



Predicting Home Prices in Ames, IA

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In association with:





Problem Statement

Iowa Association of Realtors is seeking to better understand what factors influence sale prices to optimize listing prices.

- Essentially, what underlying factors or combinations of factors most heavily influence market value?



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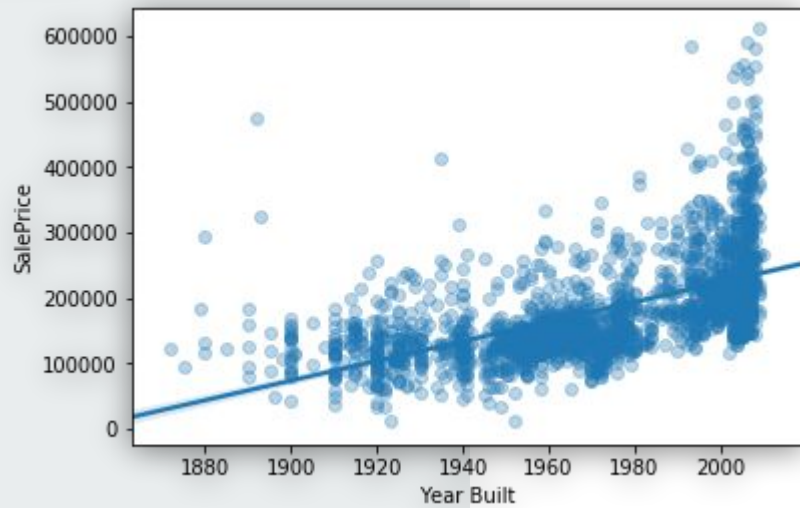
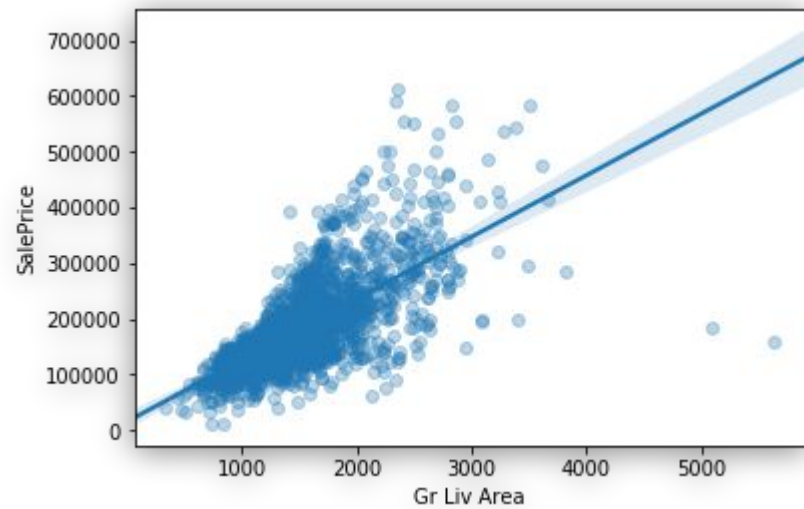
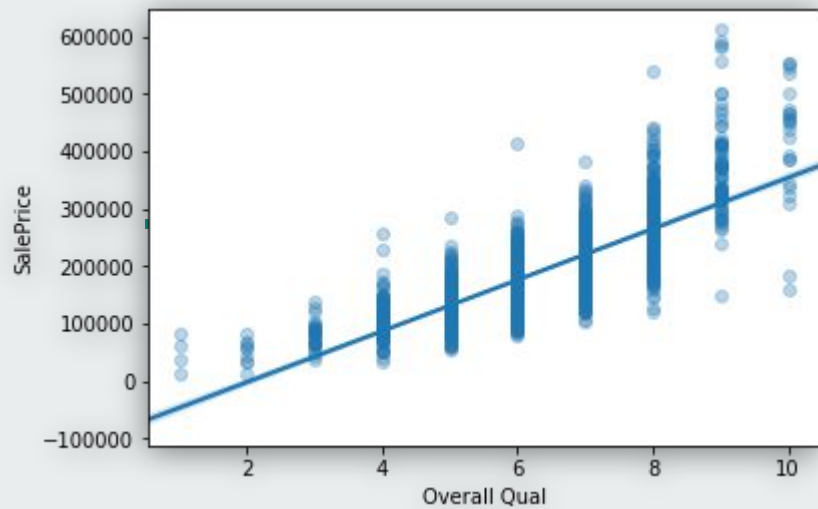
Introducing the Data

- [Ames, IA dataset by Dean De Cock](#)
- Data from 2006 to 2010
- Almost 80 base features
 - Property Information
 - Exterior
 - Interior
 - Systems
 - Amenities



Exploratory Analysis

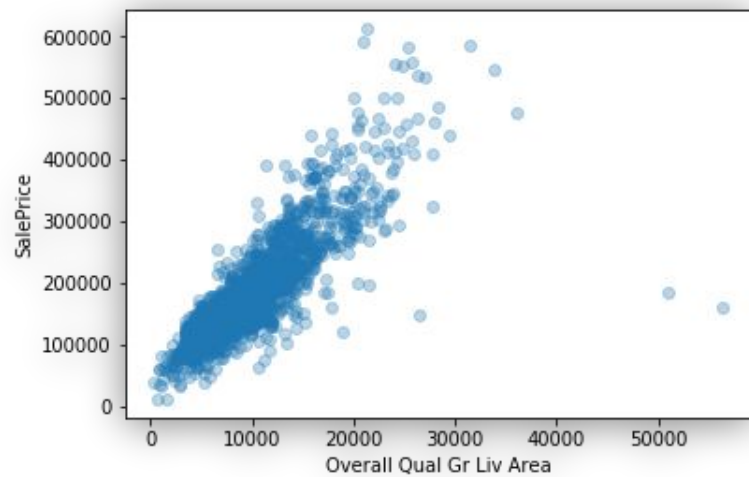
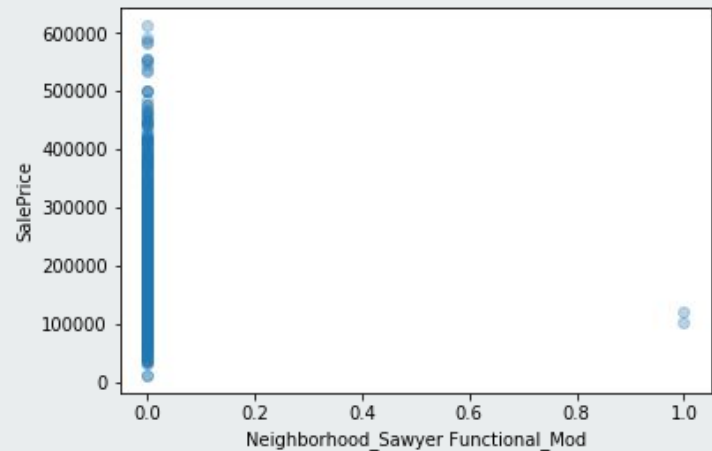
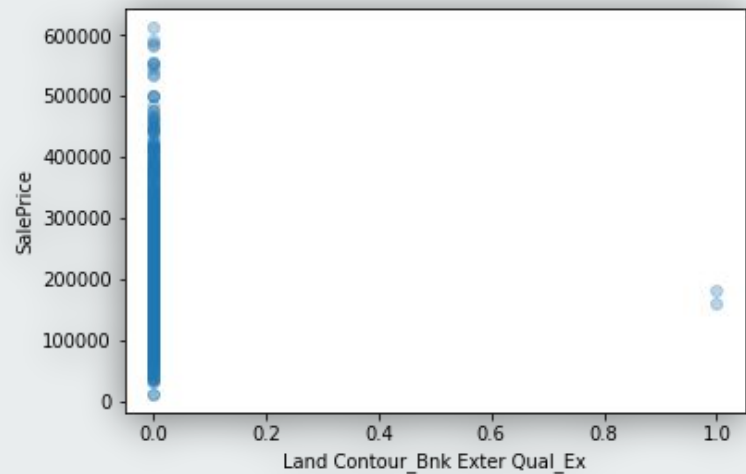
- There are things we expect to influence the price of a home
 - Living space and square footage
 - Overall quality of a home - materials?
 - When it was built
- What is the data telling us that we cannot plainly see?
 - You don't know what you don't know





Modeling Process

- Feature Engineering
 - Looked at over 38,000 combinations of features
- Feature Selection
 - Lasso Regression
 - Whittled away most to create a model that considers 284 features





Conclusion

“Not to know is bad; not to wish to know is worse.”

— African Proverb



Moving Forward

- Collect more data
 - Recent data
 - Elementary school districts
- Funding for hardware upgrades
- Provide more time to explore different models