Ames, IA Home Sales

Russ Garner

- Can housing prices be modeled?
- Will a model beat a mean assumption?

- Why do it at all?

Opendoor

knock

we

The We Company

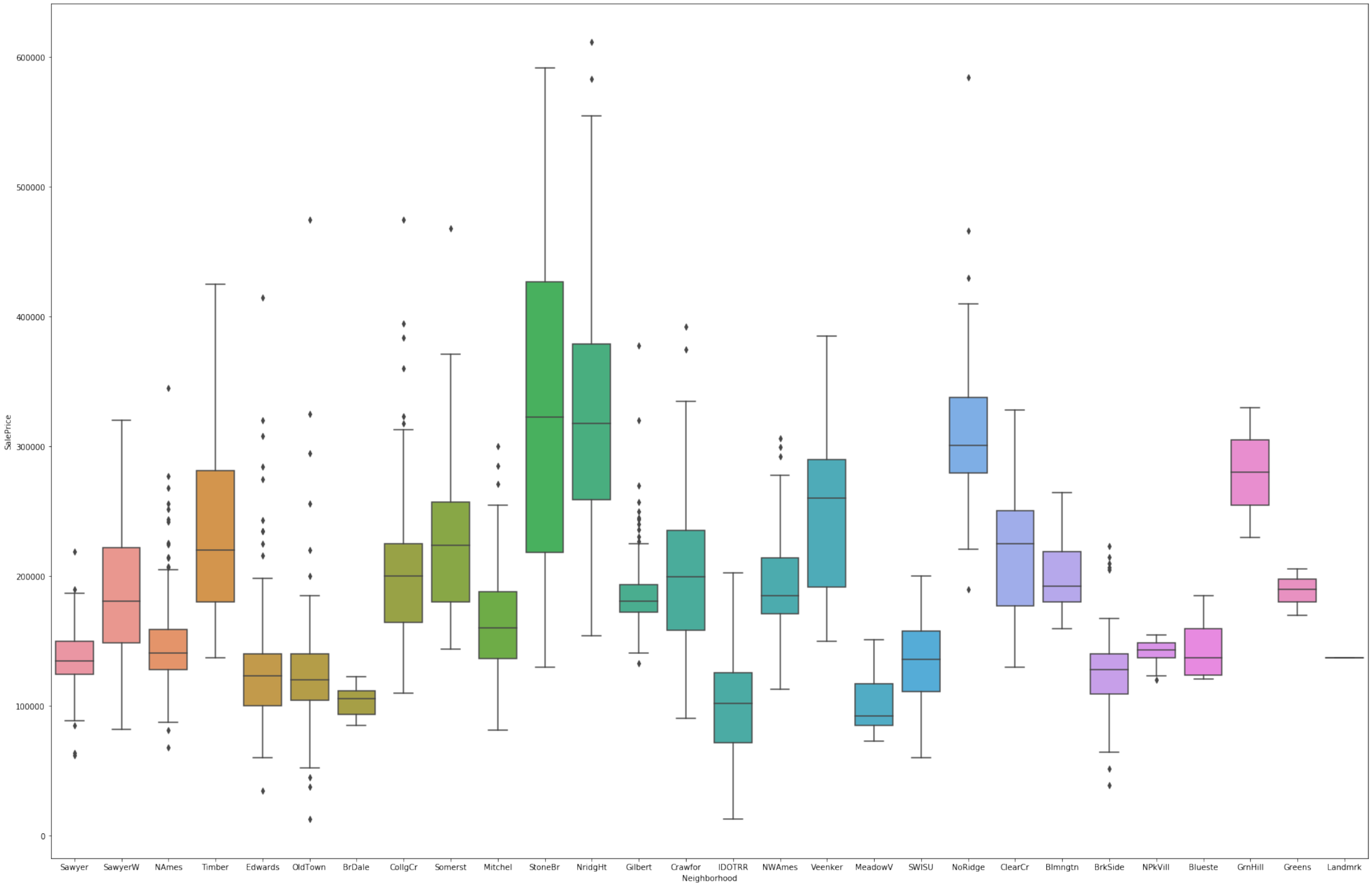
airbnb

common

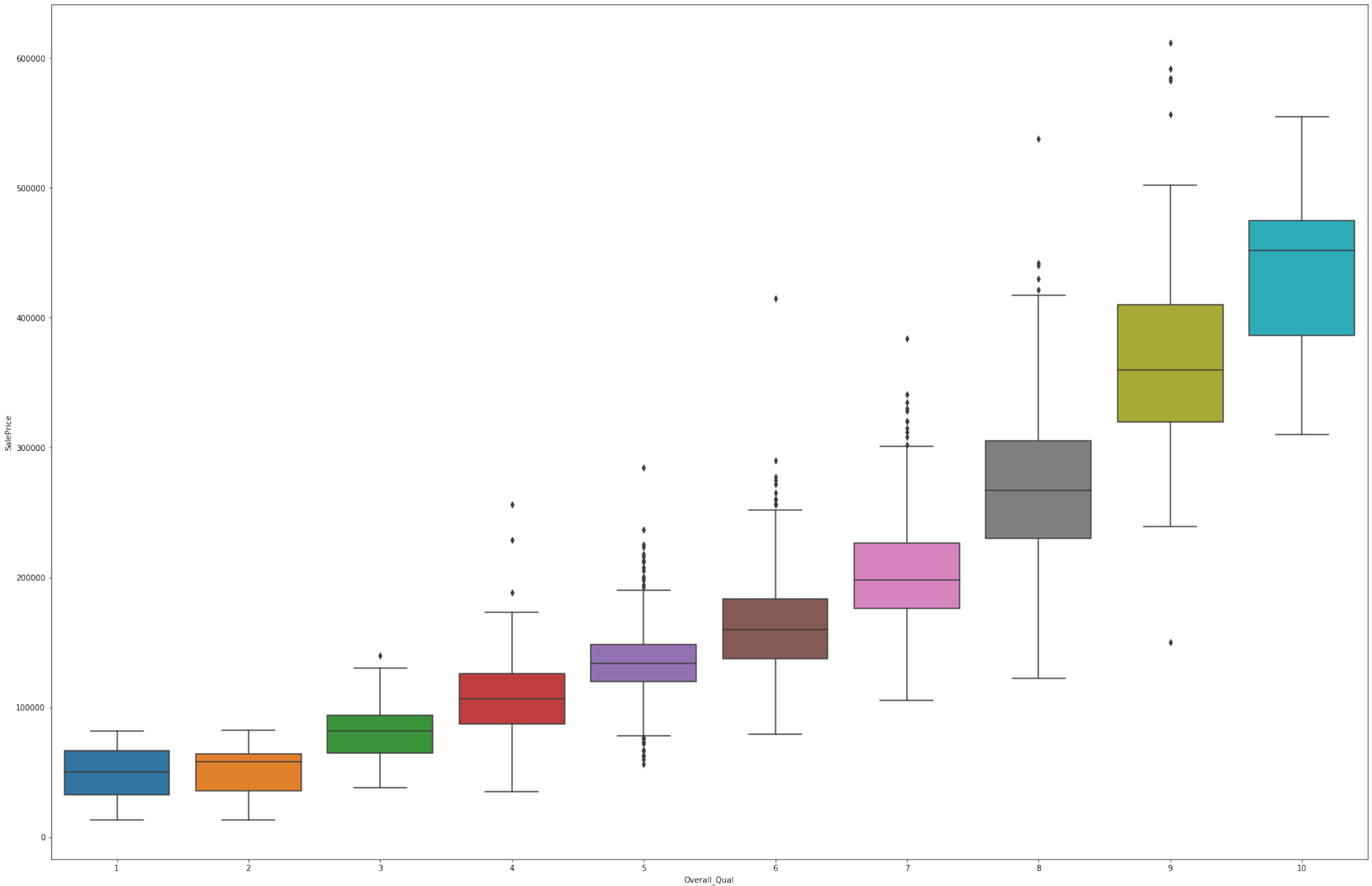
Zillow

https://techcrunch.com/2019/03/14/the-next-frontier-in-real-estate-technology/

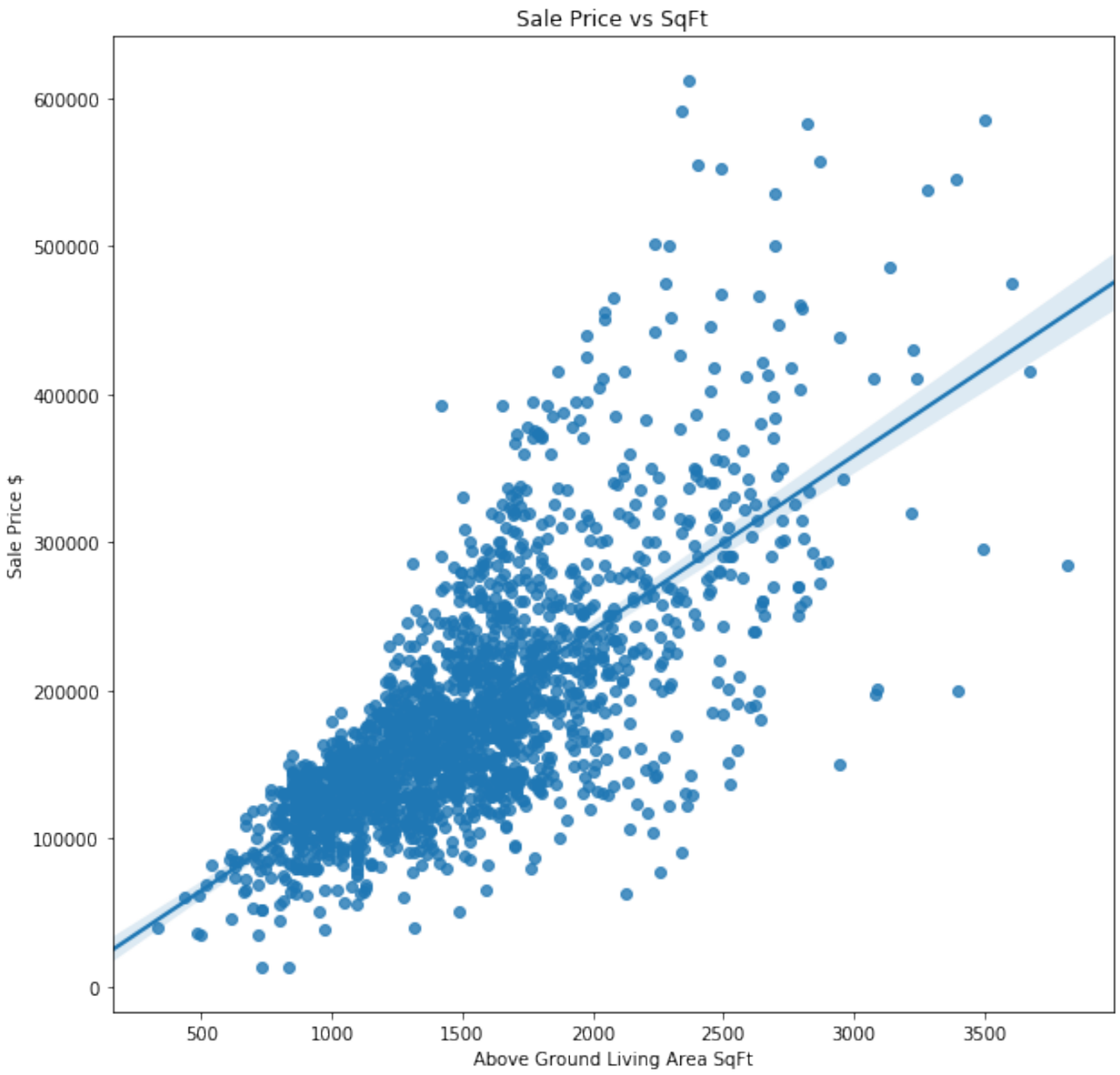
Neighborhood

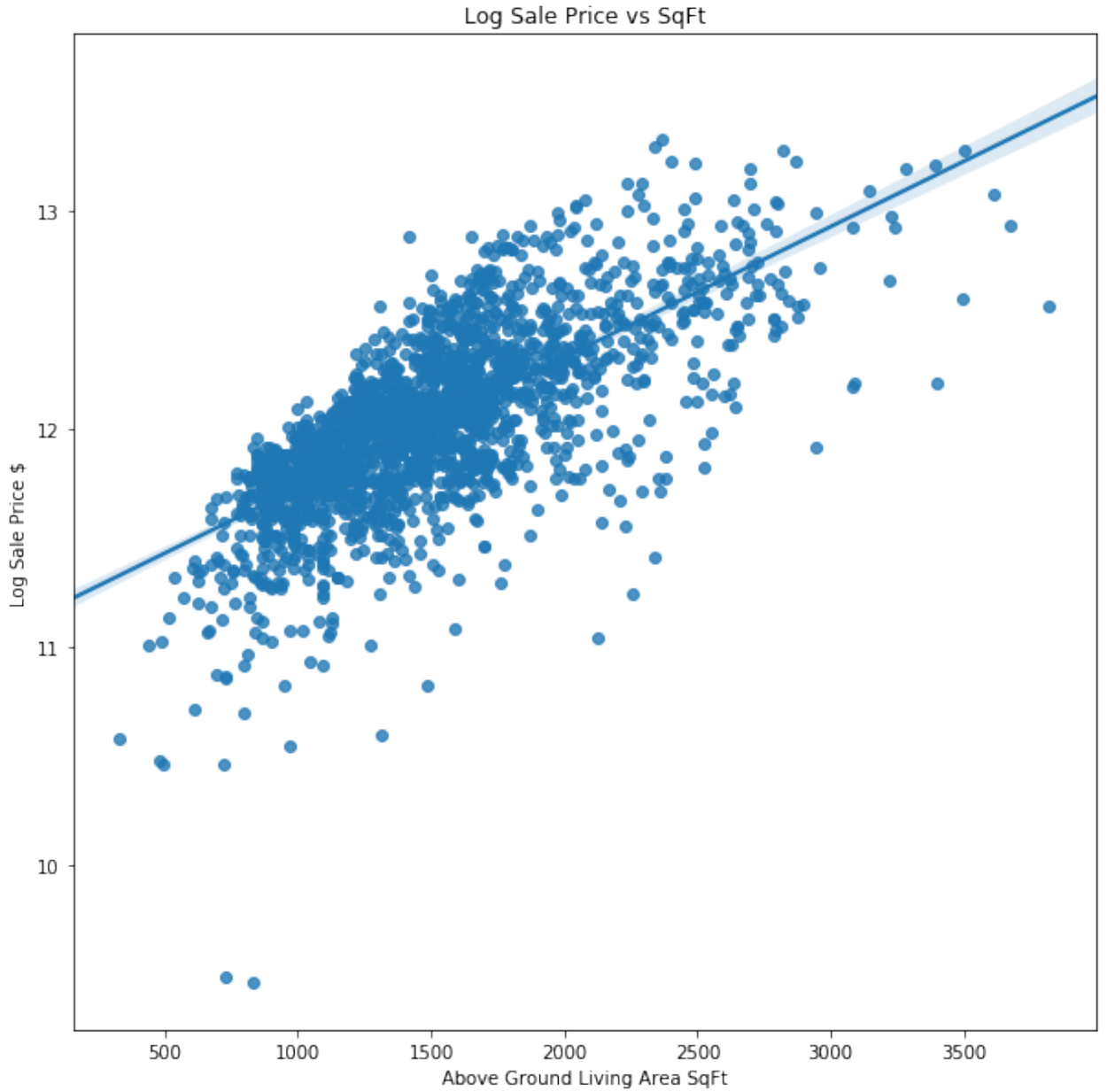


Overall Quality

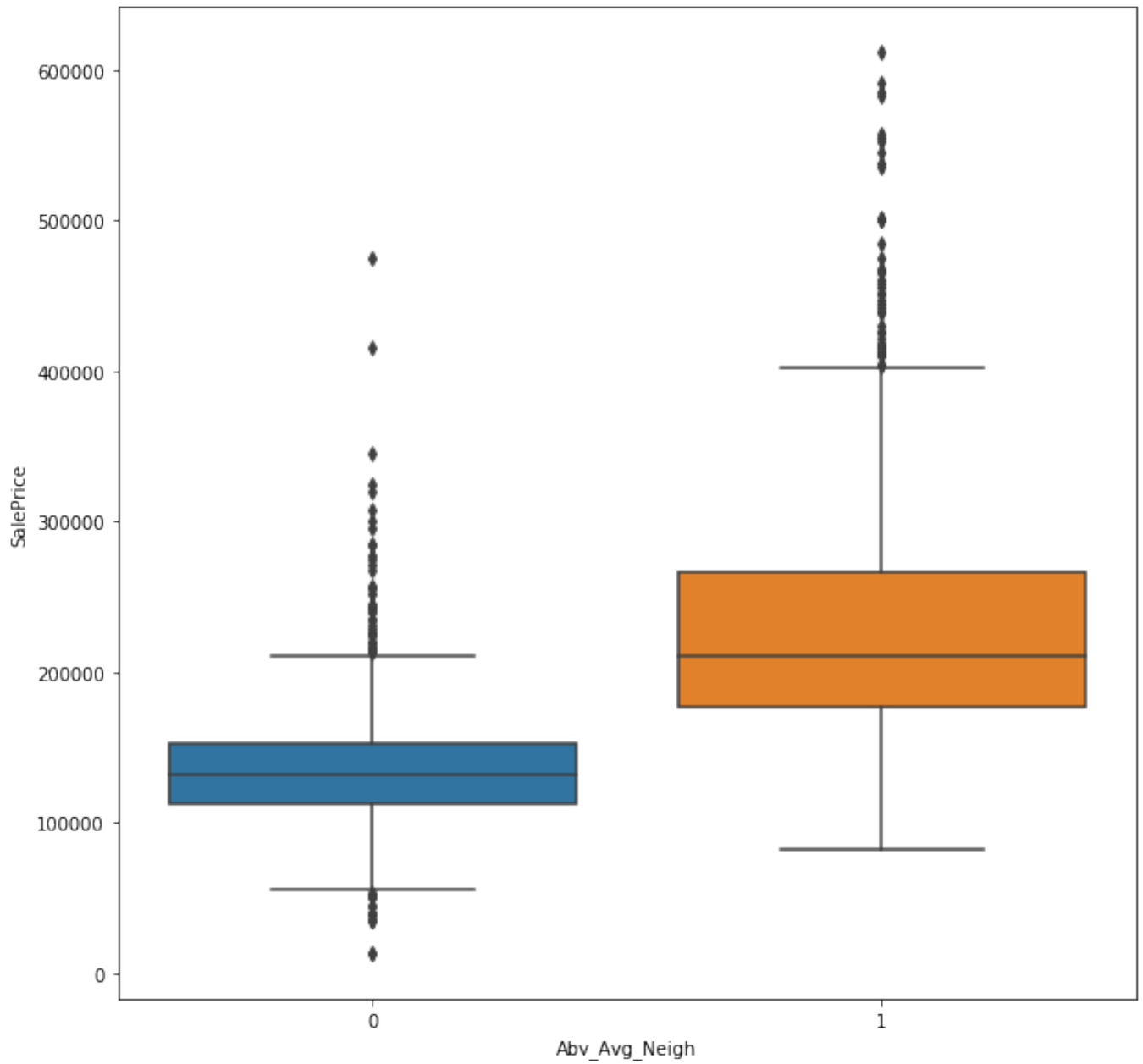


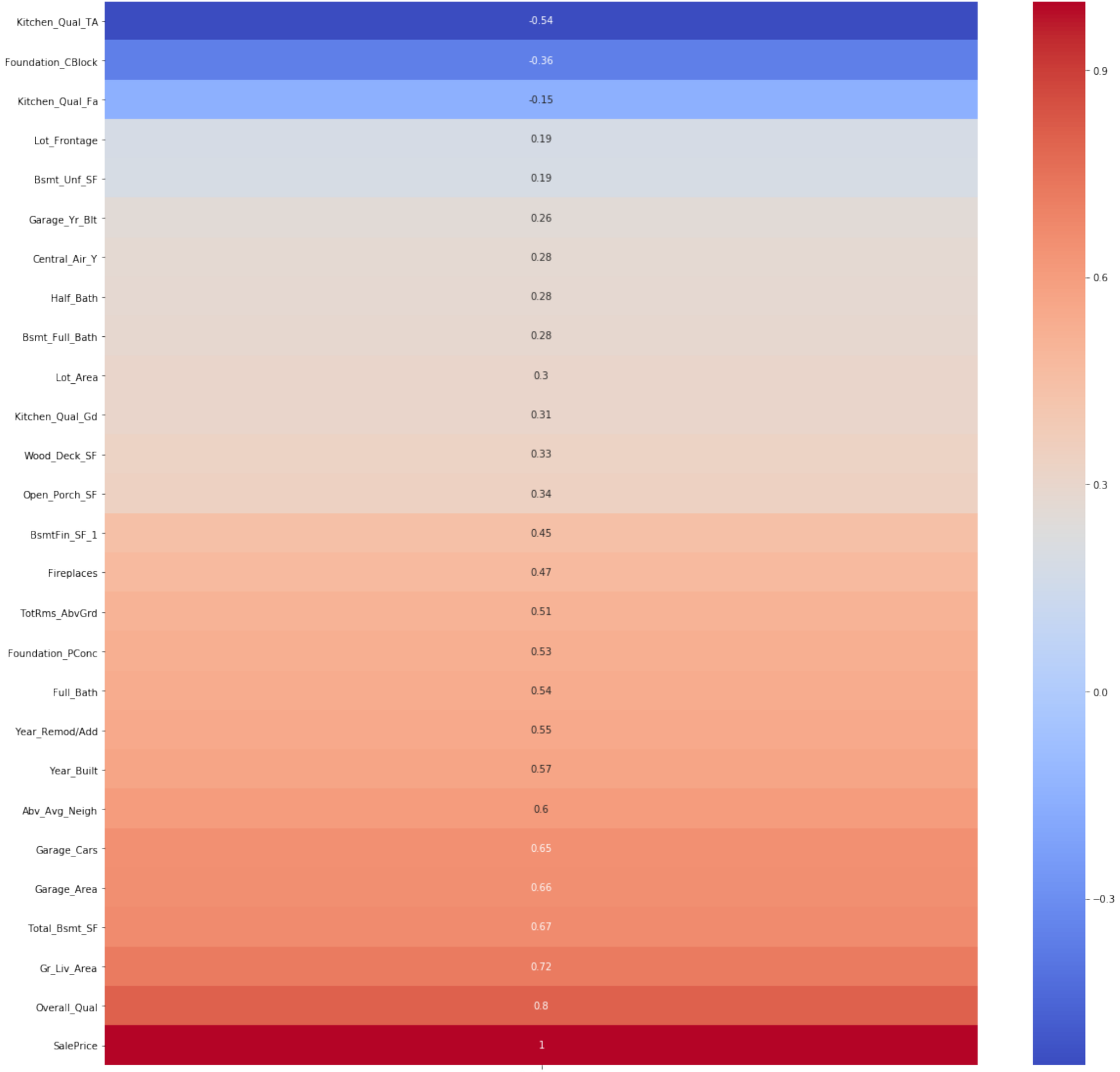
Square Footage





Above and Below Mean Sale Price Neighborhoods




Kitchen_Qual_TA
-0.54
Foundation_CBlock
-0.36
Kitchen_Qual_Fa
-0.15
Lot_Frontage
0.19
Bsmt_Unf_SF
0.19
Garage_Yr_Blt
0.26
Central_Air_Y
0.28
Half_Bath
0.28
Bsmt_Full_Bath
0.28
Lot_Area
0.3
Kitchen_Qual_Gd
0.31
Wood_Deck_SF
0.33
Open_Porch_SF
0.34
BsmtFin_SF_1
0.45
Fireplaces
0.47
TotRms_AbvGrd
0.51
Foundation_PConc
0.53
Full_Bath
0.54
Year_Remod/Add
0.55
Year_Built
0.57
Abv_Avg_Neigh
0.6
Garage_Cars
0.65
Garage_Area
0.66
Total_Bsmt_SF
0.67
Gr_Liv_Area
0.72
Overall_Qual
0.8
SalePrice
1
SalePrice
0.9
0.6
0.3
0.0
−0.3

Root Mean Squared Error

- Mean as a model 80,551.61
- Lasso Regression on training data 23,288.06
- Lasso Regression on unseen data 22,233.43