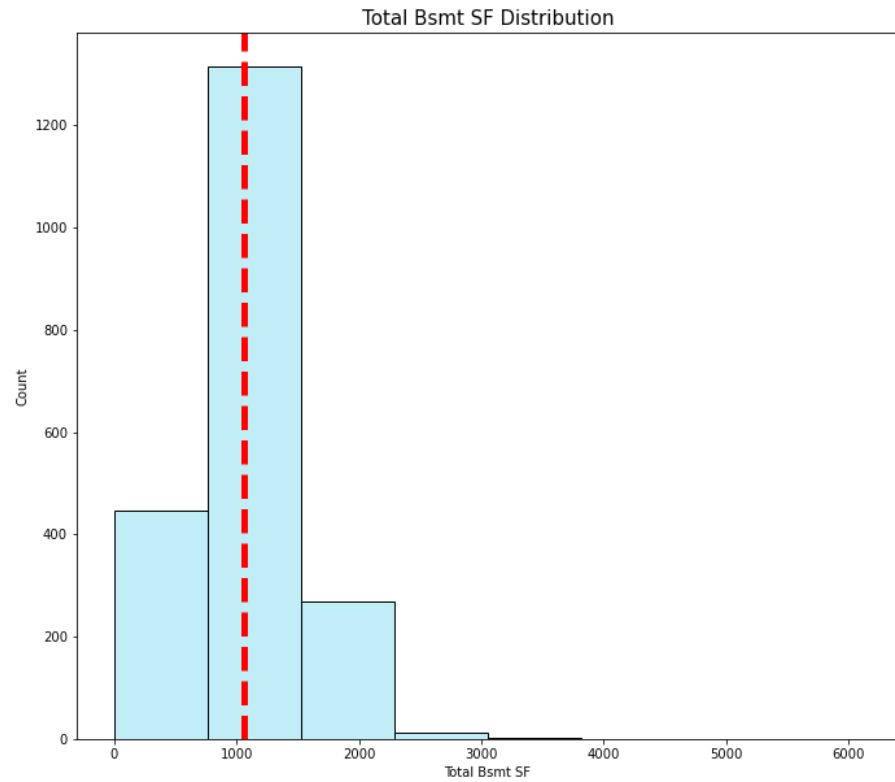
Visualizations



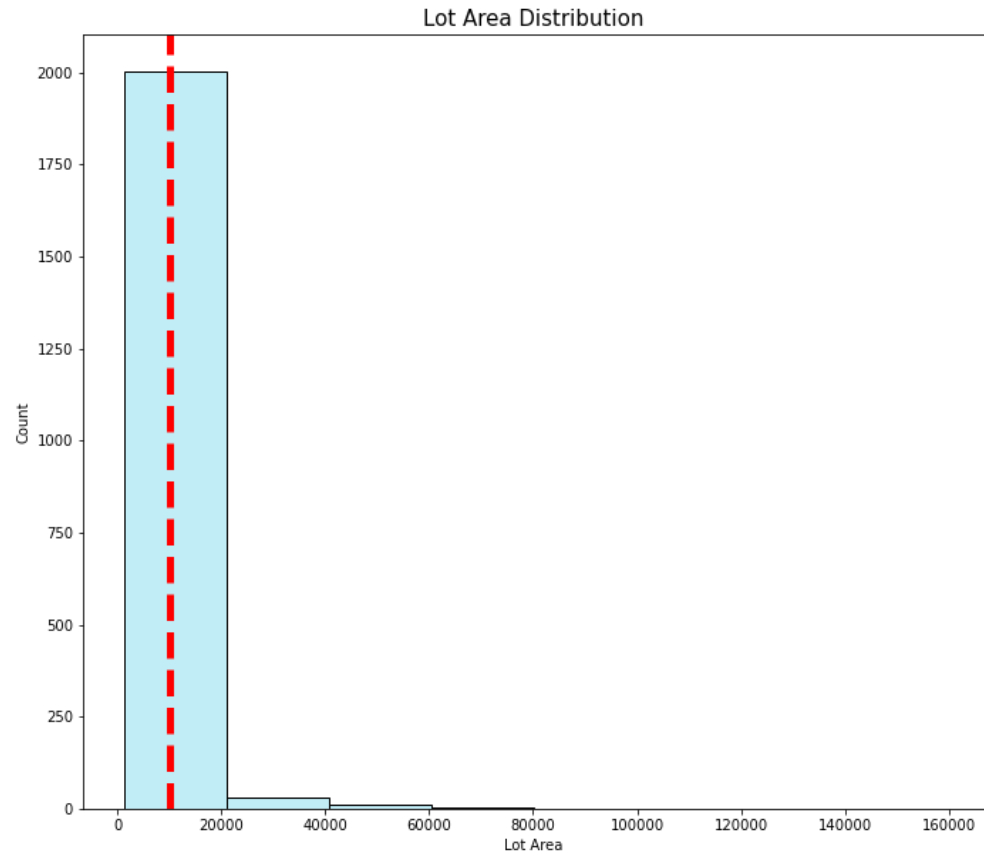
Visualizations



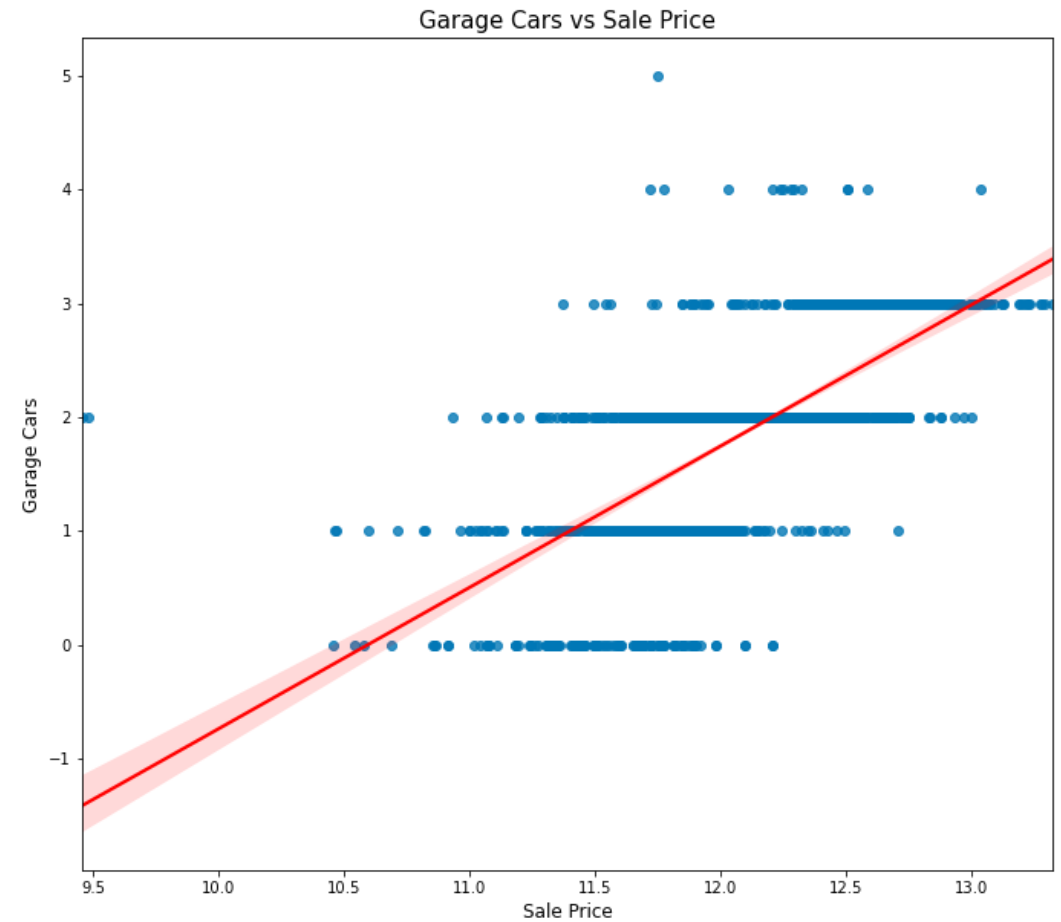
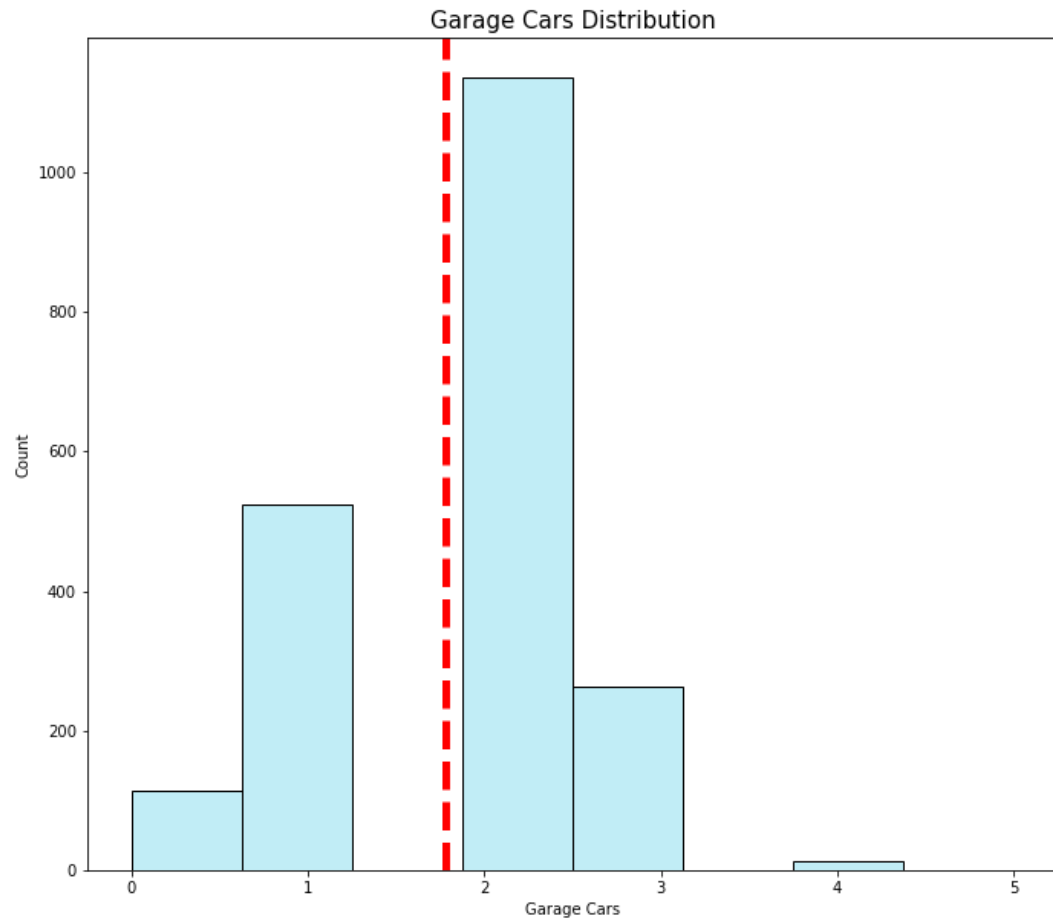
Visualizations



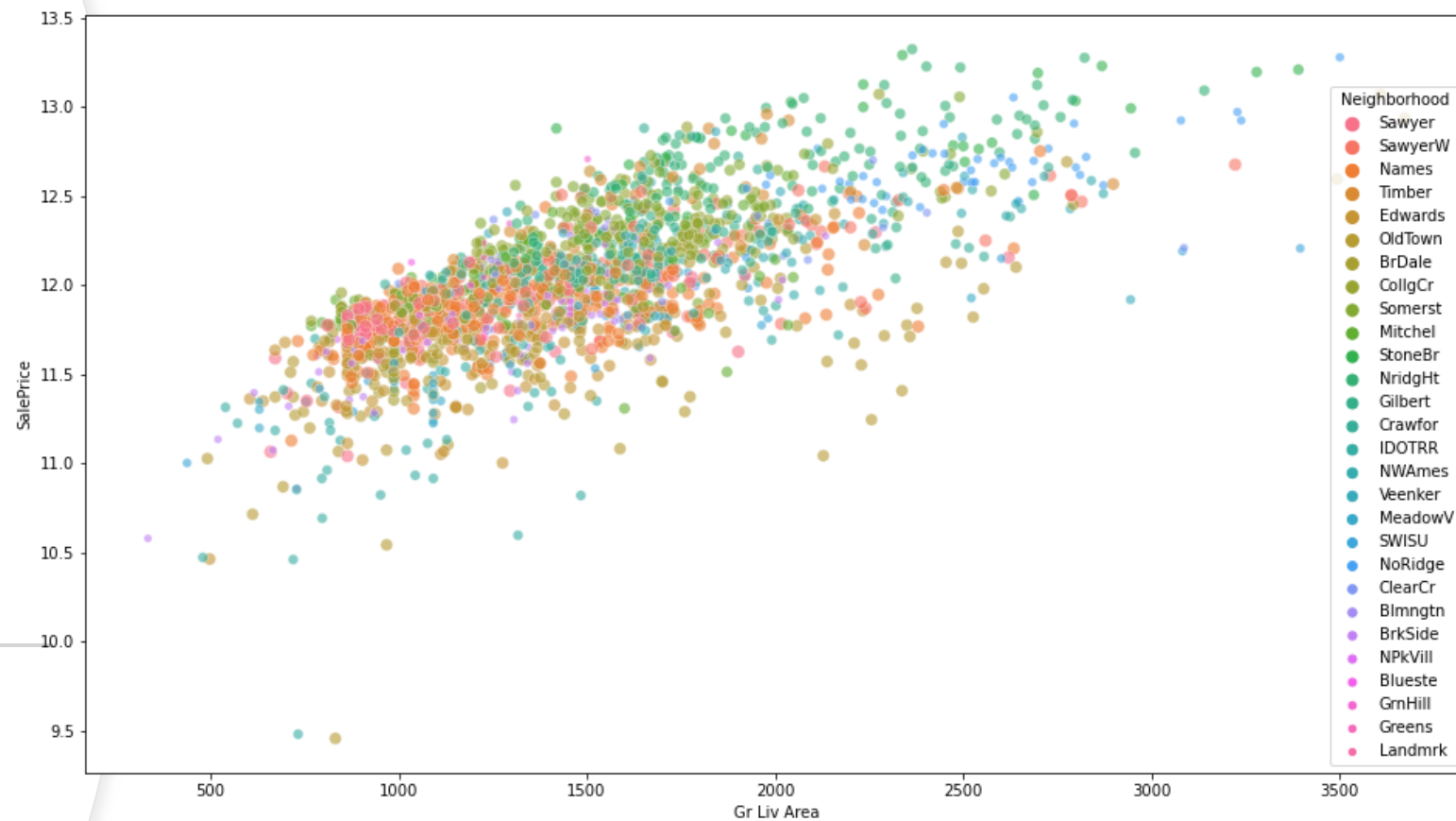
Visualizations



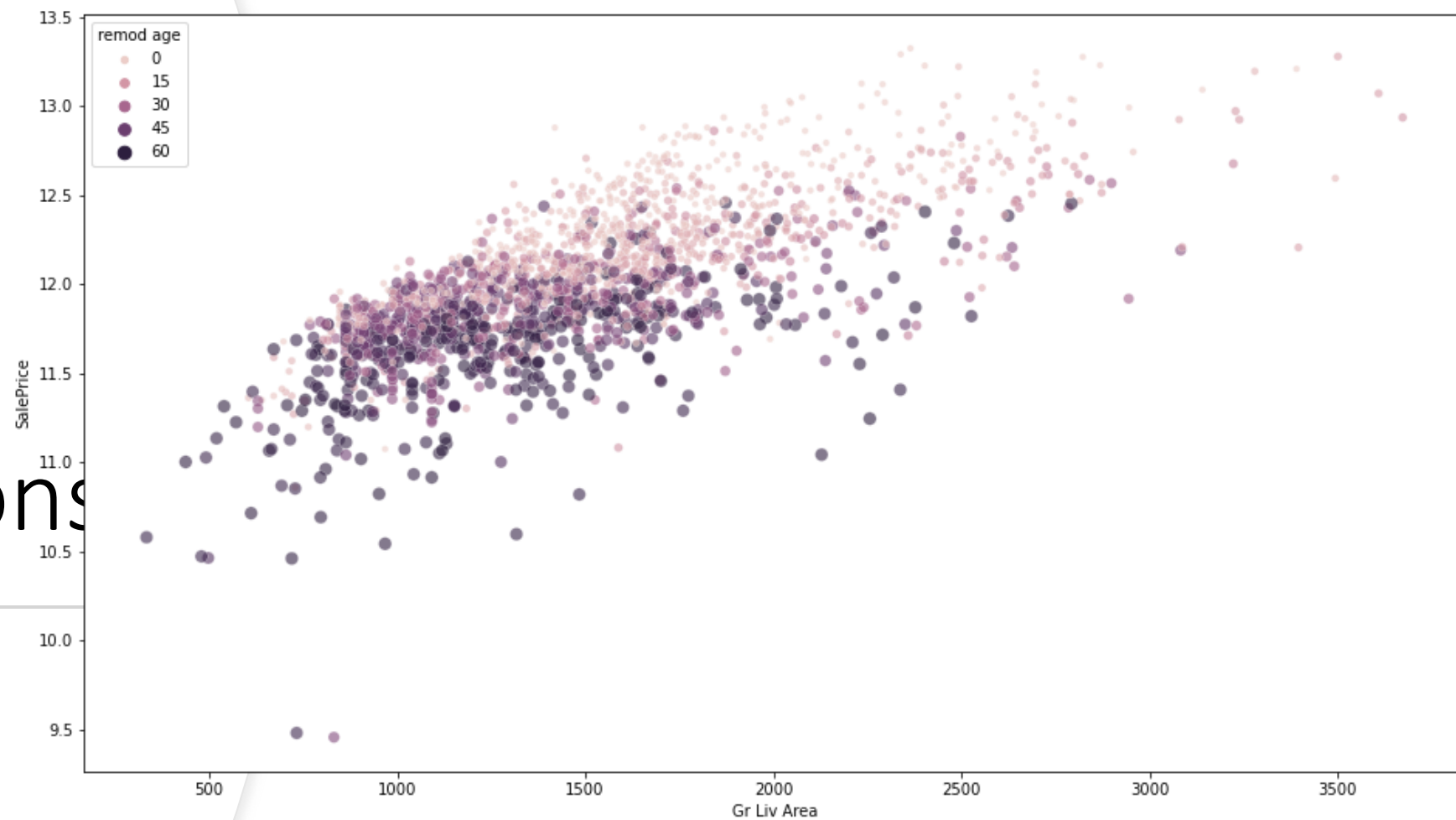
Visualizations



Visualizations



Visualizations



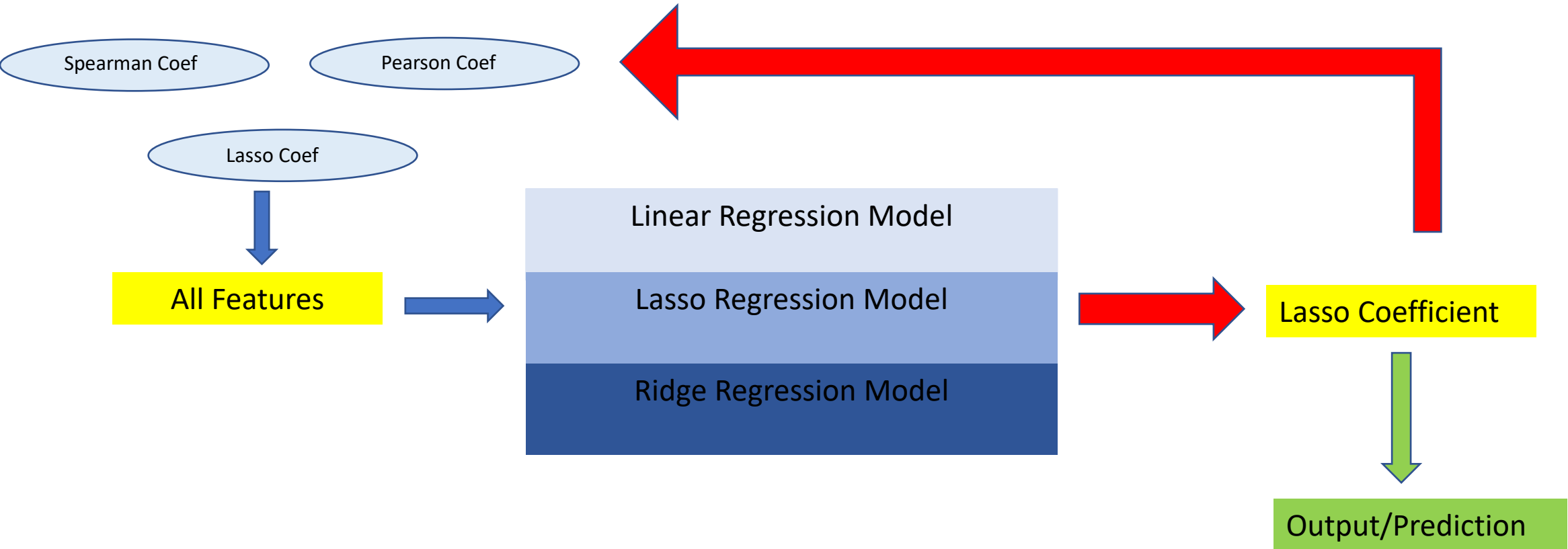


Workflow For Model Selection

Linear Regression Model
Lasso Regression Model
Ridge Regression Model



Workflow For Model Selection



Top 30 Housing Features

