

Ames Housing Data

Analysis by Derek Steffan

Welcome to Ames, Iowa!

- Small town of 66,000
- Jimmy wants to budget for a house
- Houses are all very different

Too many features...

- One house, 80 features
- Square footage, bedrooms, neighborhood...
- How can home buyers make informed decisions?
- Regression can help!

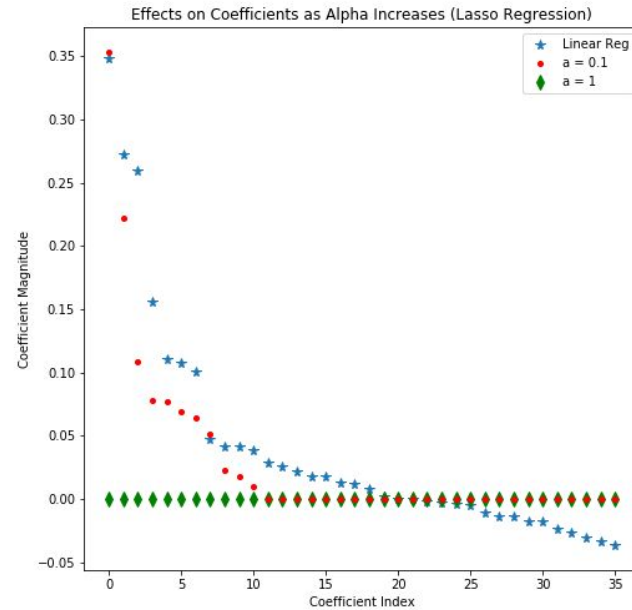
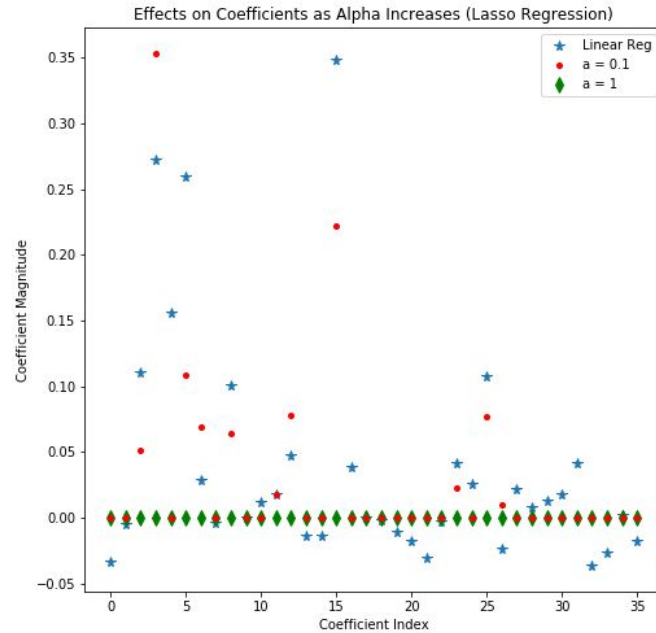
Linear Regression

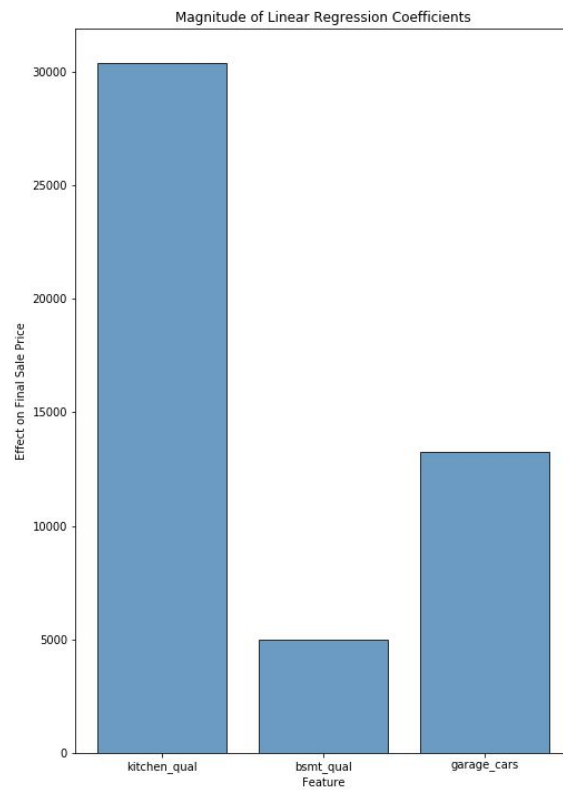
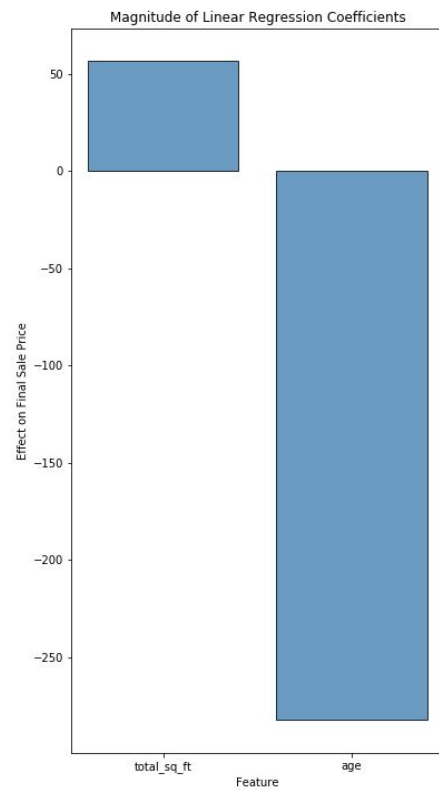
- How do all these features interact?
- Eg. How is sale price affected by square feet?
- We can pinpoint a value for each feature
- Drawbacks..

Lasso Regression

- Another form of Linear Regression
- Less-important features are de-emphasized
- Some interpretability is lost...

Lasso Regression Visualized





Regression in Action

- Jimmy wants to buy a house with...
 - 2000 square feet
 - 5 years old
 - Average quality kitchen
 - Average quality basement
 - 2 car garage
- How much will Jimmy's house cost?

\$144,943!

Regression in Action

- Jimathy wants to buy a house with...
 - 5000 square feet
 - An excellent kitchen
 - An excellent basement
 - A five car garage
 - For a price of \$144,943!
- How old will his house be?

998.91 years old!

Closing Thoughts

- A simple but highly effective model
- Try out different models
- Specific to Ames, Iowa

