WHICH FEATURES ARE BEST IN PREDICTING HOUSING PRICES?
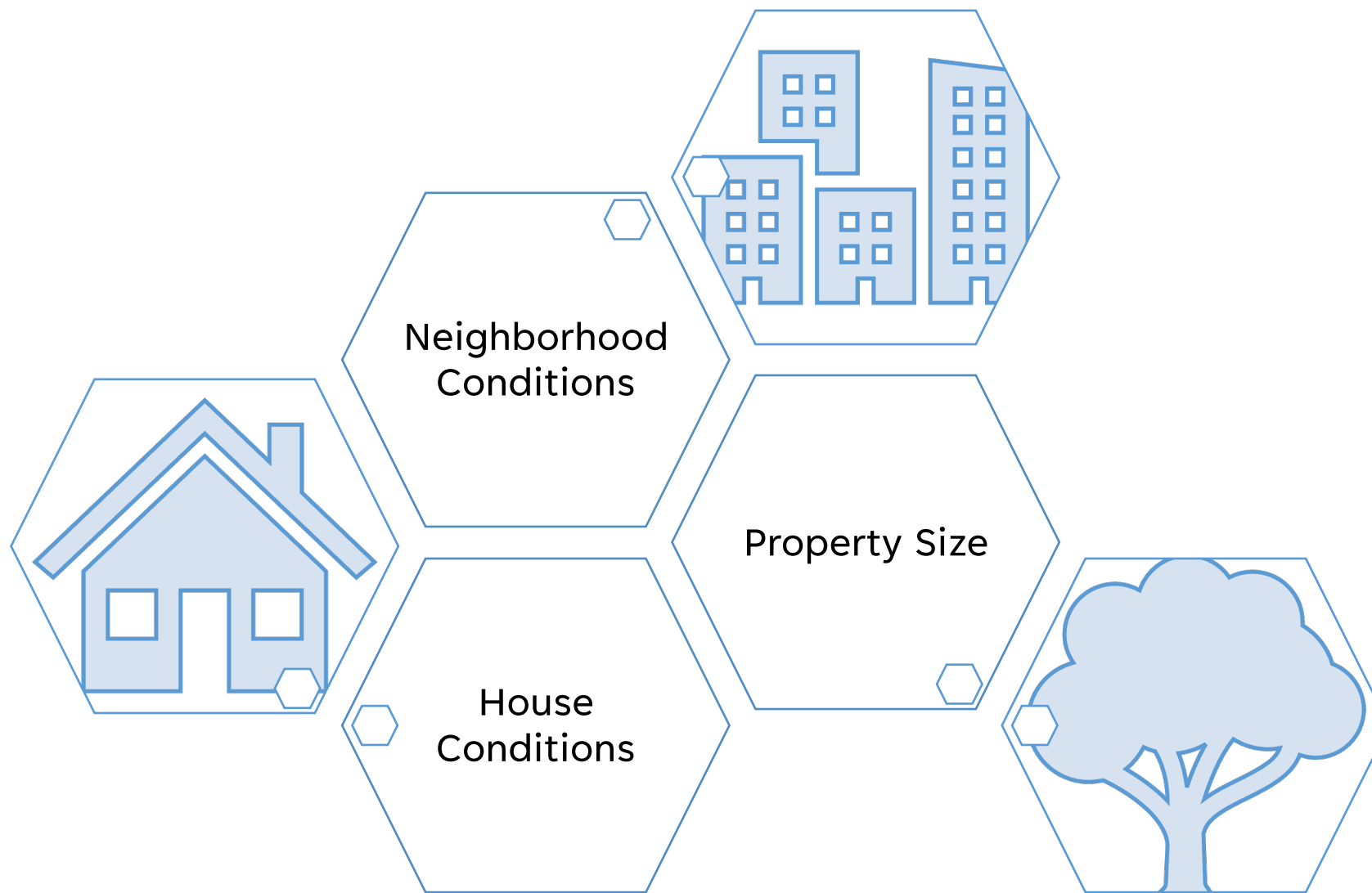
Edward Lee

DSI 1128

WHAT ARE THE KEY DETERMINANTS?

Neighborhood Conditions
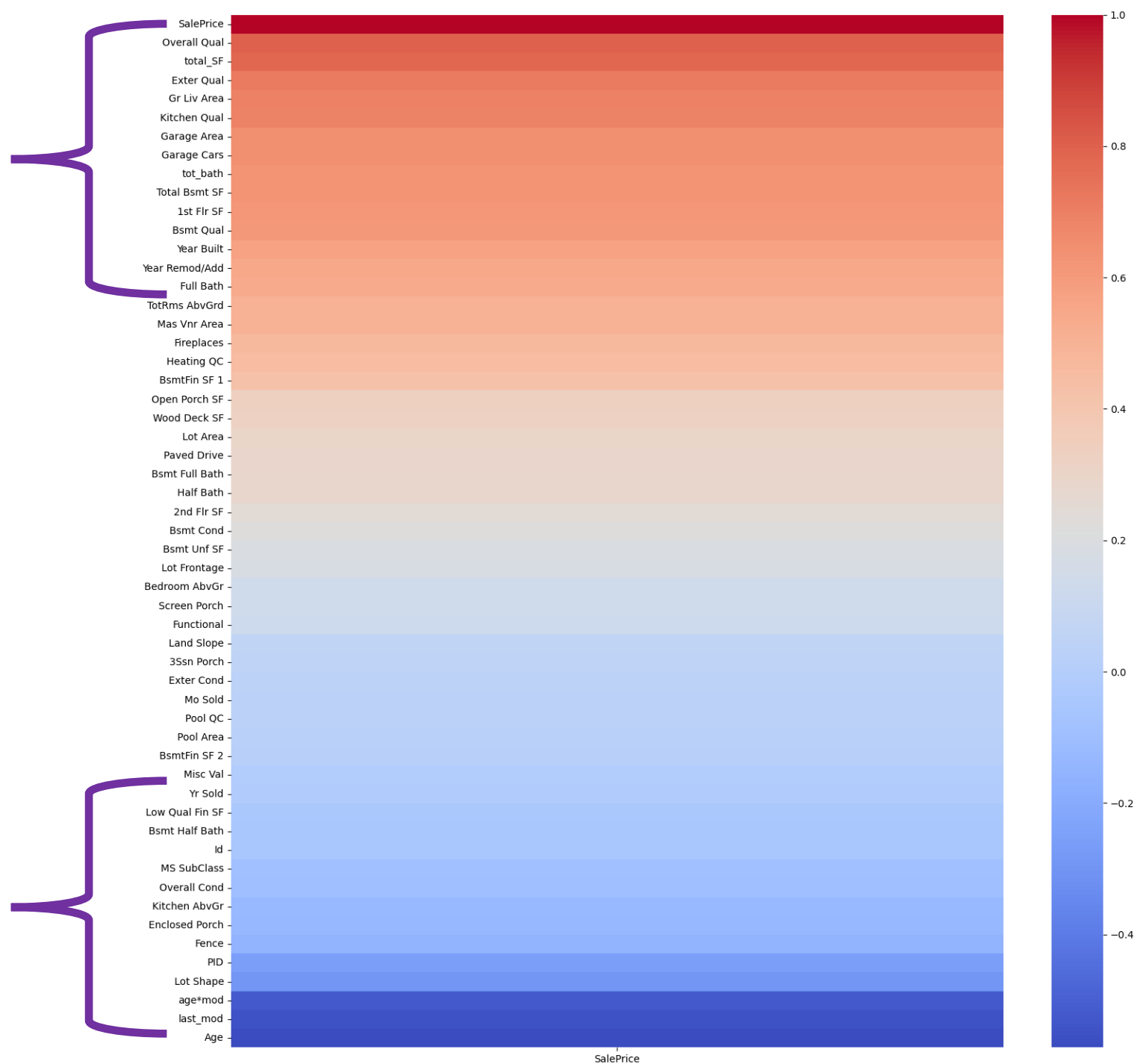
Market Conditions

Property Size

House Conditions
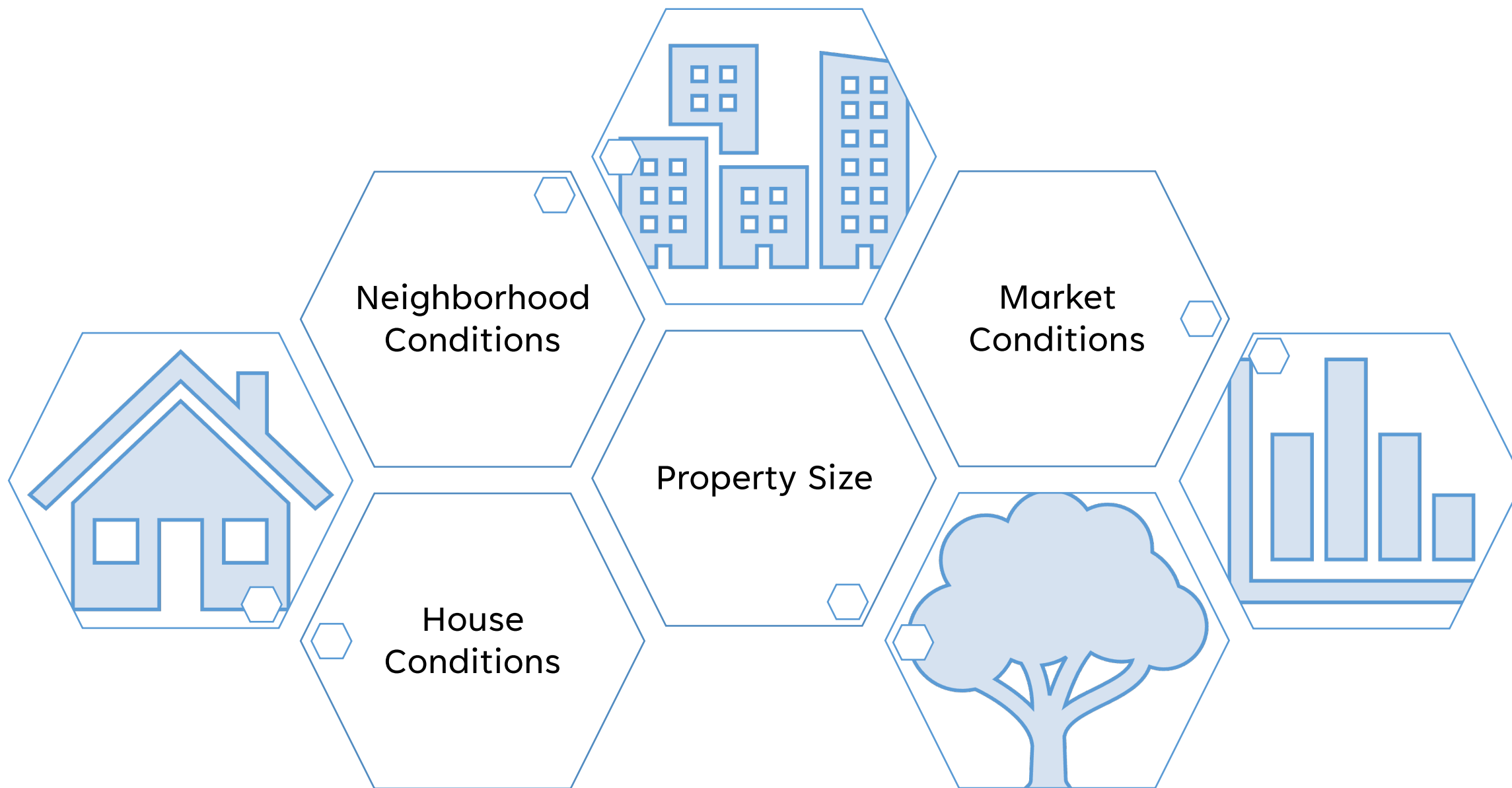
BASED ON OUR COMPANY DATABASE:

Neighborhood
Conditions

Property Size

House
Conditions

Positive Correlations:
- Measures of Quality
- Measures of Area

Negative Correlations:
- Age Variables

INITIAL MODEL

1. MS Zoning Class
2. Street Status
3. Lot Frontage
4. Lot Area
5. Presence of Negative Condition
6. Presence of Positive Condition
7. Overall Quality
8. Overall Condition
9. Age
10. Last modification
11. Total Bathrooms
12. Masonry Veneer Area
13. Garage Area
14. Garage Cars
15. Exterior Material
16. Building Type

17. House Style
18. Lot Configuration
19. External Quality
20. External Condition
21. Basement Quality
22. Basement Condition
23. Foundation Material
24. Central Air
25. Heating Quality
26. Kitchen Quality
27. Lot Shape
28. Functional
29. Land Slope
30. Roof Material
31. Paved Drive
32. Wood Deck Area

33. Open Porch Area
34. Pool Area
35. Pool Quality
36. Fence Quality
37. Miscellaneous Feature Type
38. Miscellaneous Feature Value
39. 1st Floor Area
40. Total Area

Variation explained: ~67%

Error: ~$34,000

LESS IS MORE

-Quality Metrics
>   1. Overall
>   2. External
>   3. Basement
>   4. Kitchen

-Quantity Metrics
>   5. Total Bathrooms

-Total Square Foot Metrics
>   6. Basement
>   7. 1st Floor
>   8. Above Ground
>   9. Garage

-Age Variables
>   10. House Age
>   11. Years since last modification

Variation explained: ~90.4%

Error: ~$27,695

CONCLUSIONS

- Features in our model only explains 90.4% of the variation in Sale Price

- Additional research required to fully utilize certain features

- Expansion of features/data to cover market conditions could be valuable