

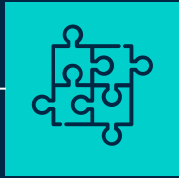
Predicting Home Sale Prices

Wesley Osborne

Introduction



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PROBLEM & SOLUTION

Gain competitive
Advantage



02

OUR PROCESS

Linear Regression
Model Workflow



03

TARGET

Predict Sale price,
model
recommendation

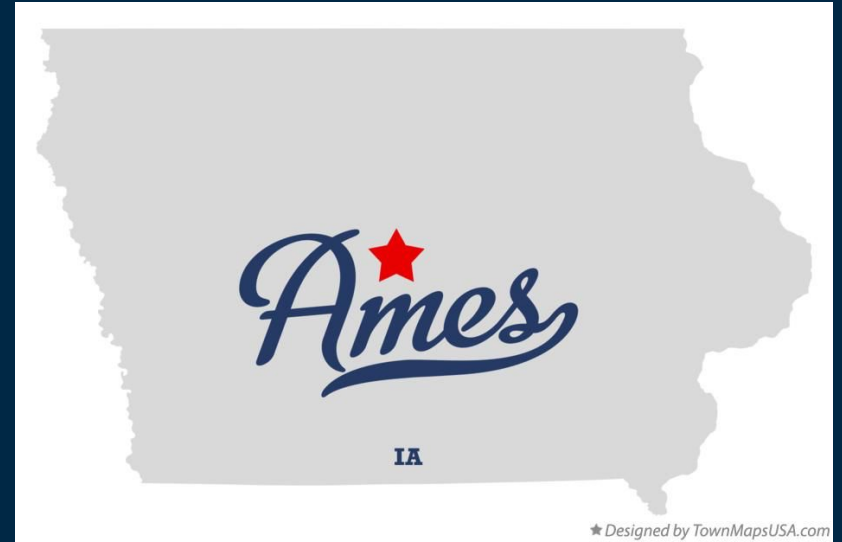
Problem Statement

Keller Williams Ames wants to gain a competitive advantage against other brokerages in the area. They want to predict the sale price of new homes on the market, to help both their seller agents and buyer agents provide unmatched service to their clients.



[image source](#)

Data Source



[image source](#)

Solution

Benchmark Simple Linear Regression Model

Features

- Overall Quality
- Year Built
- Year Remodeled
- Masonry veneer area
- Basement sq ft 1
- Above grade living area
- Total basement sq ft
- 1st floor sq ft
- Full Baths
- Total rooms above ground
- Garage year built
- Number of car garage
- Garage area
- Fireplaces
- Bedrooms above ground

Metrics

R2

86%

RMSE

29,234

86%

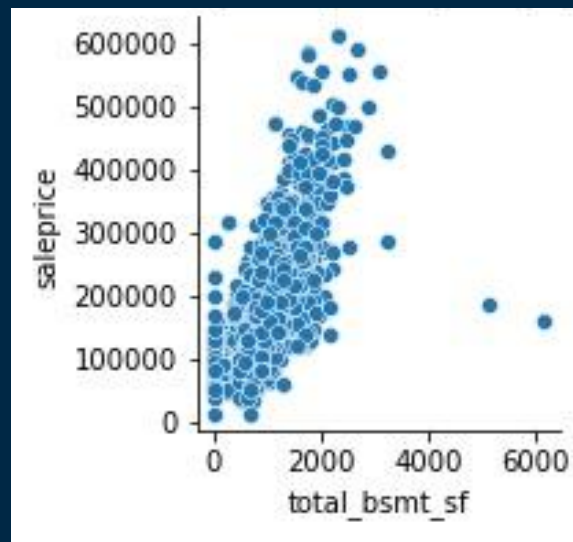
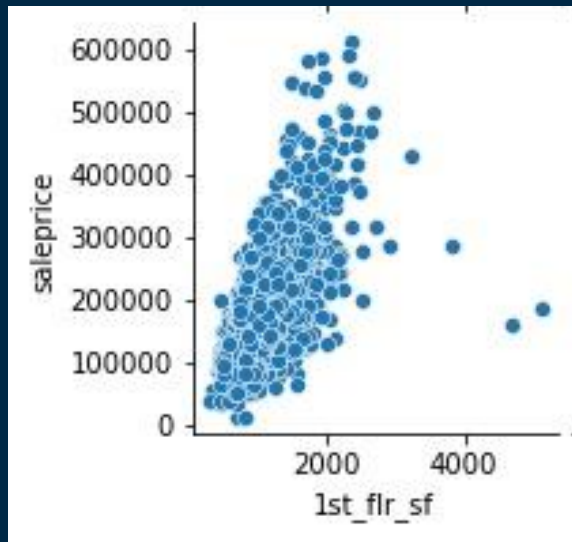
Of the variation in sale price is explained by the features in the model



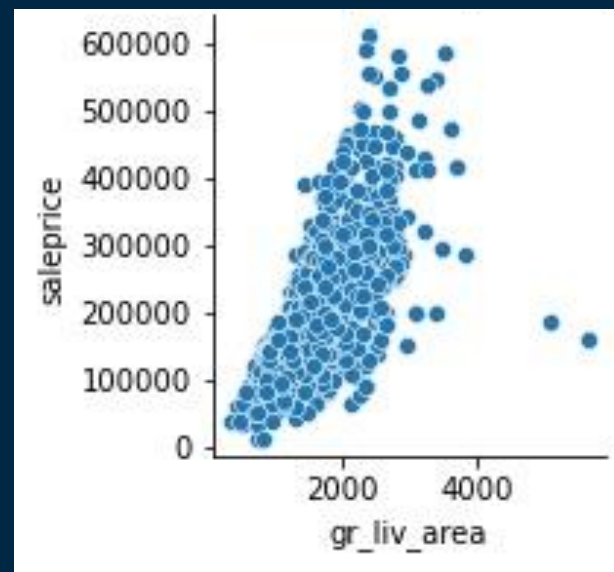
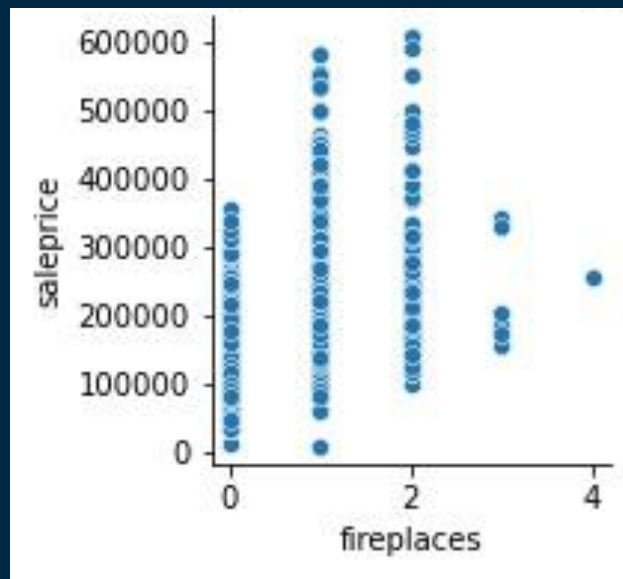
Model Workflow

The background is a dark blue gradient. It is decorated with various geometric elements: thin white vertical lines of varying lengths, small squares in teal, orange, and pink, and larger squares with thin orange outlines. These elements are scattered across the slide, creating a modern, abstract aesthetic.

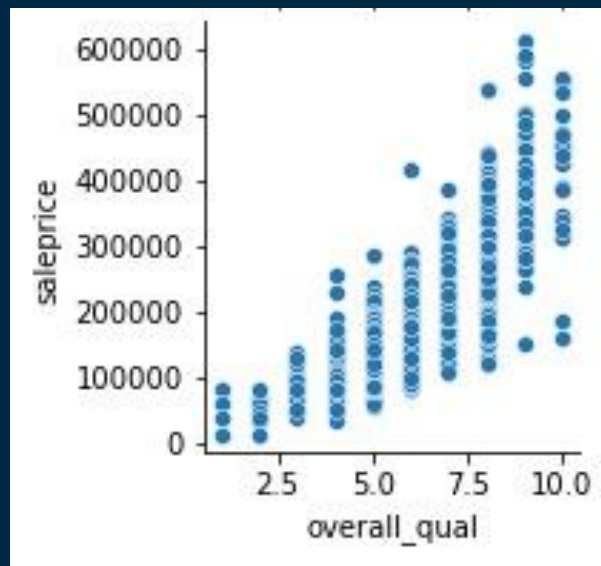
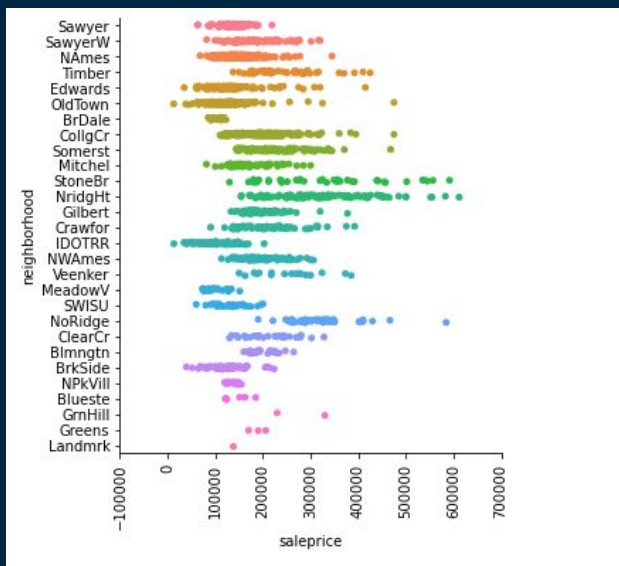
Insights



Insights



Insights



Model 2

Linear Regression Model

Features

- Included all features from Benchmark model
- Added all positively correlated columns to the sale price

Metrics

R2

85%

RMSE

29,856

Model 3

Linear Regression Model

Features

- Included all features from benchmark model and model 2
- Add categorical features such as:
 - Neighborhood
 - Building type
 - Garage type
 - Heating
 - Central Air

Metrics

R2

74%

RMSE

39,674

Model 4

Linear Regression Model

Features

- Included features from model 3
- Removed features deemed to be not as important:
 - Garage year built
 - Open Porch sq ft
 - Pool area
 - Roof style
 - Roof material

Metrics

R2

71%

RMSE

41,953

Ridge vs. Lasso vs. ElasticNet

Ridge

Metrics

R2

74%

RMSE

39,560

Lasso

Metrics

R2

82%

RMSE

31,980

Elastic

Metrics

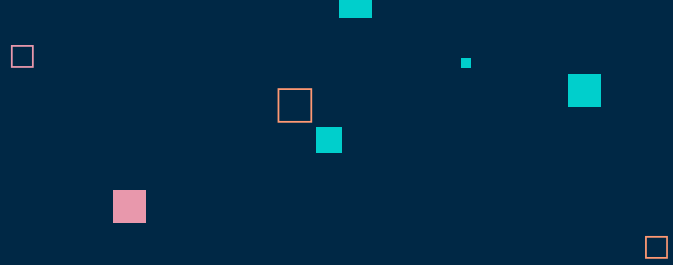
R2

28%

RMSE

65,322

Recommendation



Improvements

A collection of small squares in various colors (cyan, pink, orange) arranged in a scattered pattern in the top right corner of the slide.

- Full Bath
 - Garage Year Built
 - Bedrooms Above Ground
- 
- A small cluster of squares in cyan and orange colors located in the bottom left corner of the slide.

The background is a dark blue field decorated with a pattern of small squares and thin vertical lines. The squares are in three colors: light blue, pink, and orange. Some are solid, while others are hollow. The lines are thin and white, extending vertically across the frame. The word "Questions?" is centered in a large, white, sans-serif font, with the question mark colored orange.

Questions?