



Boston Realty Advisors

ENTREPRENEURIAL AGILITY. INSTITUTIONAL EXPERTISE.

Boston Home Prices

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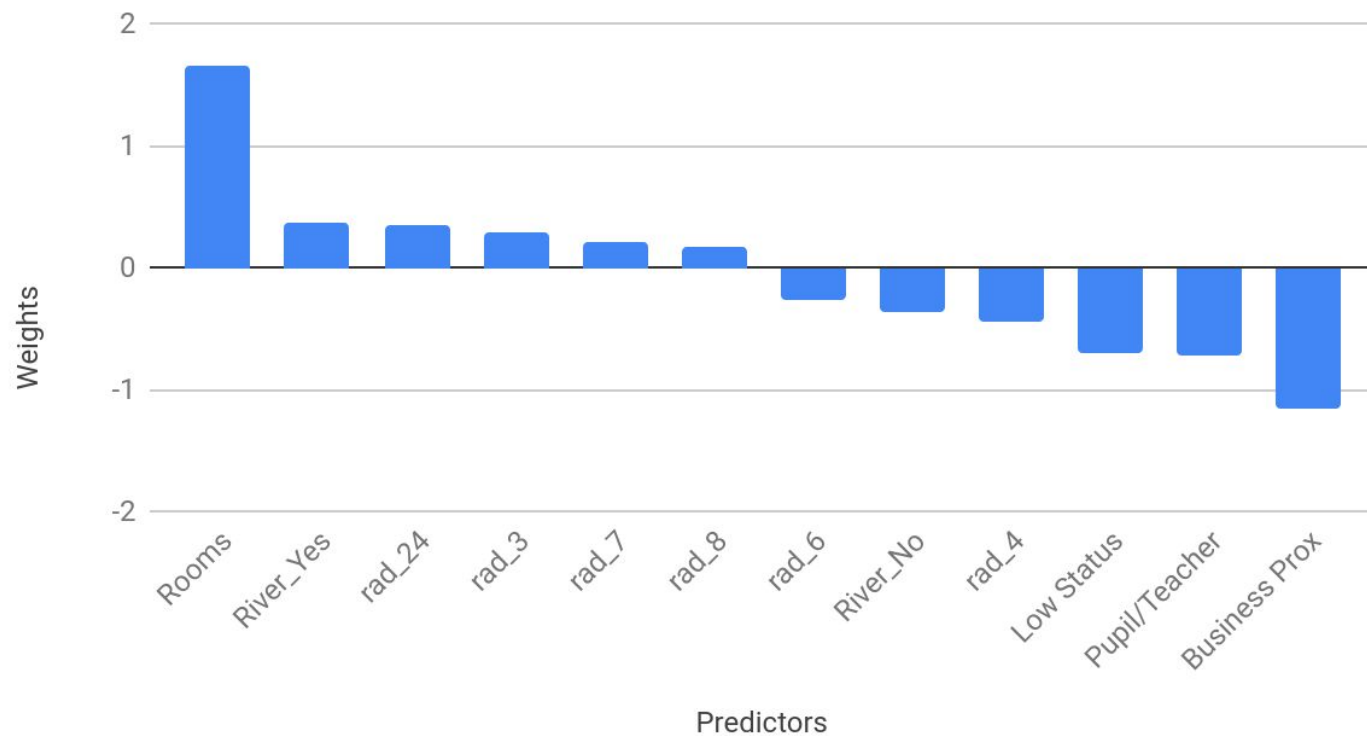
Introduction

- Looking at median value of owner-occupied homes in \$1000s.
- 2 Main Categories-
 - Size
 - Location
 - Area quality

How to use this model:

- Predict value of new houses

Weights of Predictors for House Price



Rooms: i.e: Size of the House

-For every extra room, the value of the house goes up \$1,668



Location Location Location



The Importance of the River

-Added \$728 as opposed to not being on the Charles River($2 \times \text{River_yes}$)



Distance to Businesses

- Closer you are to business center, the more expensive the housing
- Highest “negative” predictor in the data



Highway Proximity

- Had a significant effect on price
- Need to find codes



Quality of the Area



Student Teacher Ratio

- As the amount of students for every teacher went up, housing prices went down
- Approx. loses \$707.90



Status

-As lower status increases, price decreases

-\$698/% of lower status



Unimportant Factors

Unimportant factors = Predictors had little effect on house price

- Zone, **crime rate**, non-retail business acres, nitrogen oxide concentration, age of the home, tax
- Black is engineered feature for which the

Conclusion

- Biggest 2 categories/ Things to Look for
 - House size
 - House location
- Accuracy of Data: Able to explain 57.5% of the variation

QUESTIONS?

Technical Notes

Rooms	1.668
River_Yes	0.364
rad_24	0.3527
rad_3	0.2845
rad_7	0.2145
rad_8	0.179157
rad_6	-0.271
River_No	-0.364
rad_4	-0.4303
Low Status	-0.6982
Pupil/Teacher	-0.7079
Business Prox	-1.1579

The Model

$$\begin{aligned} \text{Target_value} = & 3.754\text{e}+01 + -5.53\text{e}-02*w1 + 5.269\text{e}-02*w2 + -3.996\text{e}-03*w3 + \\ & -3.907\text{e}-02*w4 + 1.668\text{e}+00*w5 + -2.016\text{e}-02*w6 + -1.157\text{e}+00*w7 + \\ & -4.460\text{e}-03*w8 -7.079\text{e}-01*w9 + 1.004\text{e}-02*w10 + -6.98230657\text{e}-01*w11 + \\ & -3.6401\text{e}-01*w12 + 3.640\text{e}-01*w13 + -1.798\text{e}-01*w14 + -1.181\text{e}-01*w15 + \\ & 2.845\text{e}-01*w16 + -4.303\text{e}-01*w17 + -3.068\text{e}-02*w18 -2.719\text{e}-01*w19 + \\ & 2.145\text{e}-01*w20 + 1.791\text{e}-01*w21 + 3.52777177\text{e}-01*w22 \end{aligned}$$