Predicting Home Prices

In Ames,Iowa using a regression model

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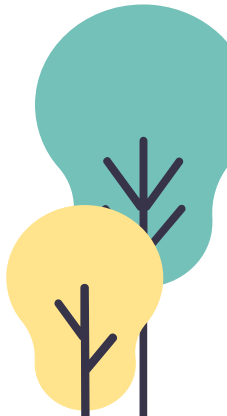How did we solve the problem?

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Problem Statement

The purpose of this analysis is to understand the factors that influence housing prices in Ames, Iowa and to develop a model that can accurately predict the value of a given property based on its features.

This analysis can be used by developers to understand the market trends and make decisions about development in the area.
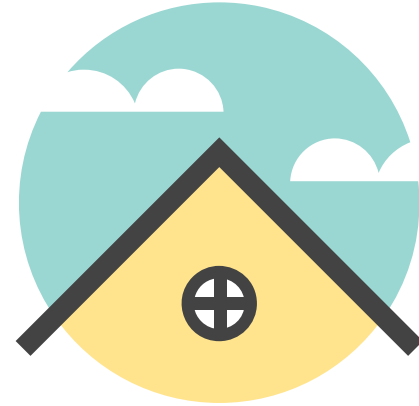
Ames, Iowa
RESIDENTIAL REAL ESTATE

Methodology

Data Preparation

First we needed to make the data usable

Exploration

What do have and how can we use it?

Building

We built several models and selected the best for our data.
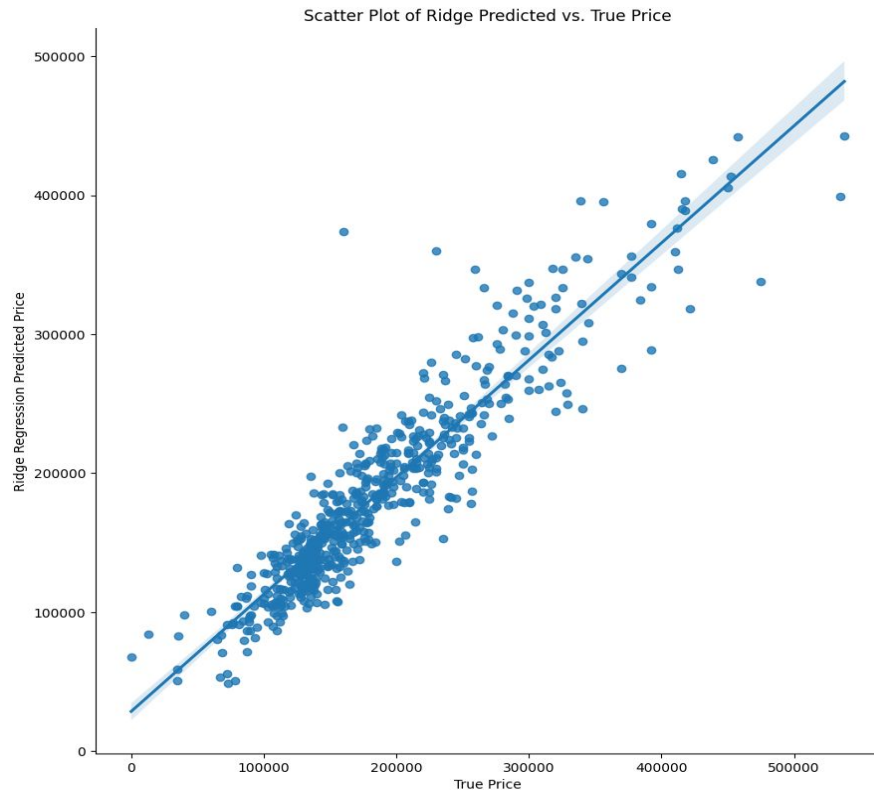
Evaluation

Then we put our model to use

The Good
How did our model do?

High Level Rundown
Goal: Develop a predictive model that can accurately estimate the sale price of a home based on various features of the property
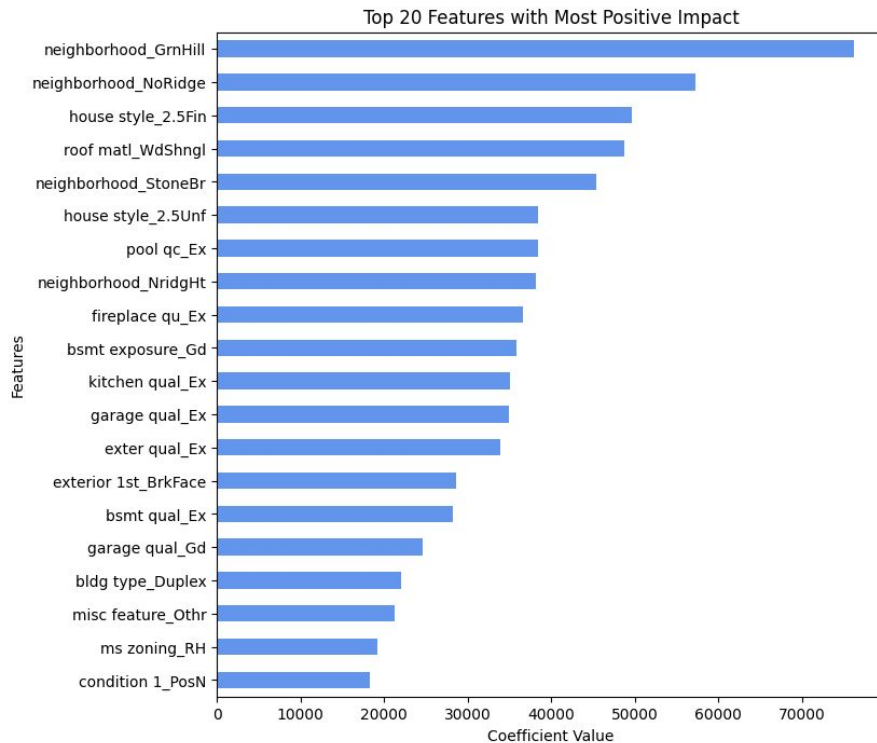

Scatter Plot of Ridge Predicted vs. True Price

The Good

Which features most strongly influence price?

Location, Location... roof type

Coefficient value = weight

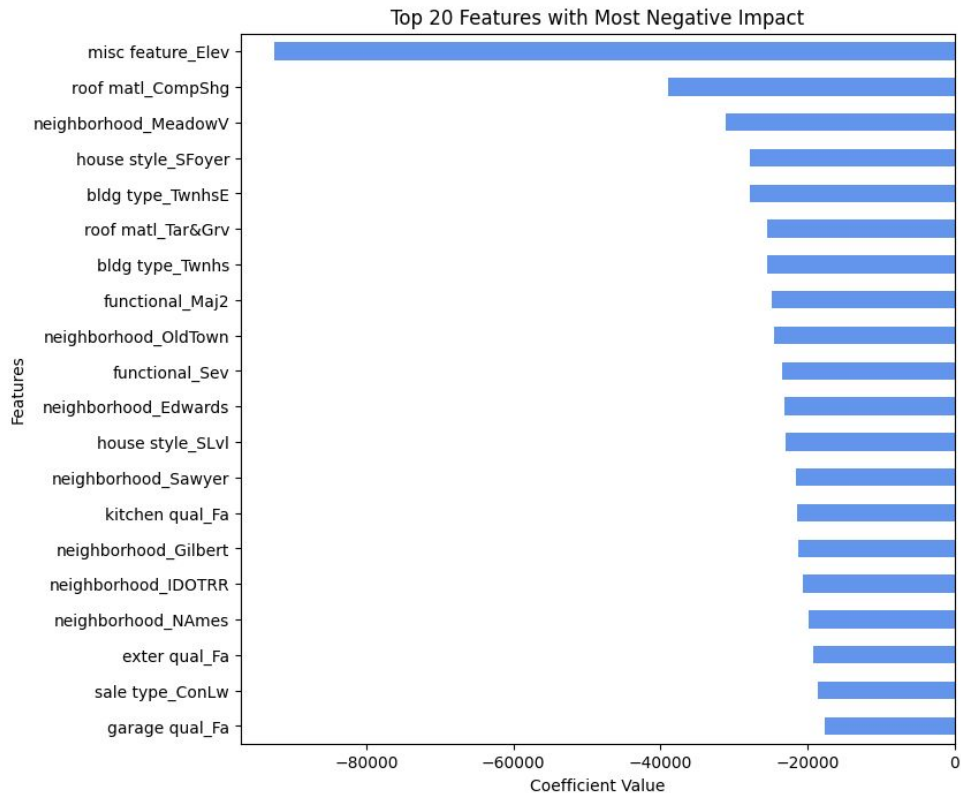### Top 20 Features with Most Positive Impact

The Bad

Which features had a negative relationship?

Top 20 Features with Most Negative Impact

Negative Coefficient = negative impact on the predicted outcome variable
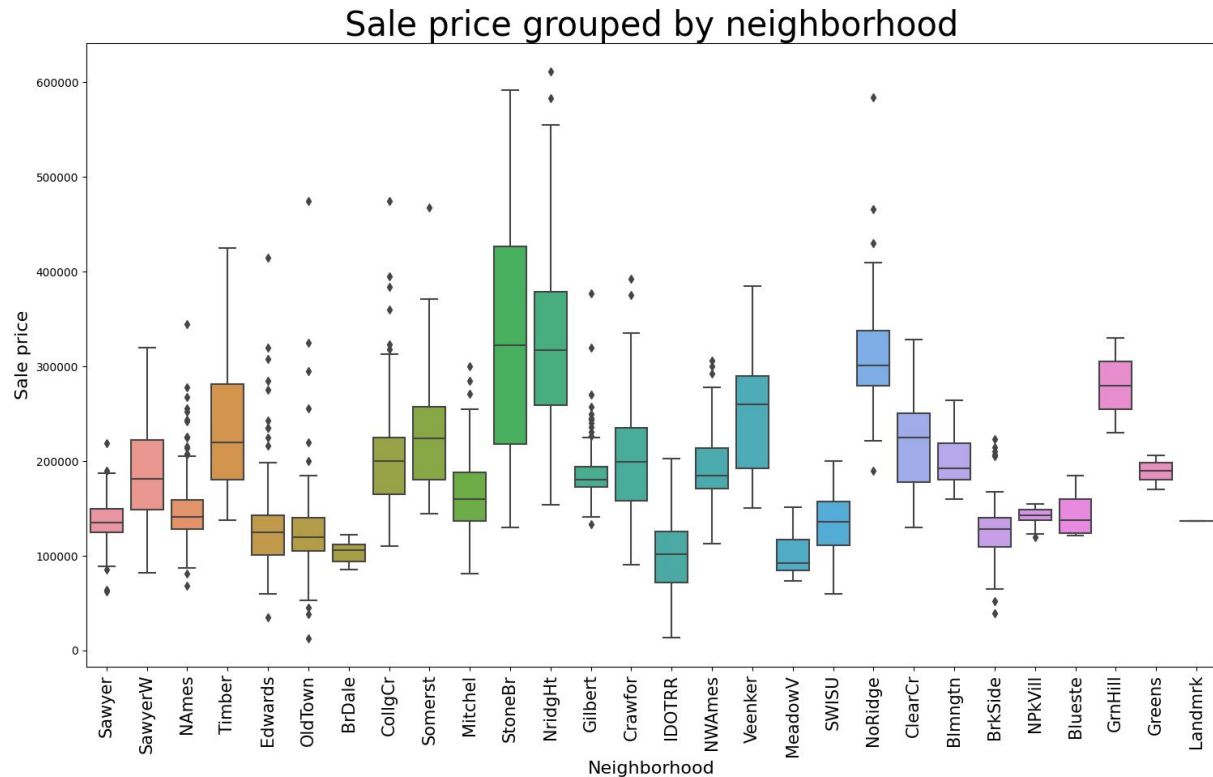
Sale price grouped by neighborhood

The Rest

What trends stand out?

Neighborhood impacts price

Recommendations

What information can we glean from our model?

- **If developers want to increase a home's value, they should:**
  - Build in the Green Hills, StoneBrook, or Northridge Neighborhoods
  - Build 2.5 Story Homes (2nd level finished)
  - Wood Shingle Roofs
- **Homes that:**
  - Have Elevators (Misc. Feature)
  - Have Composite Shingle Roofs
  - Are in the Meadow Village Neighborhood

    <u>Are not competitively priced</u>

Before a developer considers a project in Ames, they should consider these aspects of their build

Thank you

References:

1. SlidesGo (Template)
2. Ames, Iowa Dataset
3. Towards Data Science
4. Science Direct