The Ames Housing Market
Claire Hester - DSI 824

The Problem:

How can we improve Sale Price estimate accuracy in the Ames housing market?

Data and Methodology

▷ 82 numeric and categorical features
▷ Sales between 2006 and 2010

▷ Cleaned data
▷ Explored data
▷ Modeled data

Data Exploration

Which features are most important?

Target: Sale Price
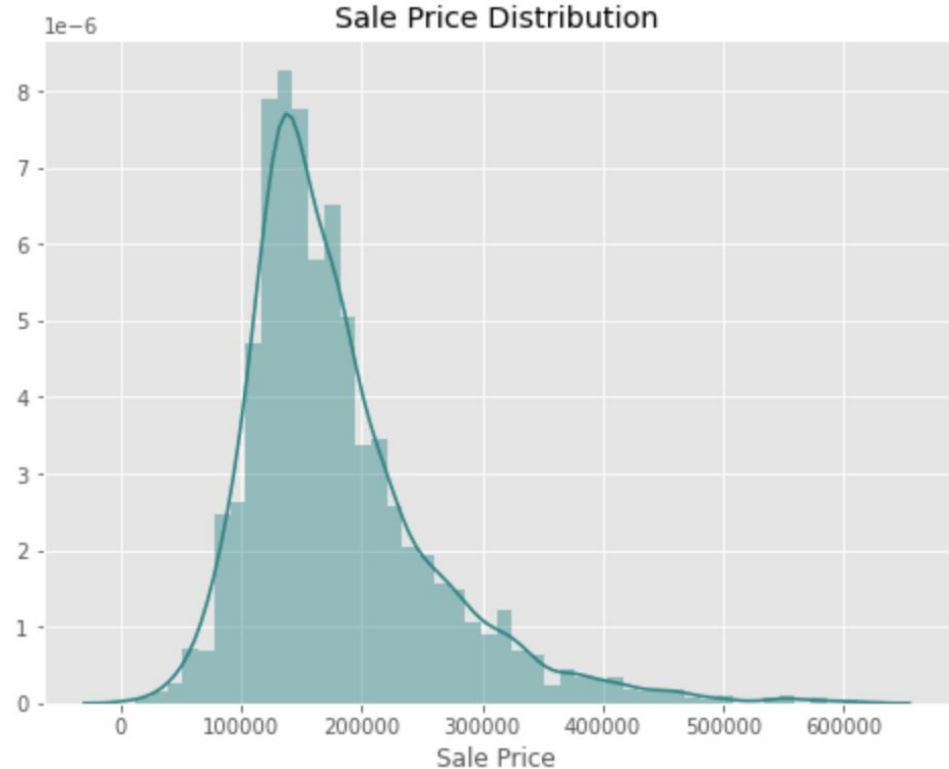
Mean (Average) Price:

$181,469.70

Median Price:

$162,500.00

Lowest Price:

$12,789

Highest Price:
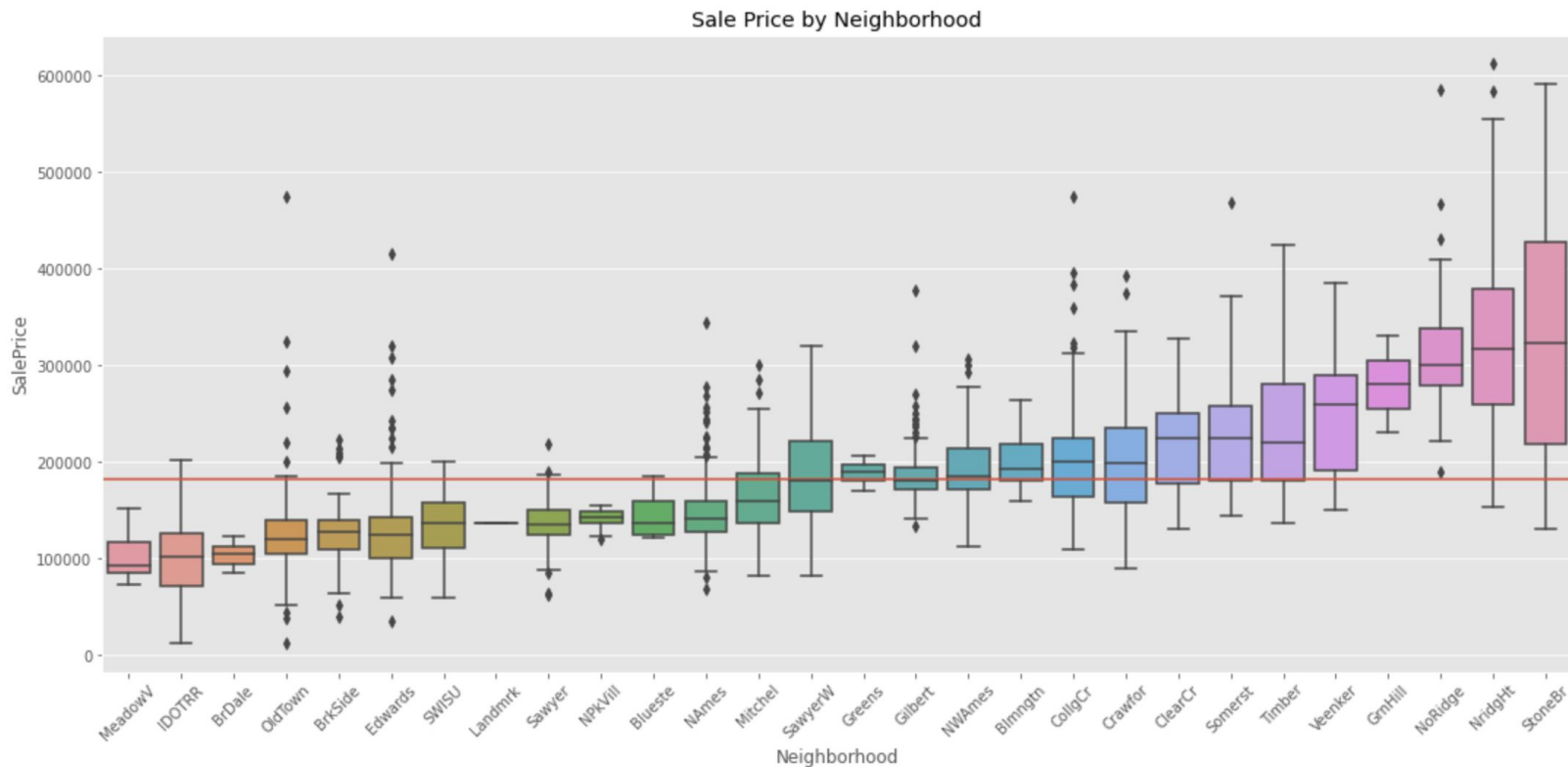
$611,657

Sale Price Distribution

Square Footage and Overall Quality

-**Clear correlation between square footage and Sale Price**

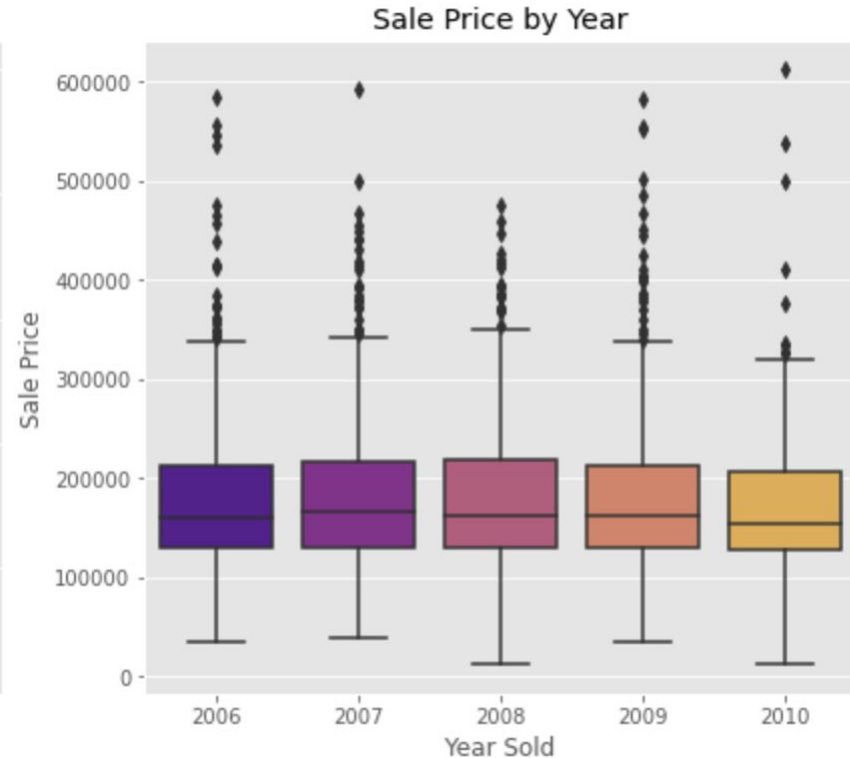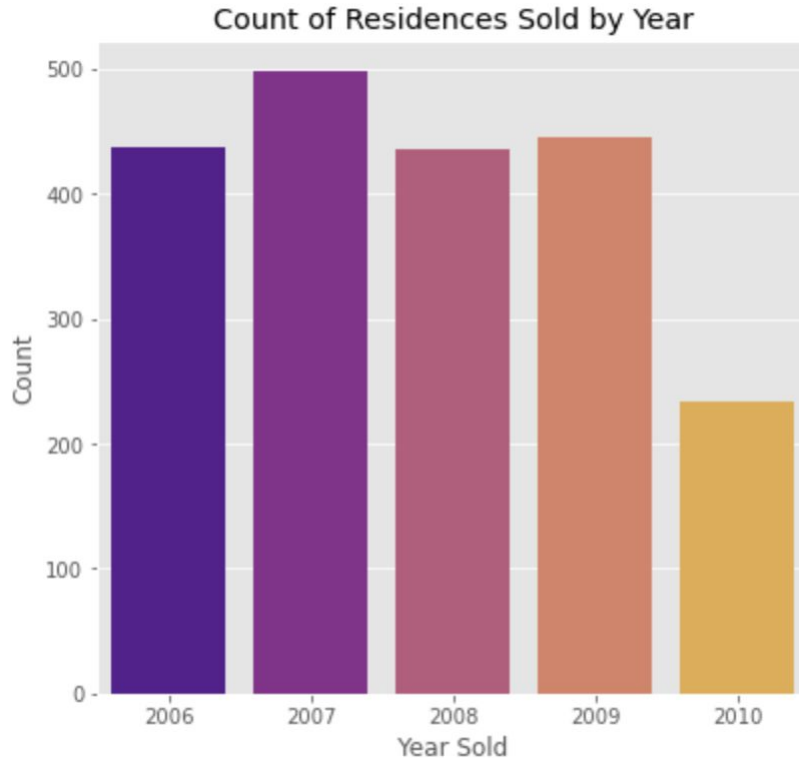- **Hue darkens as we move from bottom left to top right**

Above Ground Living Area vs. Sale Price

Location, location, location

Sale Price by Neighborhood

What do Alcohol, Gold, and Ames have in common?

...what financial crisis?
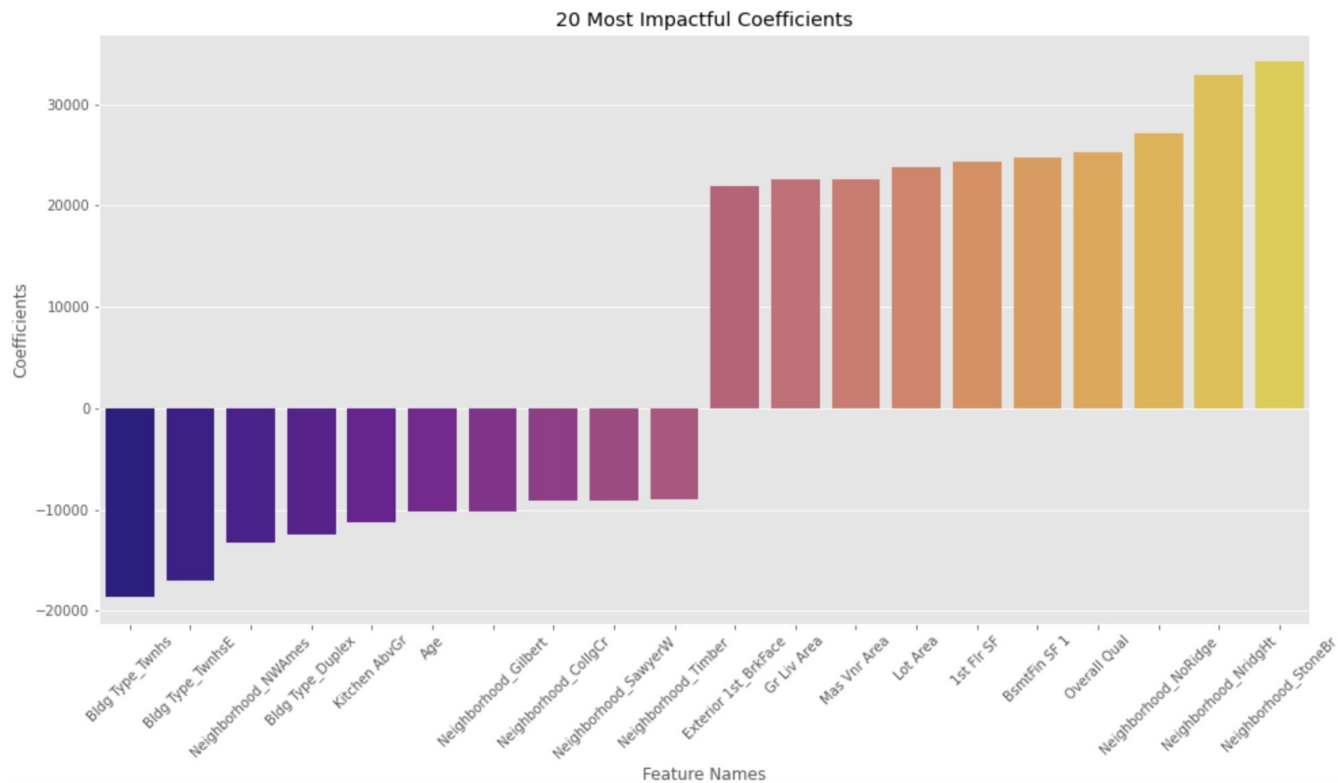

Count of Residences Sold by Year

Sale Price by Year

Prediction Model

Now that we have explored, let's dive in

Model Pipeline + Gridsearch

▷ Scaler: QuantileTransformer
▷ Feature Selection: Select K Best -> k=185
▷ Estimator: Ridge -> alpha=10
▷ R2 score: 0.89

Model Learnings: what really matters

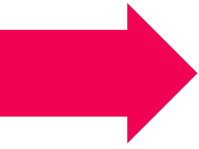20 Most Impactful Coefficients
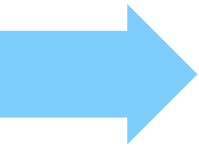
Conclusion

What really matters?

Neighborhood

Once again, location, location, location!

Square Footage

ABC - Always Be Calculating

Quality

It's all about appearances

Thank you!