Predicting Housing Prices for House Hunters in Ames, Iowa

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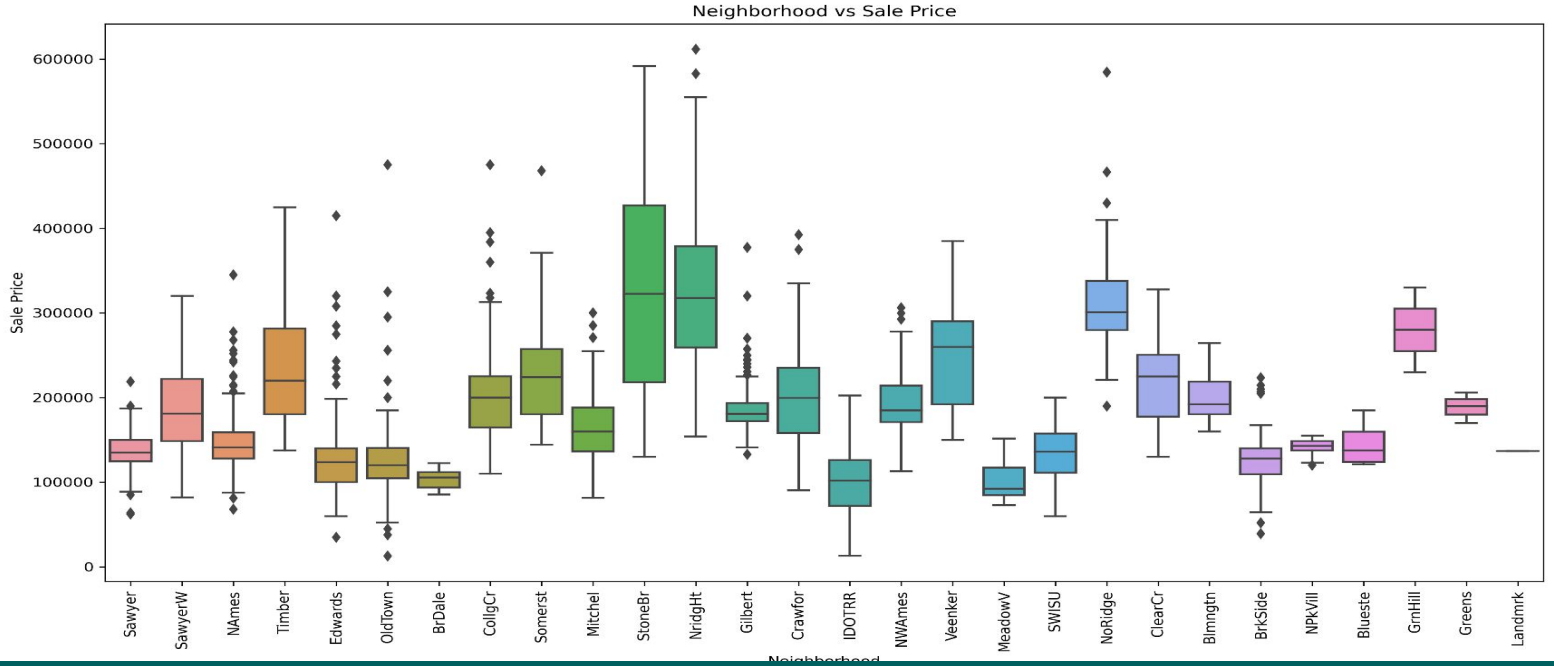
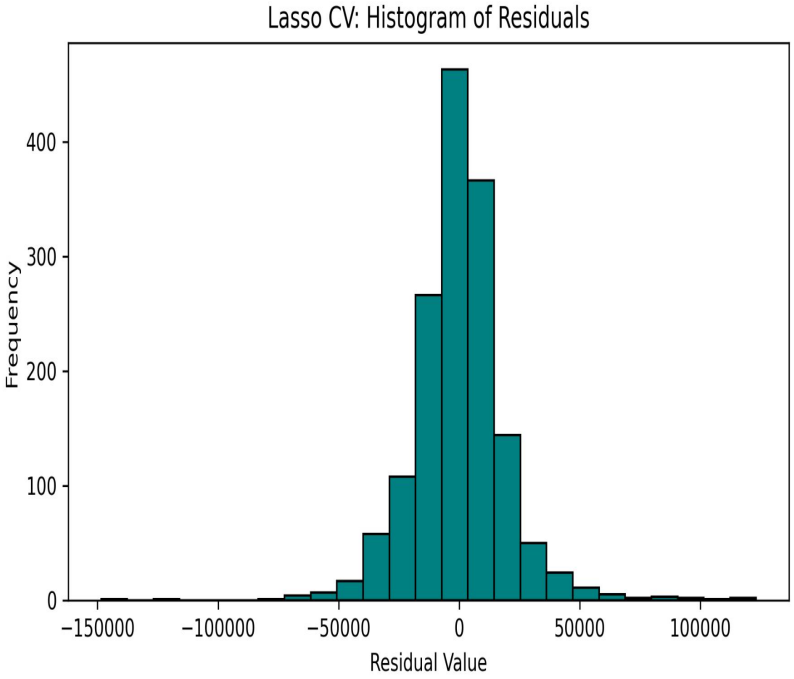
Problem Statement Outline:

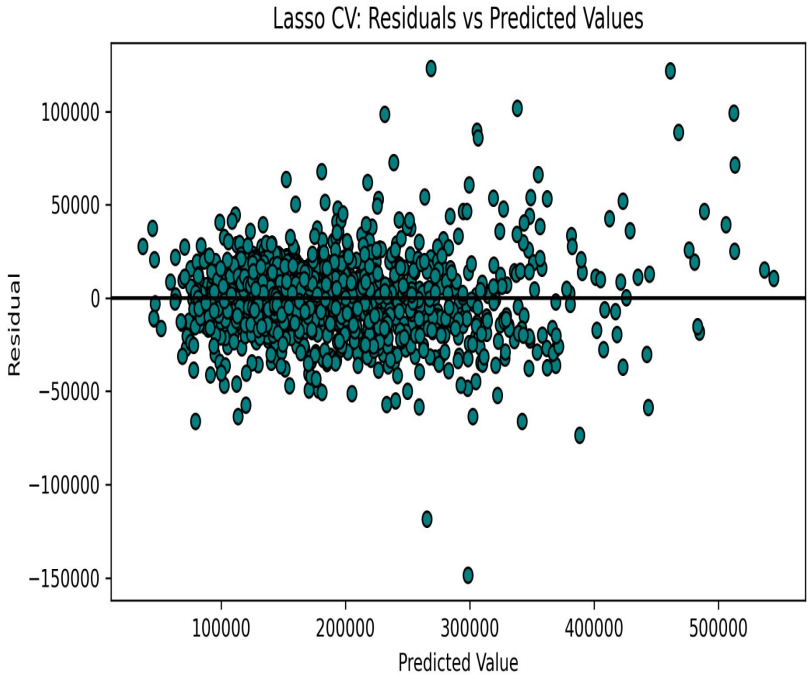
- Contracted by producers of House Hunters
- Develop a predictive model for housing prices in Ames, Iowa
- Assist participants in making informed purchase decisions based off the models predictions
- Accurately predict sale prices based on property features

- Using a scatter plot to visualize my numeric features along with the comprehensive description, I removed strong outliers, in this case over 4000.
- This was also done for the lot area, garage area, wood deck and porch.
- Selected numeric features with a correlation coefficient above 0.3.



- The inclusion of categorical features was based on personal preference, simulating my own search to purchase a house.
- Features that had over 50% of their values missing were dropped.
- Imputed missing values for houses without a basement with categorical values “No Basement”.





- Shows both normality of errors and homoscedasticity, indicating unbiased predictions.
- The equal spread of residuals across different predicted values and their normal distribution underlines the model's reliability.
- R2 score on training data was 0.938 and for the test data it was 0.936.
- The model's intercept is $168,274 with a RMSE of $20,180.

Key takeaways:

- **My model can predict plus or minus about $20,000 of the actual price of the house.**

- **House Hunter's is a staged reality television show.**