Blueprint to Home Buying

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Image credit: creativemanitoba.ca

The Problem

- ➔ Uncertainty in home buying
  - ◆ Either know your budget or your dream house
  - ◆ Getting one from another at this stage is time-intensive and ambiguous
- ➔ Goal: bring clarity and accessibility to home buying process
  - ◆ Specifically: budget setting and home feature expectations

The Product: BluPrint

- Making planning for home buying accessible
  - Adapting to fit the modern culture
  - On user's own time, own terms
  - Allows user some agency
- Gives company's market another dimension
  - Allow direct, tailored listings
  - Appeals to another demographic

The Question

- Home features
  - Usable for an app
  - In human understandable terms
  - General, not overly specific
  - Meaningful to ultimate sale price
- What relationship do these traits share with final sale price?

The Model

- LASSO Regression
  - Type of Linear Regression
- Built off the Ames Housing Dataset
  - Dataset tracking home and lot properties and sale prices
    - 2006 - 2010
    - Ames, Iowa
- Predicts sale price based on parameters


True Sale Prices and Model-Predicted Sale Prices
Predicted Sale Prices ($)
0
100000
200000
300000
400000
0
100000
200000
300000
400000
500000
600000
Actual Sale Prices ($)

The Parameters

- Final parameters included in the model:
  - Neighborhood, House Style, Number of Rooms, Total Square Footage, Overall Condition/Quality, Kitchen Quality, Basement Condition, Garage Type, Pool Quality, Age at Sale, Remodel Age at Sale
- Variation in these traits explain 84% of the variation in sale price

The Action Plan

- ➔ Implement in local trial
- ➔ Based on interest/activity, expand to specific cities
  - ◆ Expansion would involve rebuilding model with new data from target city
    - Barring this: remove neighborhood feature from model
  - ◆ Trends and impact of features vary per city/region