



Iowa Development Co.

Peter Murphy, Data Scientist

Table of Contents



01

Home Sales

Ames' housing market

02

Problem

How to limit risk while
maximizing profits

03

Model vs. Benchmark

Evaluating model
effectiveness

04

Implementation and
Conclusions

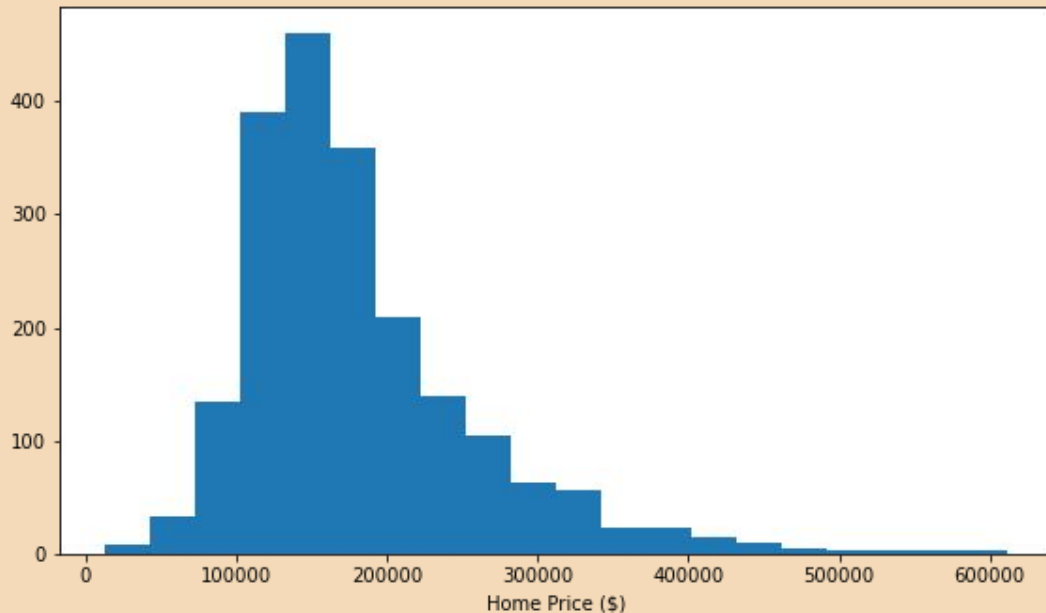
Location Matters
Home Features



Ames Housing Market



Distribution of House Prices: Ames, IA

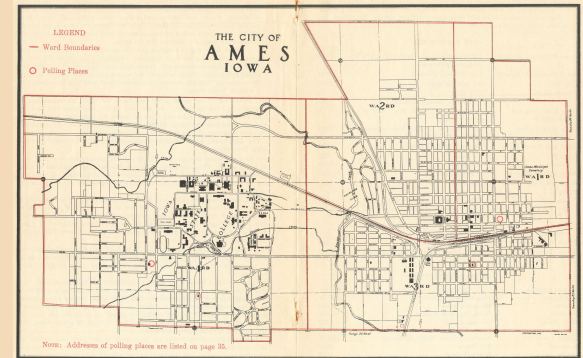


Limited profit potential in our market
- how do we buy low and sell high?

Problem Statement



Can data from the Ames Tax Assessor's Office be used to inform the investment process in determining which homes are currently undervalued and which renovations will lead to the greatest profits?



The Models



Baseline

1 feature: Median
home price estimate

Root mean square
error to beat:
\$53,215

Predictive

213 features included

Root mean squared
error: \$16,761

Inferential

14 features included

Root mean squared
error: \$24,185



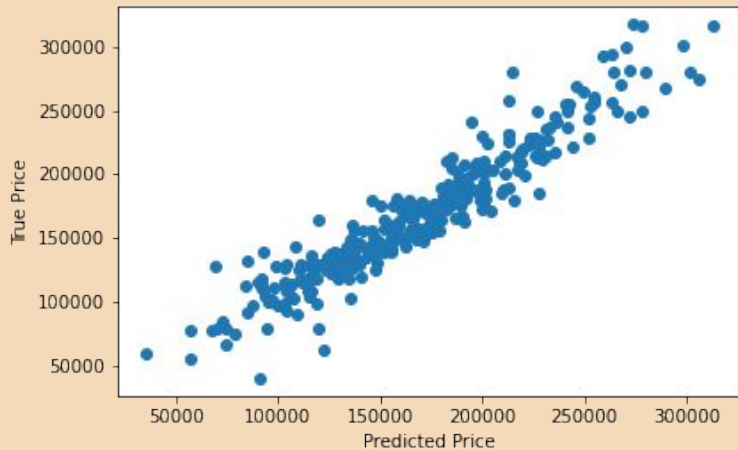
Model Evaluation

Add both True Price vs Predicted Price graphs



Predictive

True Price vs Predicted Price

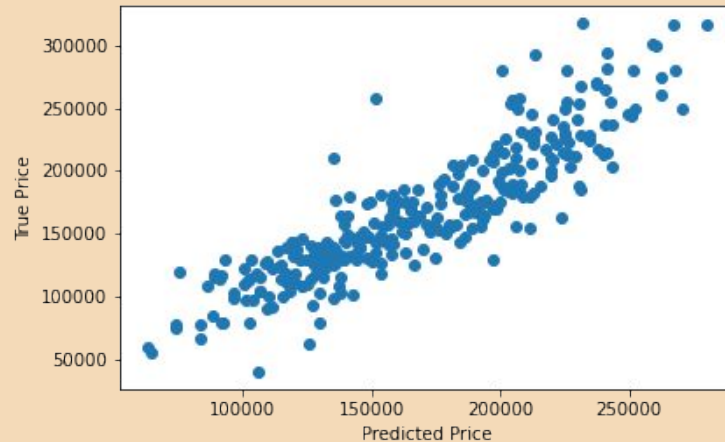


Cross-Validated R-Squared: 88.09%

Adjusted R-Squared: 87.04%

Inferential

True Price vs Predicted Price



Cross-validated R_Squared: 84%

Implementing Recommendations



On Purchase (Predictive):

Location, Location, Location

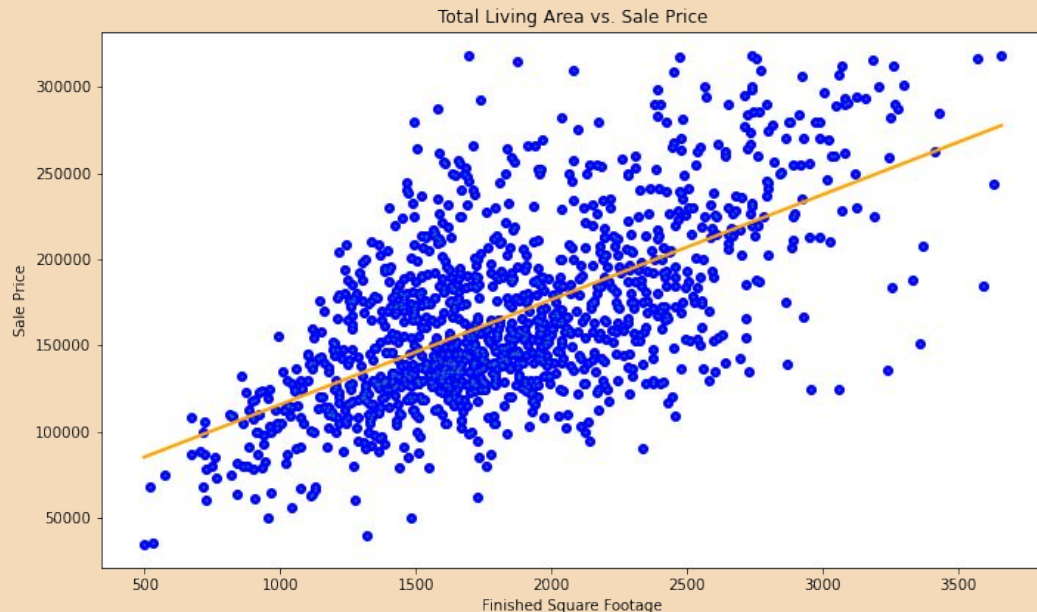
Target neighborhoods:
Somerset and Northridge
Heights

Avoid: Edwards, Iowa DOT
and Rail Road, and Old Town

On Renovations (Inferential):

Features boosting
home value:

Additional Square
footage (\$33 x sq ft)
Kitchens (\$27,000
potential)



Conclusions



In order to scale for production:

- Sale condition data
- Expanding data beyond Ames
- Limited time frame





Thanks

Do you have any questions?

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon** and infographics & images by **Freepik**