



Beginning Machine Learning Study Group

Week 2

July 13, 2016

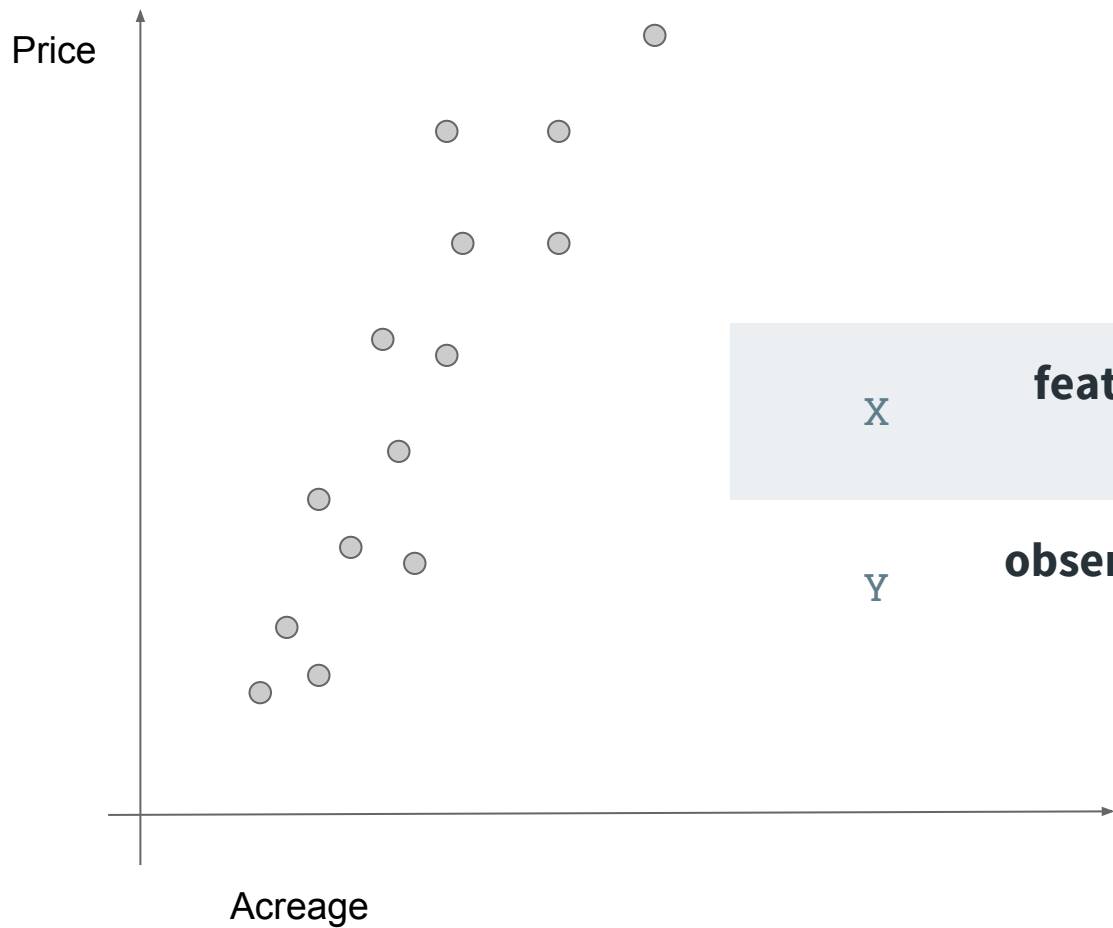
Luba Gloukhova

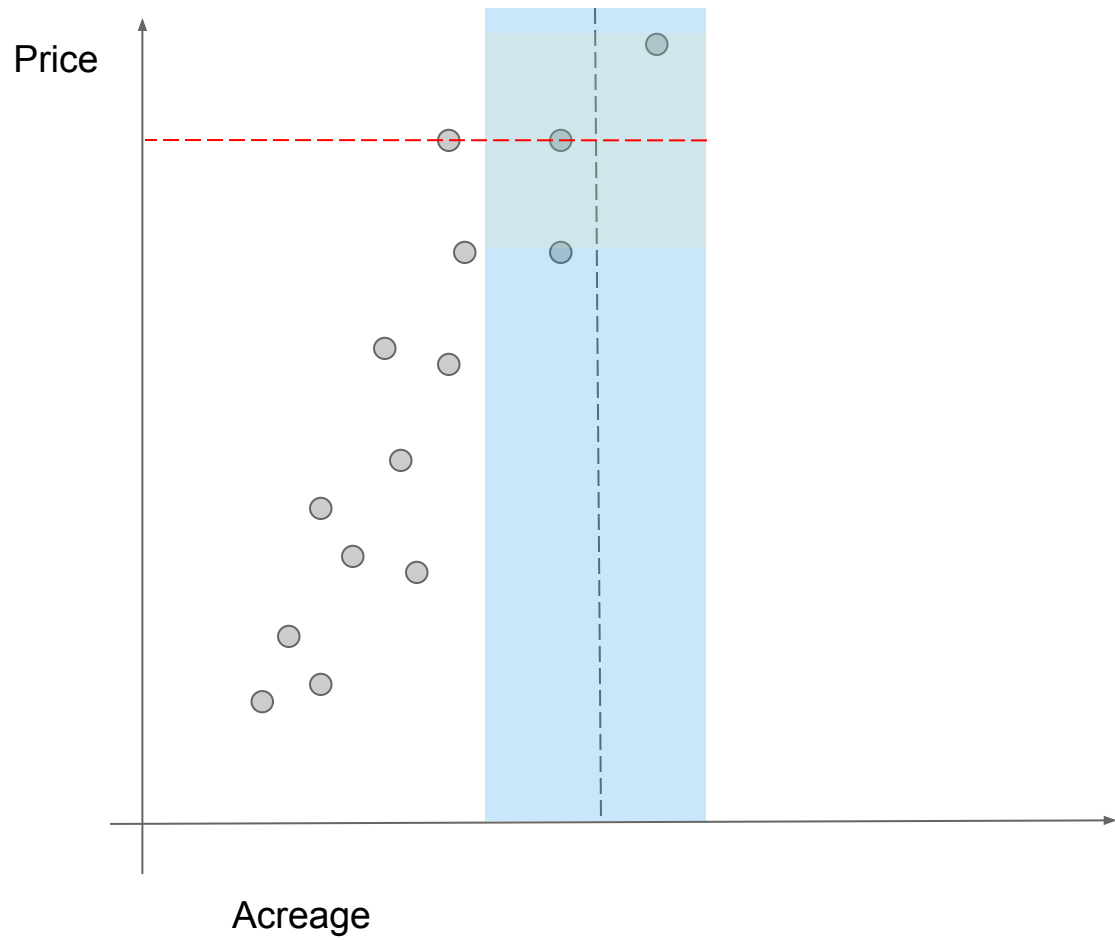
Week 2 Outline

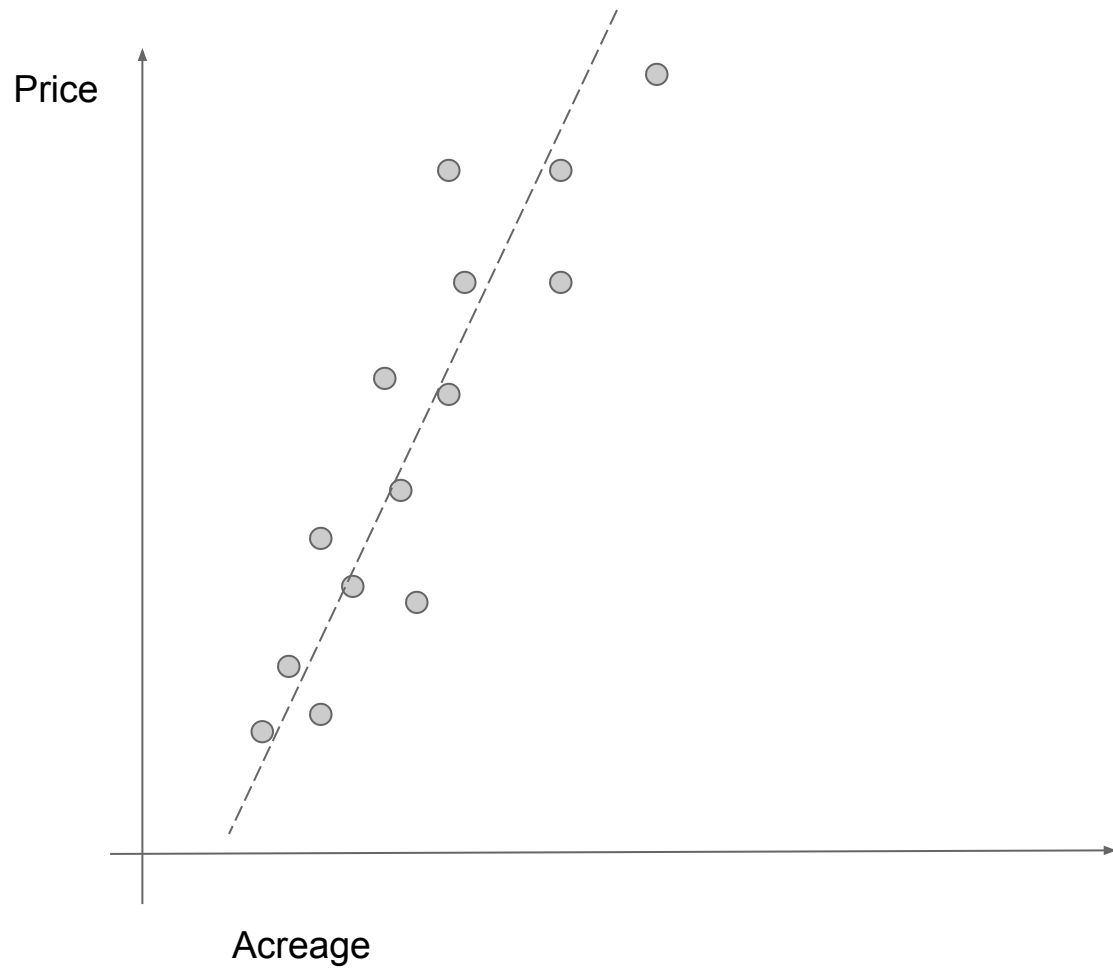
Regression: Predicting House Prices

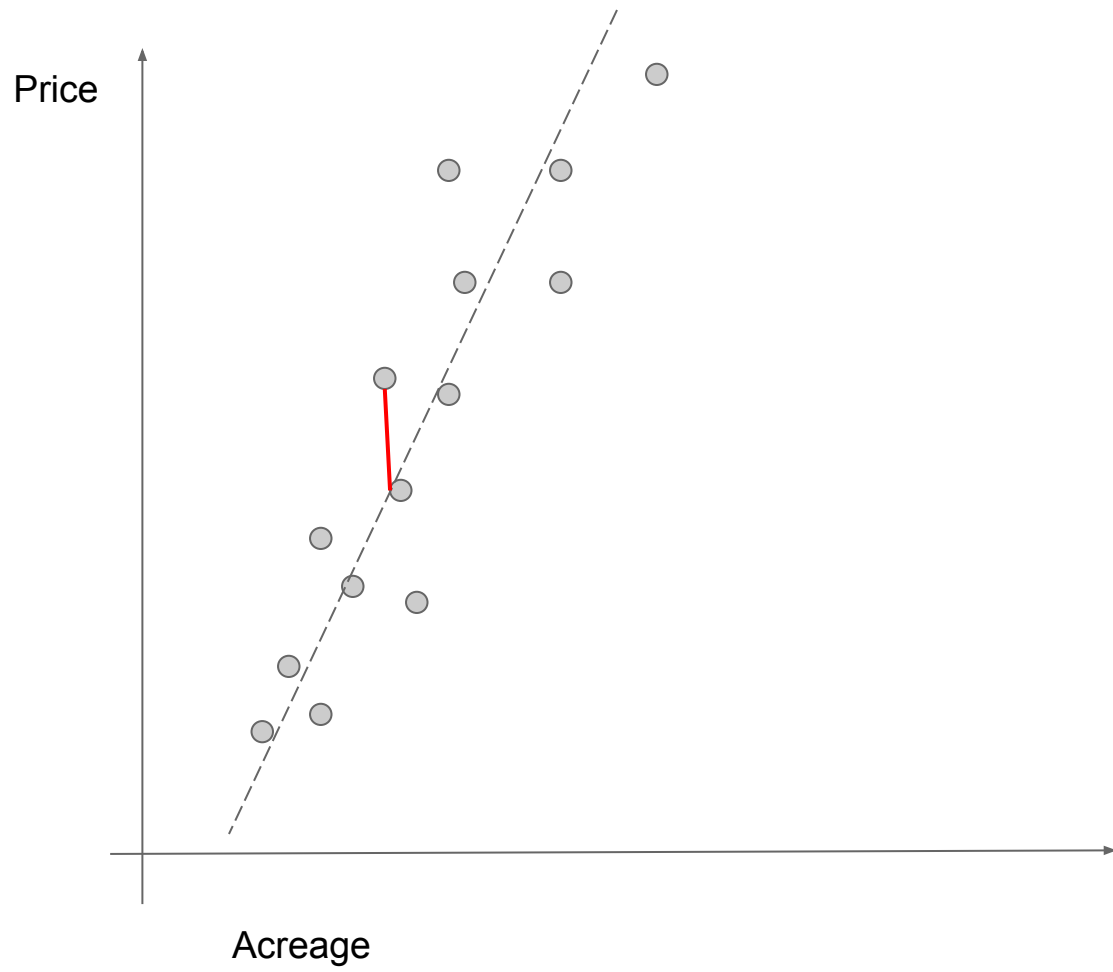
1. “Review”
2. Demo
3. Assignment
4. Quiz

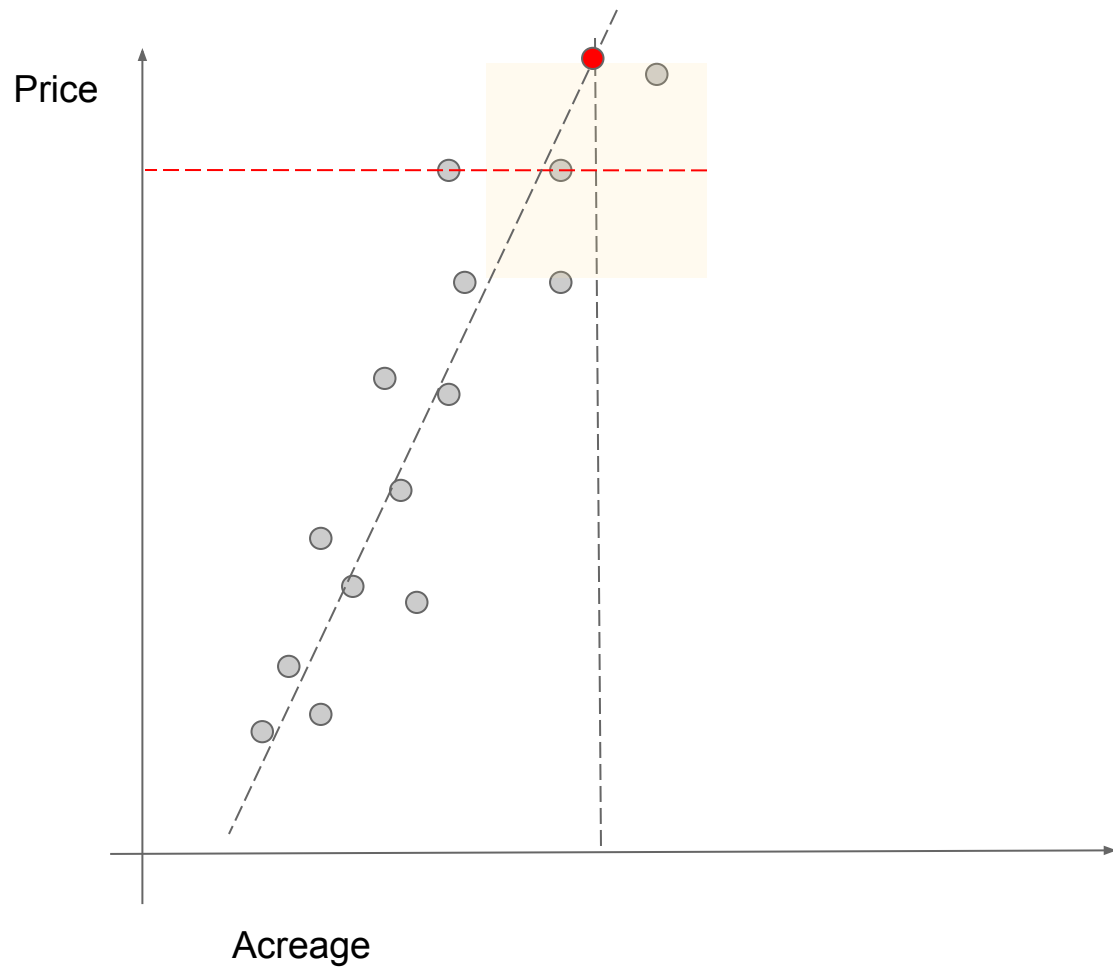


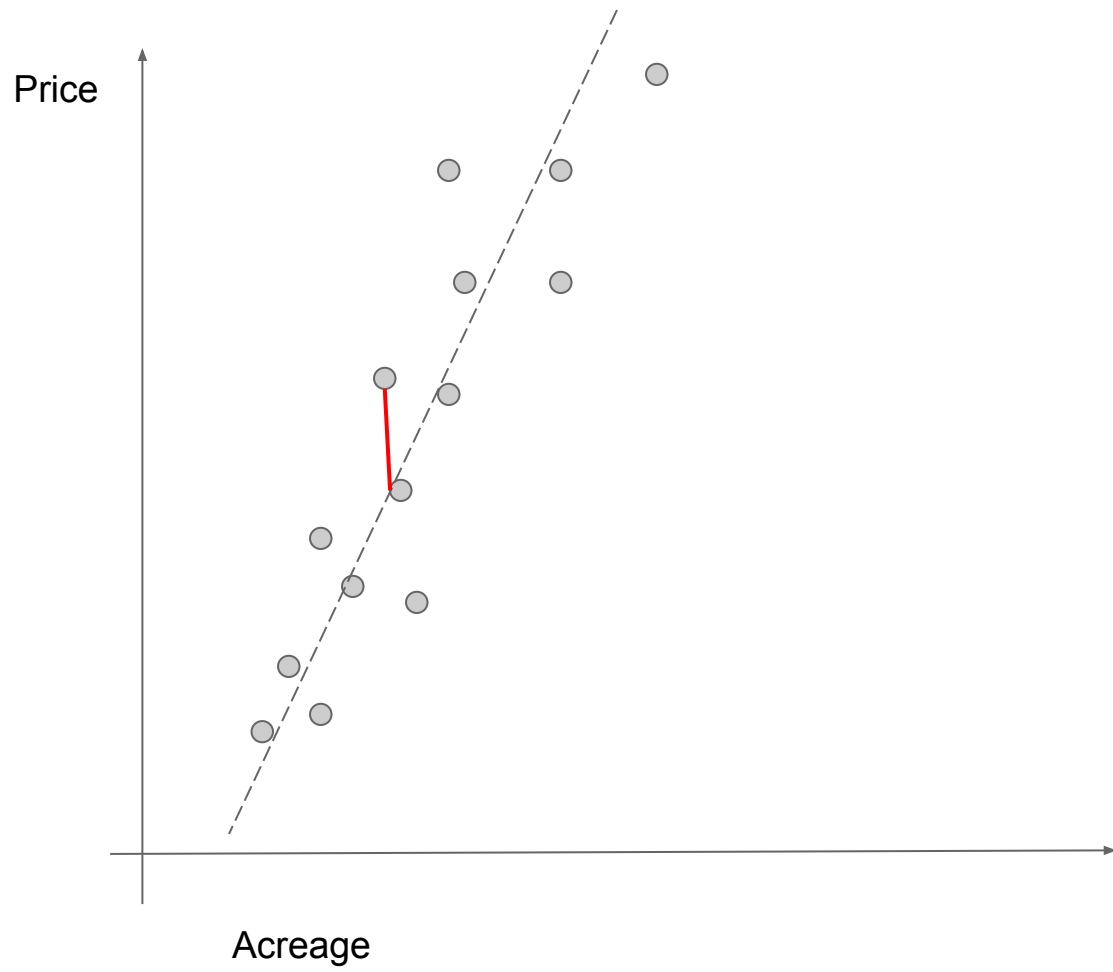


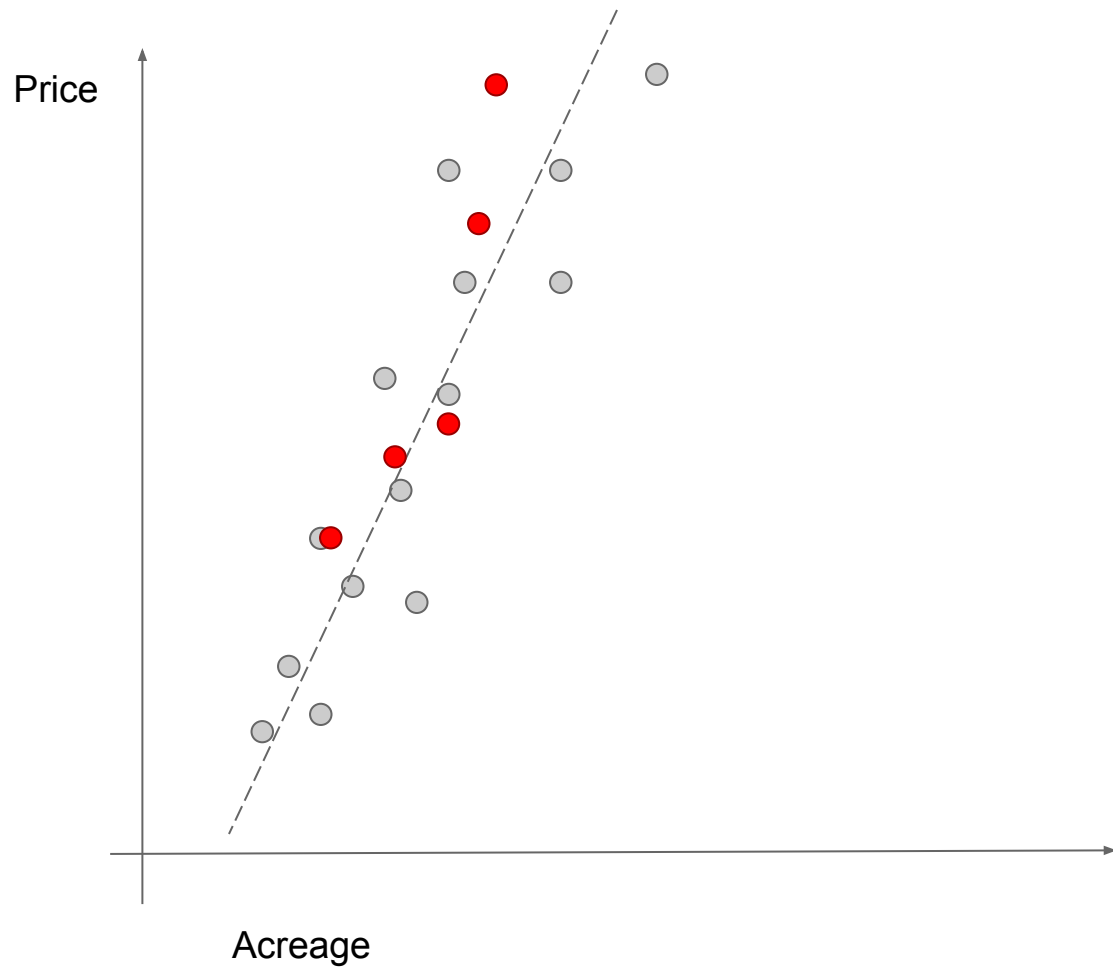


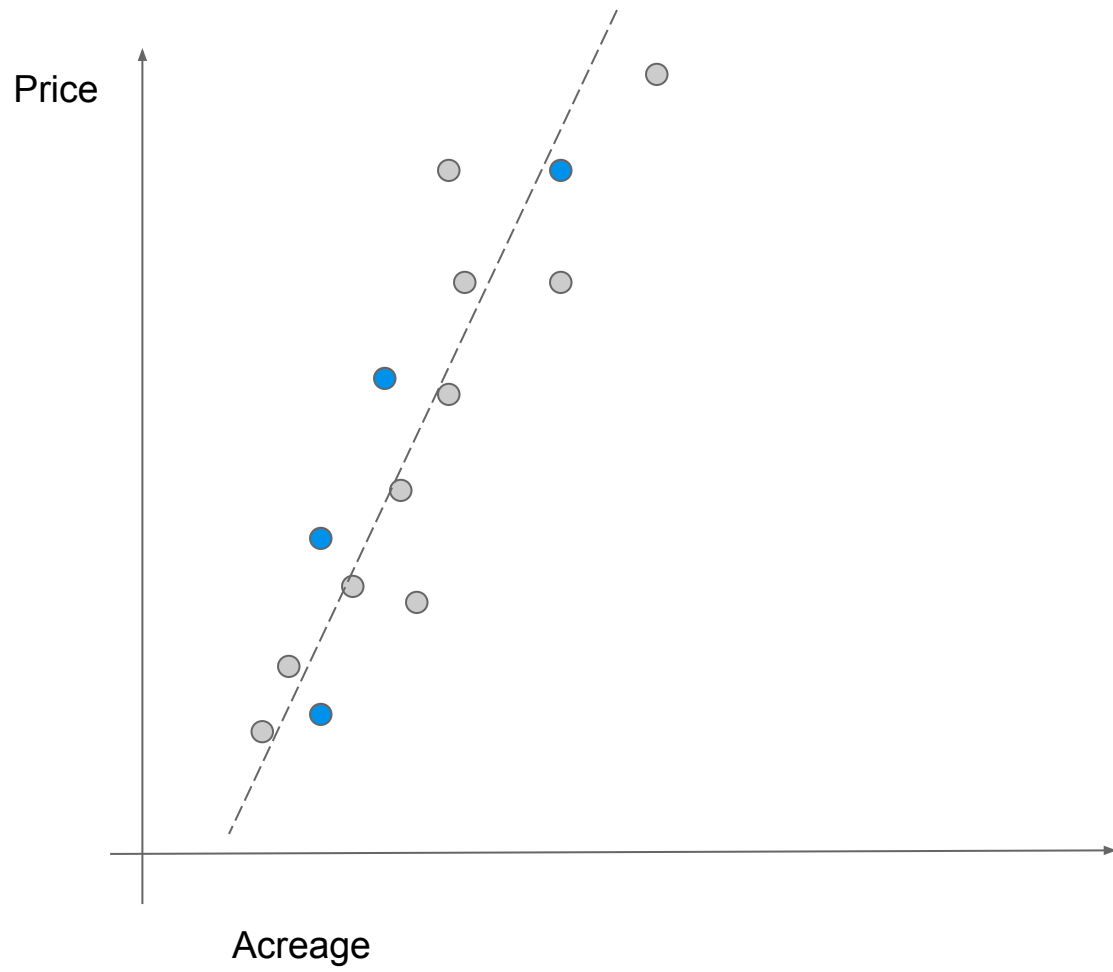














<http://www.trulia.com/property/3235162179-7870-Foothill-Ranch-Rd-Santa-Rosa-CA-95404>

Santa Rosa, CA 95404

Single-Family Home
4 Bedrooms
5 full Bathrooms

4,128 sqft
\$581/sqft
Lot size: 10.0 acres



<http://www.trulia.com/property/1068315154-1100-Oak-Springs-Ln-Santa-Rosa-CA-95404>

Santa Rosa, CA 95404

Single-Family Home

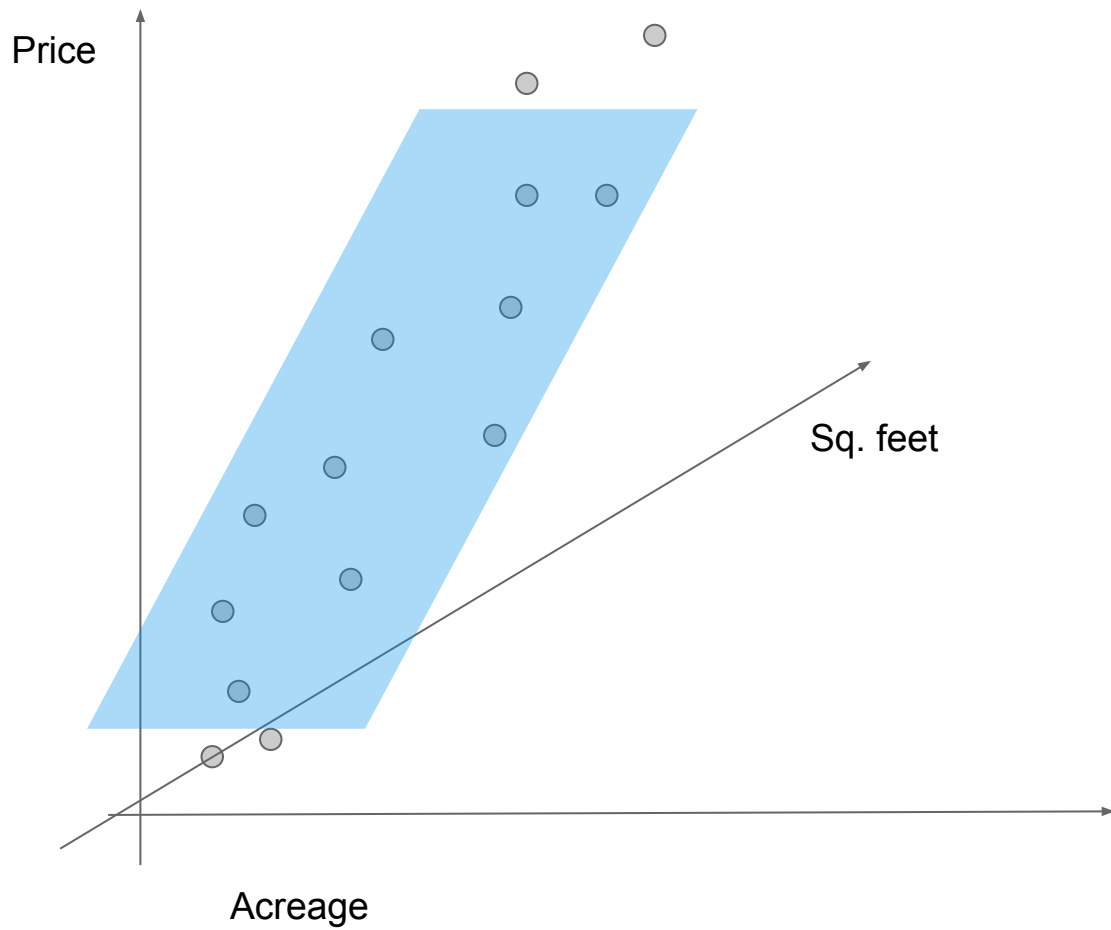
3 Bedrooms

3 full Bathrooms

3,900 sqft

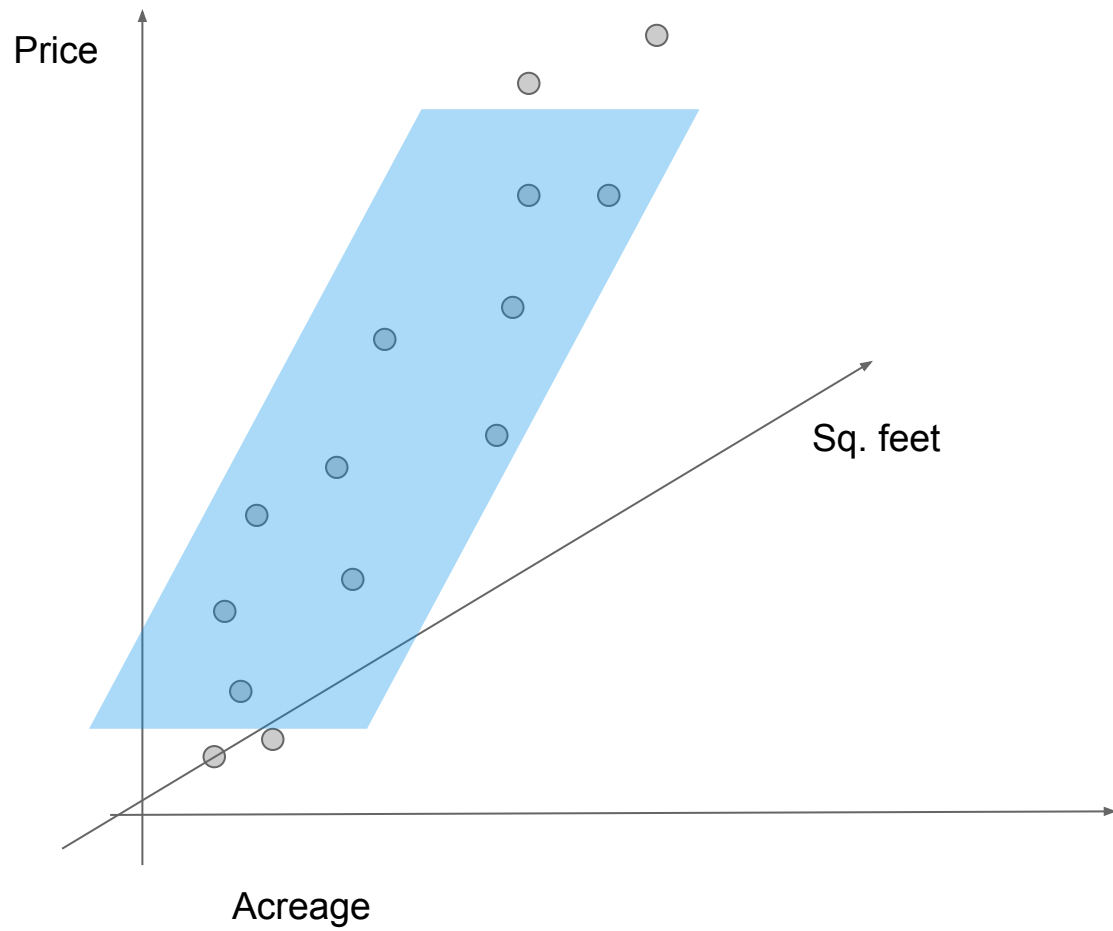
\$551/sqft

Lot size: 10.55 acres



X1	Sq. feet
X2	Acreage

Y Price

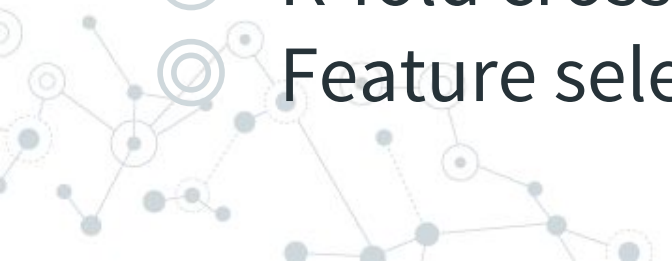




See Coursera version for...

- ◎ Non-linear relationships (1.4)
- ◎ Training/Test curves (2.2)
- ◎ Model complexity

See regression course for...

- ◎ RSS minimization - Gradient descent
 - ◎ Variance-bias trade-off
 - ◎ K-fold cross-validation
 - ◎ Feature selection - Lasso
- 

A decorative network diagram in the top-left corner, featuring a complex web of interconnected nodes and lines. The nodes are represented by small circles, some of which are larger and have concentric circles inside, suggesting a hierarchical or multi-layered structure. The lines are thin and gray, connecting the nodes in a non-linear fashion.

2.

Demo

bit.ly/29HwUBg


A decorative network diagram in the bottom-right corner, similar to the one in the top-left. It shows a cluster of nodes connected by lines, with some nodes being larger and having concentric circles, indicating a similar hierarchical or multi-layered structure.

A decorative network diagram in the top-left corner, featuring a complex web of interconnected nodes and lines. The nodes are represented by small circles, some of which are larger and have concentric circles, suggesting a hierarchical or central structure. The lines are thin and gray, connecting the nodes in a non-linear fashion.


3. **Assignment**

bit.ly/29qWngG

A decorative network diagram in the bottom-right corner, similar to the one in the top-left. It shows a cluster of nodes connected by lines, with some nodes being larger and more prominent than others, indicating a central or hub node within the network.

A decorative network diagram in the top-left corner, featuring a complex web of interconnected nodes and lines. The nodes are represented by small circles, some of which are highlighted with a double-circle outline. The lines are thin and gray, creating a mesh-like structure.

4. Quiz

A decorative network diagram in the bottom-right corner, similar to the one in the top-left. It shows a cluster of nodes connected by lines, with some nodes having a double-circle outline. The overall style is minimalist and technical.

1. Selection and summary statistics:
We found the zip code with the highest average house price. What is the average house price of that zip code?
2. Filtering data:
What fraction of the houses have living space between 2000 sq.ft. and 4000 sq.ft.?
3. Building a regression model with several more features:
What is the difference in RMSE between the model trained with `my_features` and the one trained with `advanced_features`?



Margaret Neale: Negotiation: Getting What You Want



Negotiation is problem solving. The goal is not to get a deal; the goal is to get a good deal. Four steps to achieving a successful negotiation: Assess, Prepare, Ask, Package. Women increase the chance of a success when a proposal is framed in terms of benefits to your counterparts, team, or organization. Three questions to prepare women

