

Project 2: Analysis of Ames housing data

Udayshankar Menon

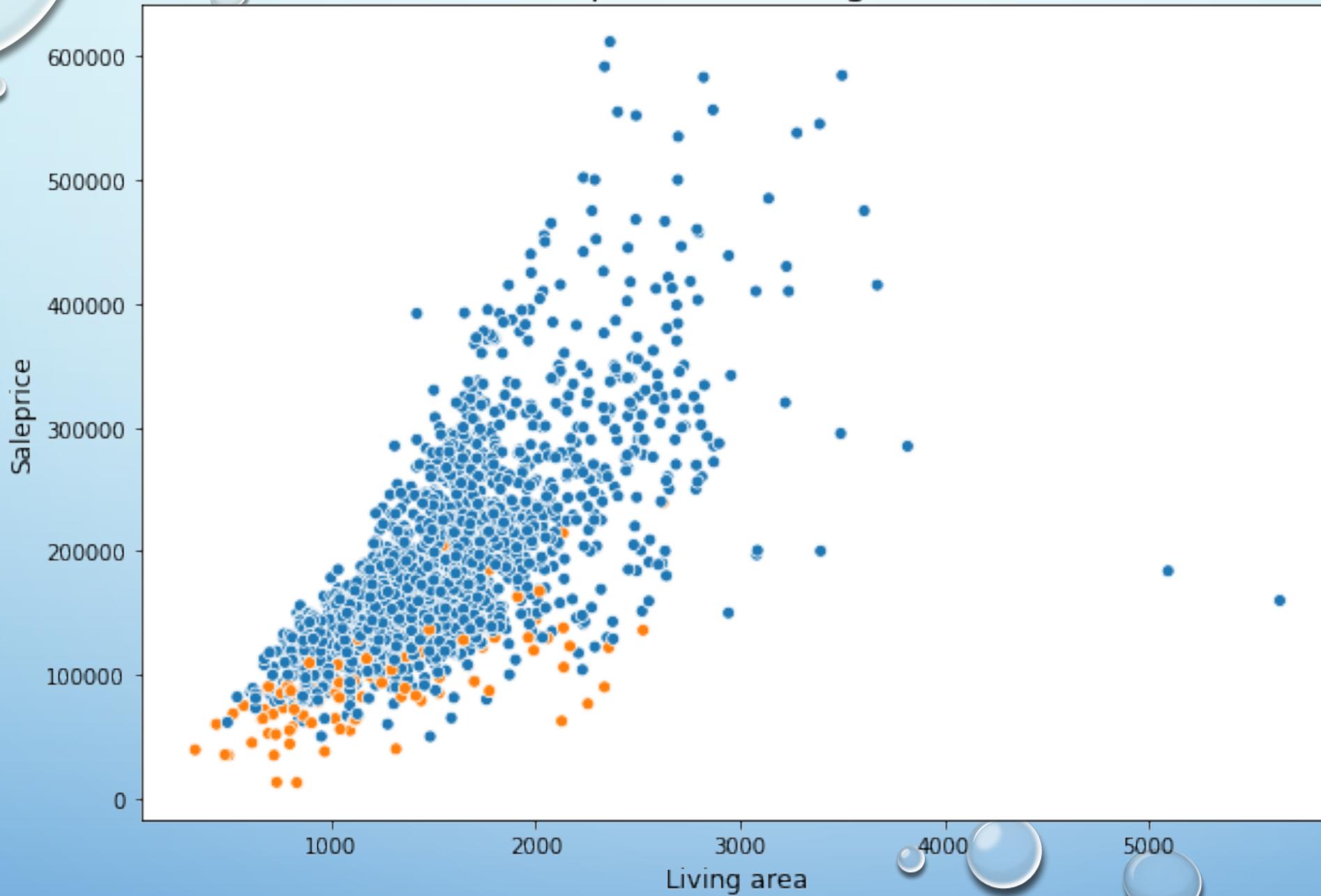
Objective

- How does adding a central air conditioning unit change the house sale price?
- What features influence the change in sale price of a house?
- Should you add a central air unit?

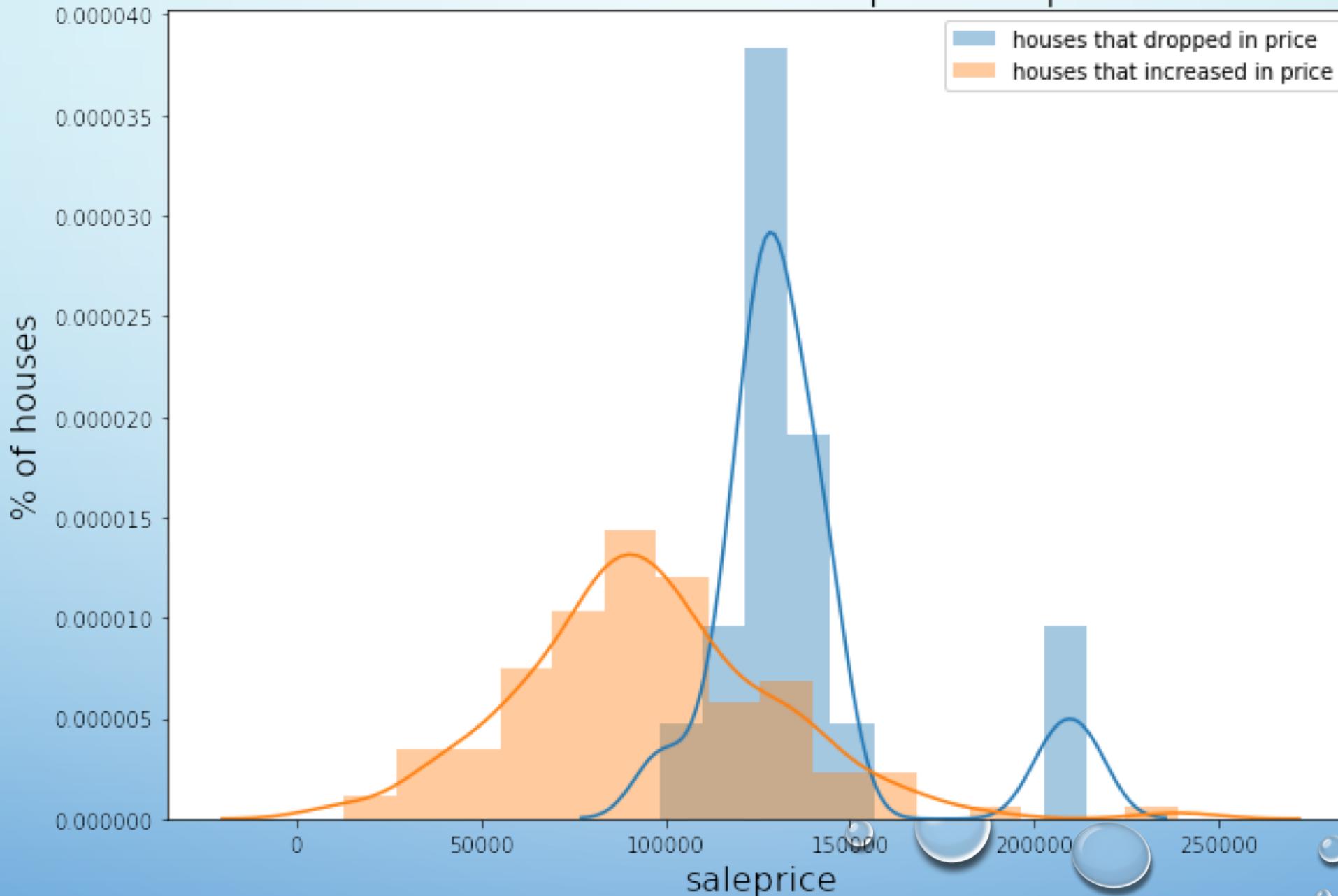
Methodology

- Split the training data into houses with and without air-conditioning (93% have AC)
- Linear Regression model based on data with AC (r² score of 59%)
- Features considered in this study:
 - Bedrooms above ground
 - Living surface area
 - Kitchens
 - Bathrooms

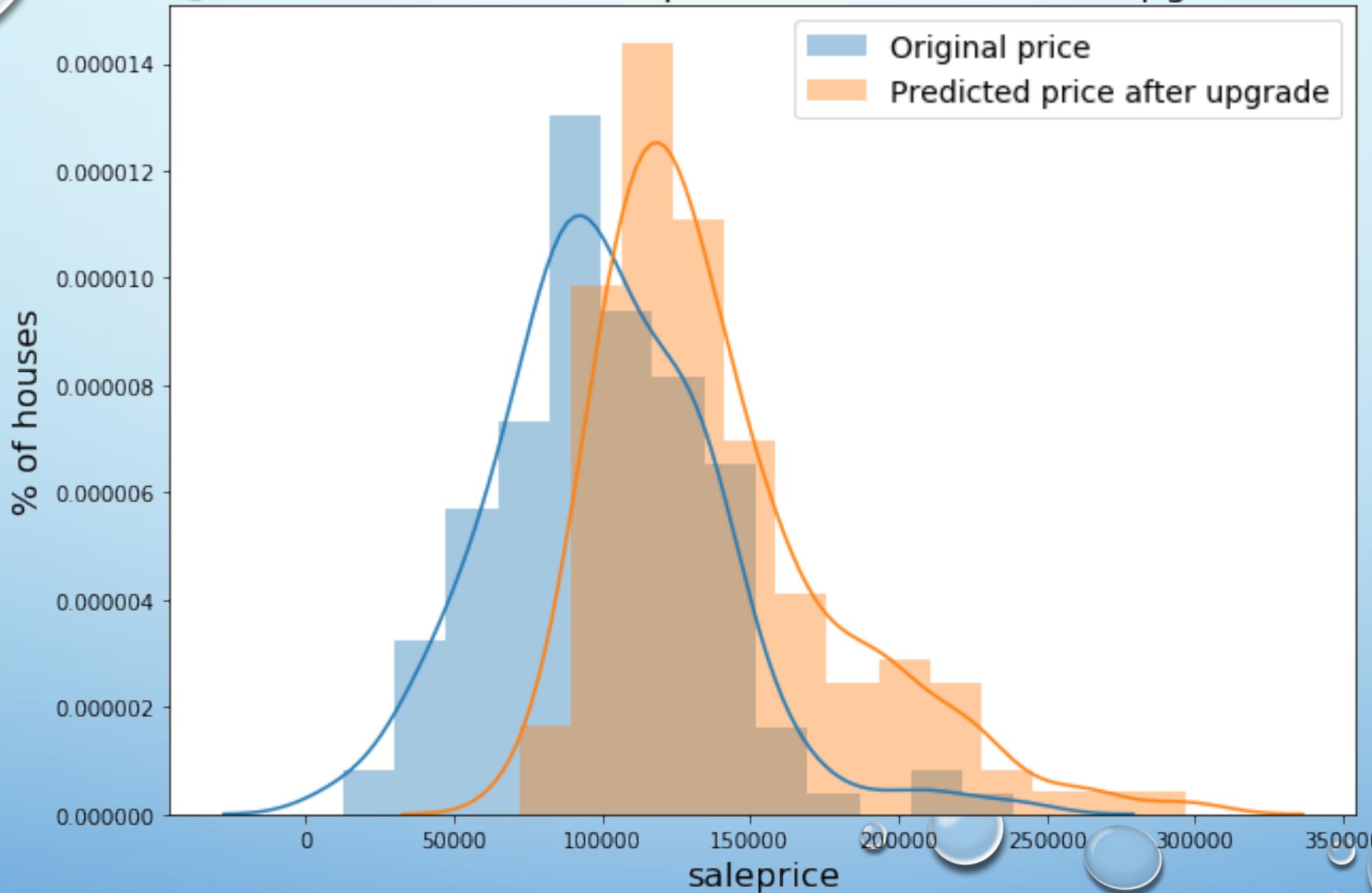
Saleprice vs Living area



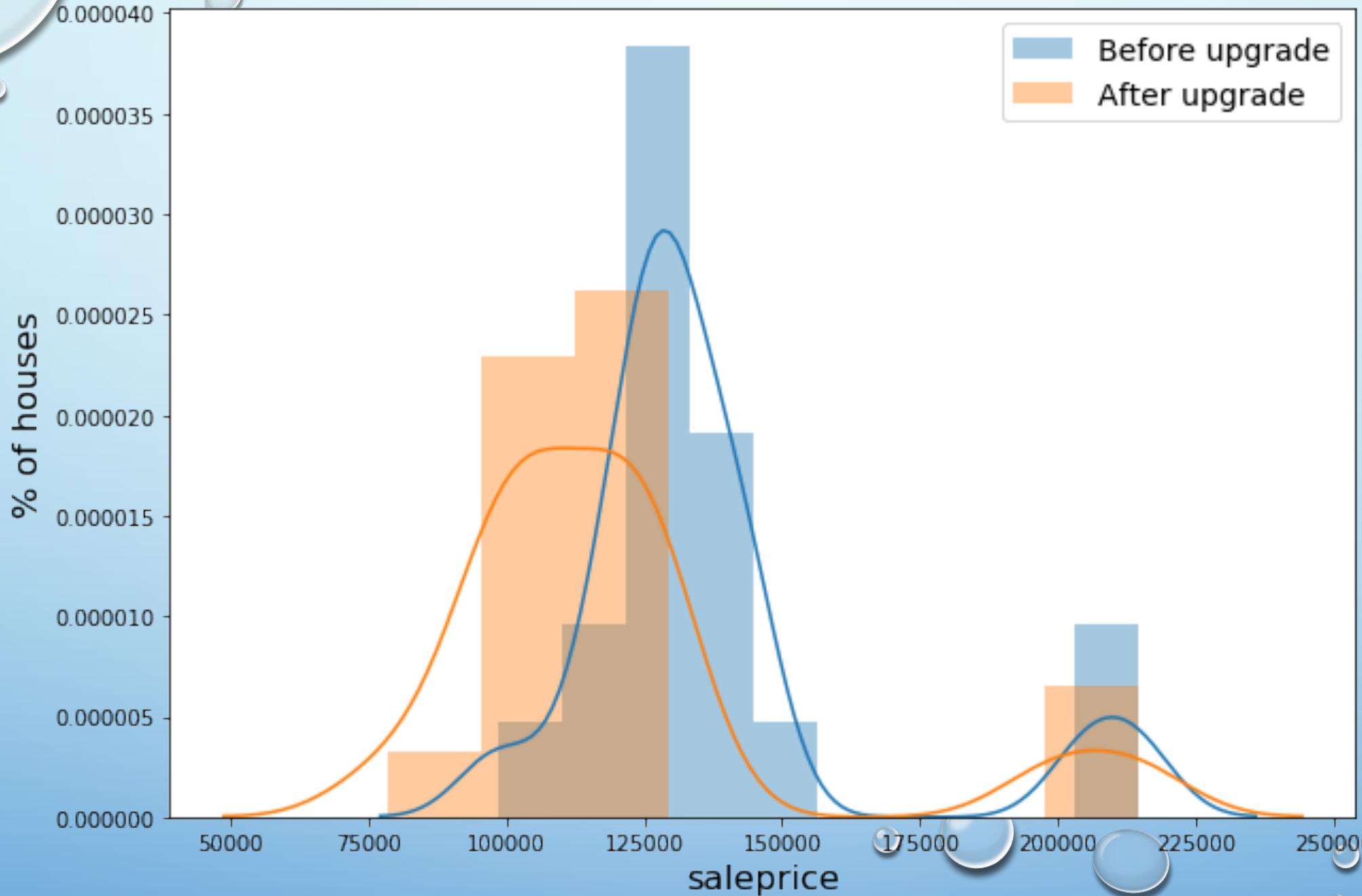
Normalized distribution of previous prices



Distribution of house prices before and after upgrade

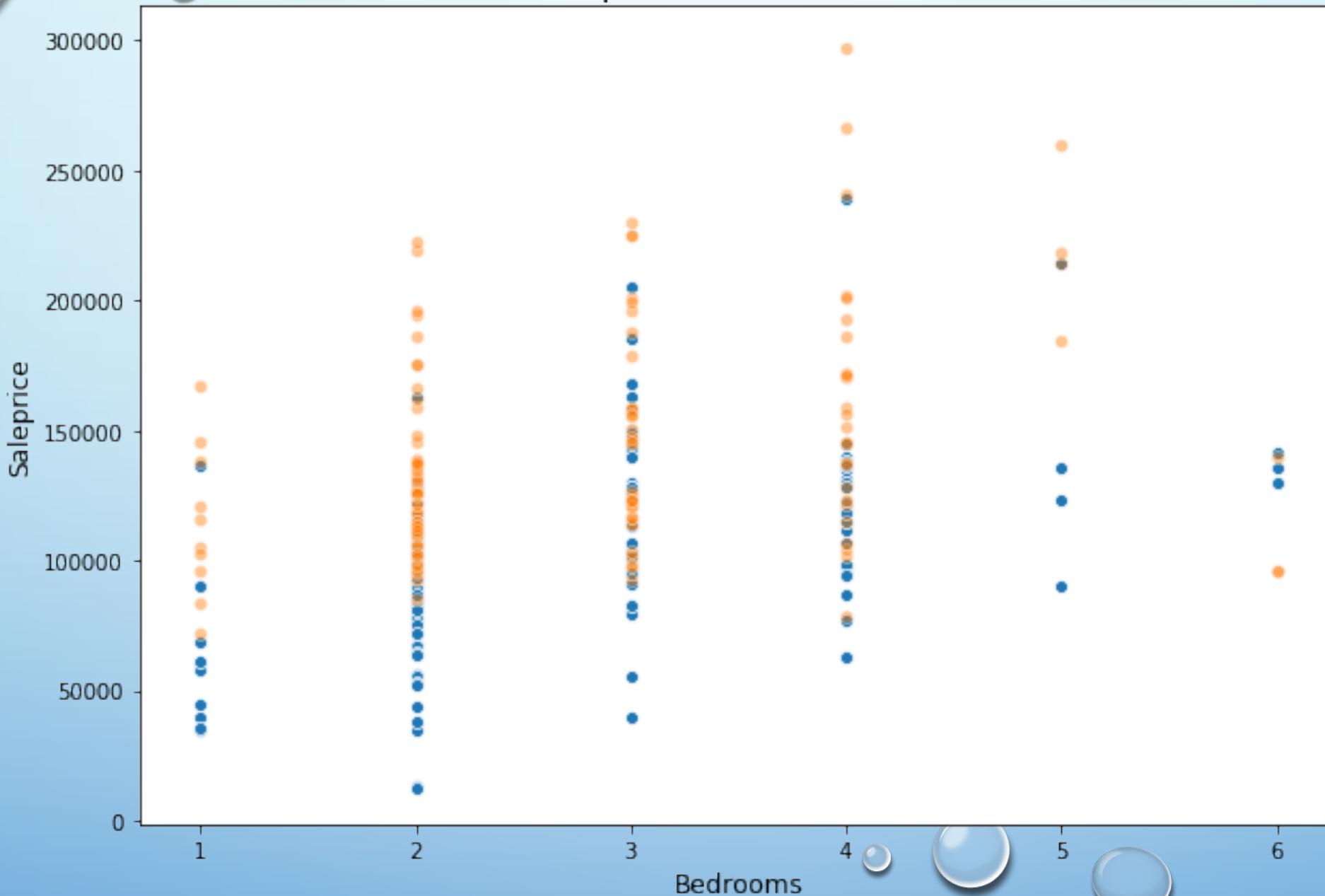


Distribution of house that showed a decrease

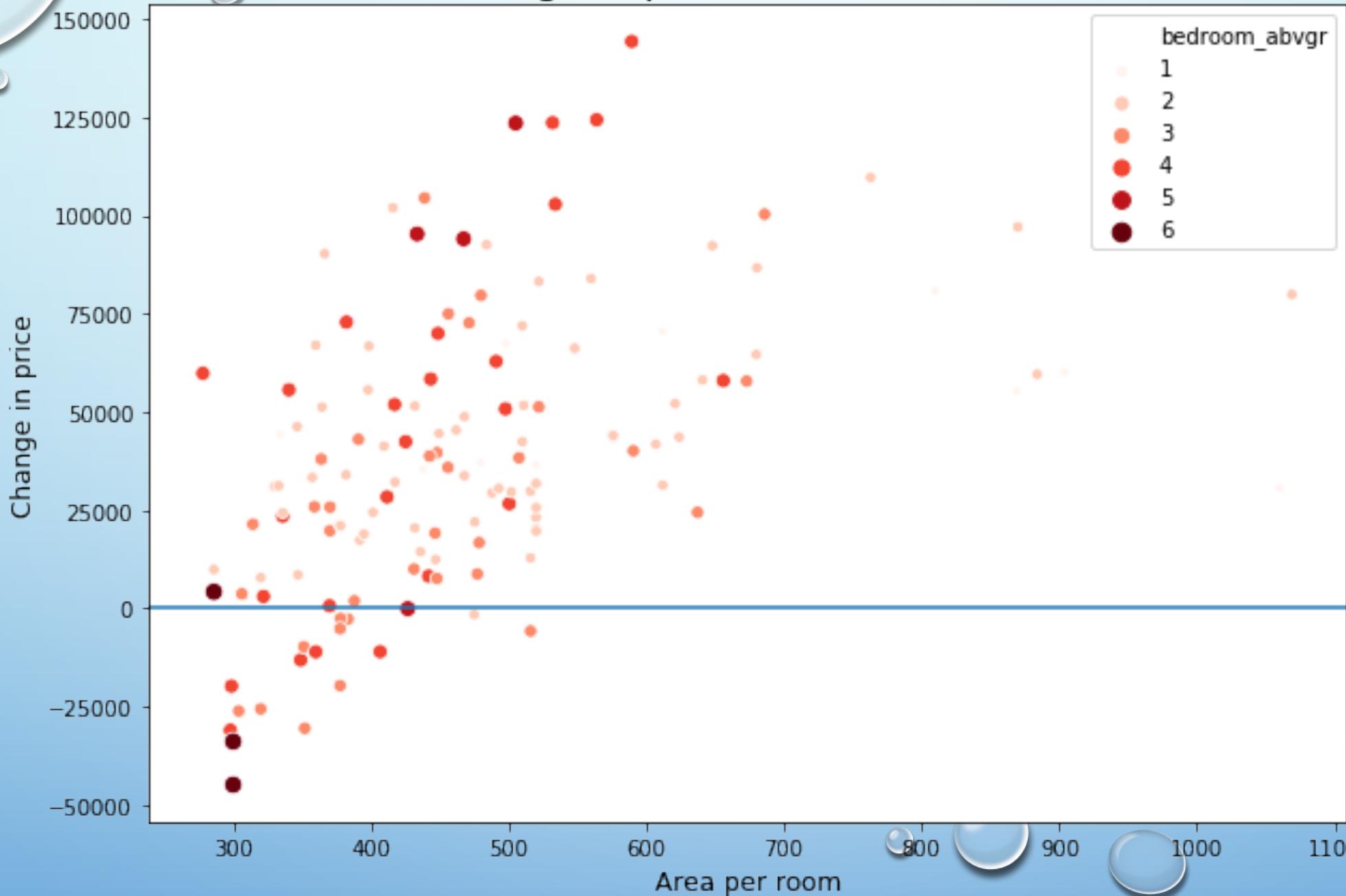


Why do some houses drop in sale price upon upgrading to a central air unit?

Saleprice vs Bedrooms



Change in price vs area of room



Conclusions and Recommendations

- A Linear Regression model of low variance and high bias was developed
- On average, adding a central air unit increased the sale price by 60%
- The houses that dropped in price have more rooms
- These houses showed lesser area per rooms
- Houses of initial price lesser than \$100,000 benefit more from adding a central air unit
- Other parameters showed no influence on the sale price or affect of AC

Thank you