Forecasting Commercial Gentrification

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What is Gentrification?

- Gentrification occurs when an area undergoes rapid economic change, leading to:
  - Rising rents & property values
  - Displacement of existing communities & businesses
  - Shift toward high-income tenants & luxury developments

The Problem of Gentrification

- Displacement: small businesses priced out
- Homogenization: loss of local character/culture
- Economic volatility: boom and bust cycles

Savills' role:

- Prevent overconcentration in "trendy" submarkets
- Encourage balanced, healthy development
- Identify early signals before full gentrification occurs

Our Predictive Modeling-Based Solution

Modeling the likelihood of a submarket becoming gentrified (the gap in rent between A-class and O-class spaces increasing by >10%)

- Why economic stratification is used as indicator of gentrification:
  - Landlords are pressured to withhold O-class spaces to redevelop or upgrade to A-class
  - Premium growth attracts investors/developers
  - Creates a self-reinforcing cycle

Model Output:

- Probability score (0–1) for submarket transition risk
- "Likely" vs. "Unlikely" classification

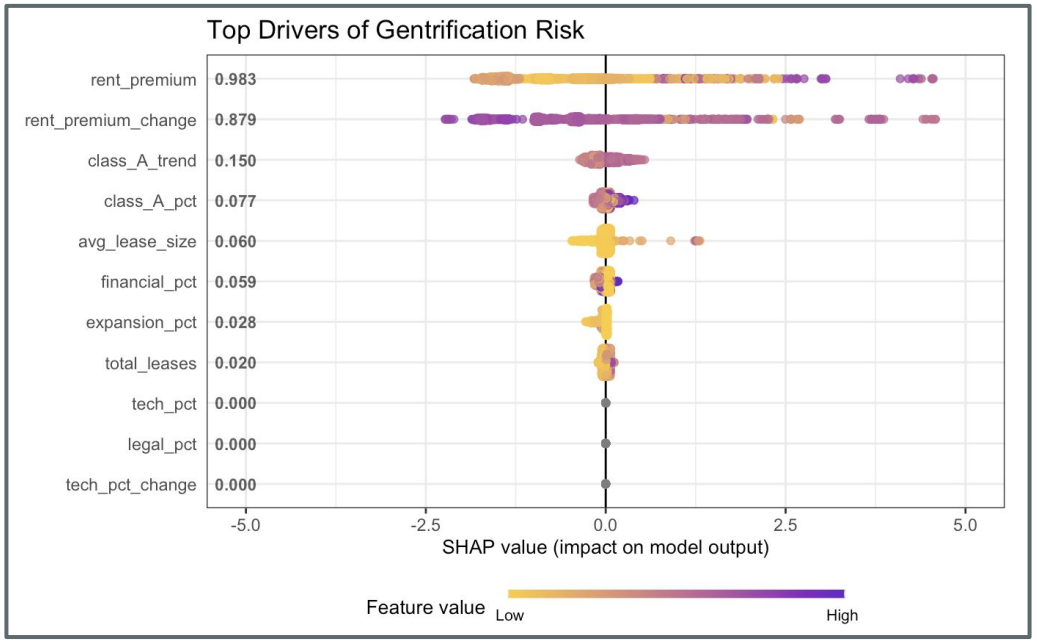
Model Performance

Accuracy:

- Logistic Regression: 0.962
- XGBoost: 0.991

Area Under Curve (AUC) scores:

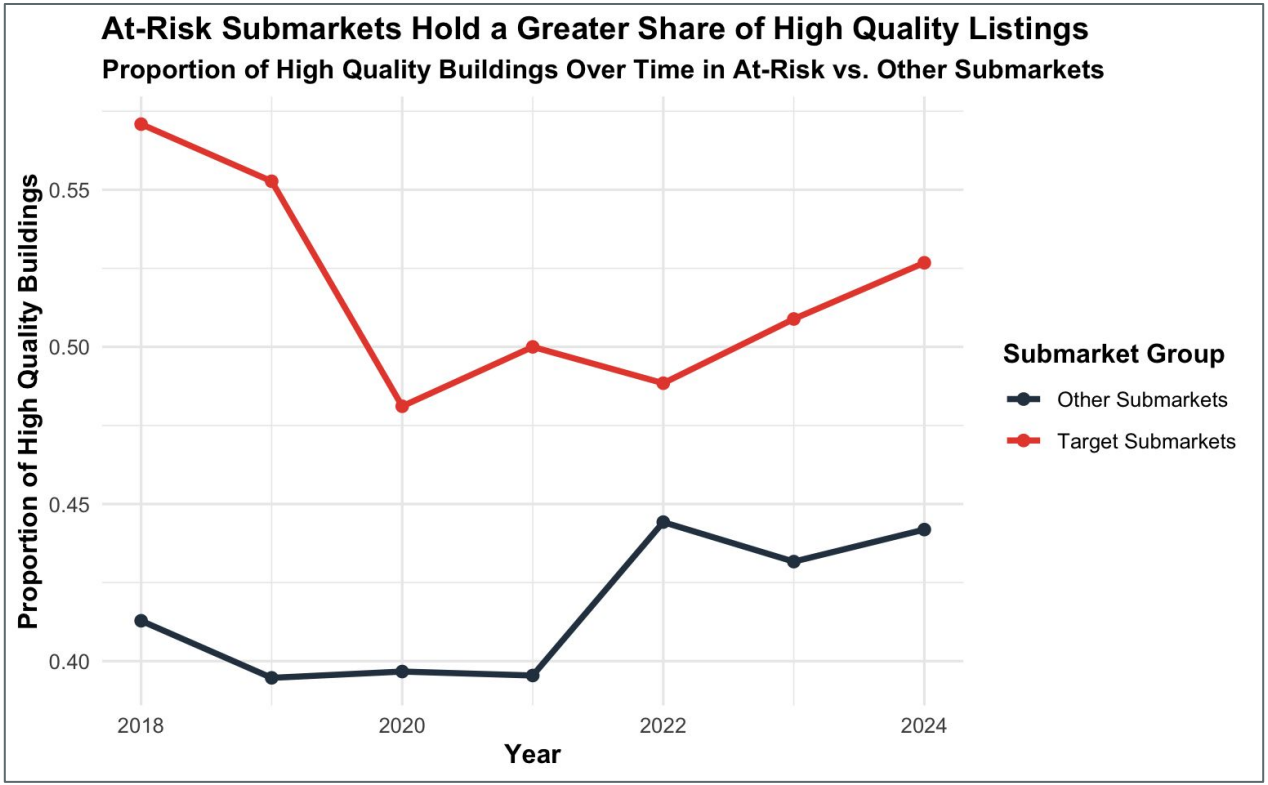
- Logistic Regression: 0.831
- XGBoost: 0.984



Current High-Risk Submarkets

market <chr>	internal_submarket <chr>	transition_prob <dbl>
Boston	Route 128 South	0.7290439
Boston	Cambridge	0.7259895
Boston	Seaport/South Boston	0.7259895
Boston	Route 128 North	0.7083487
Boston	Back Bay	0.6979645

Why Are These Markets High-Risk?



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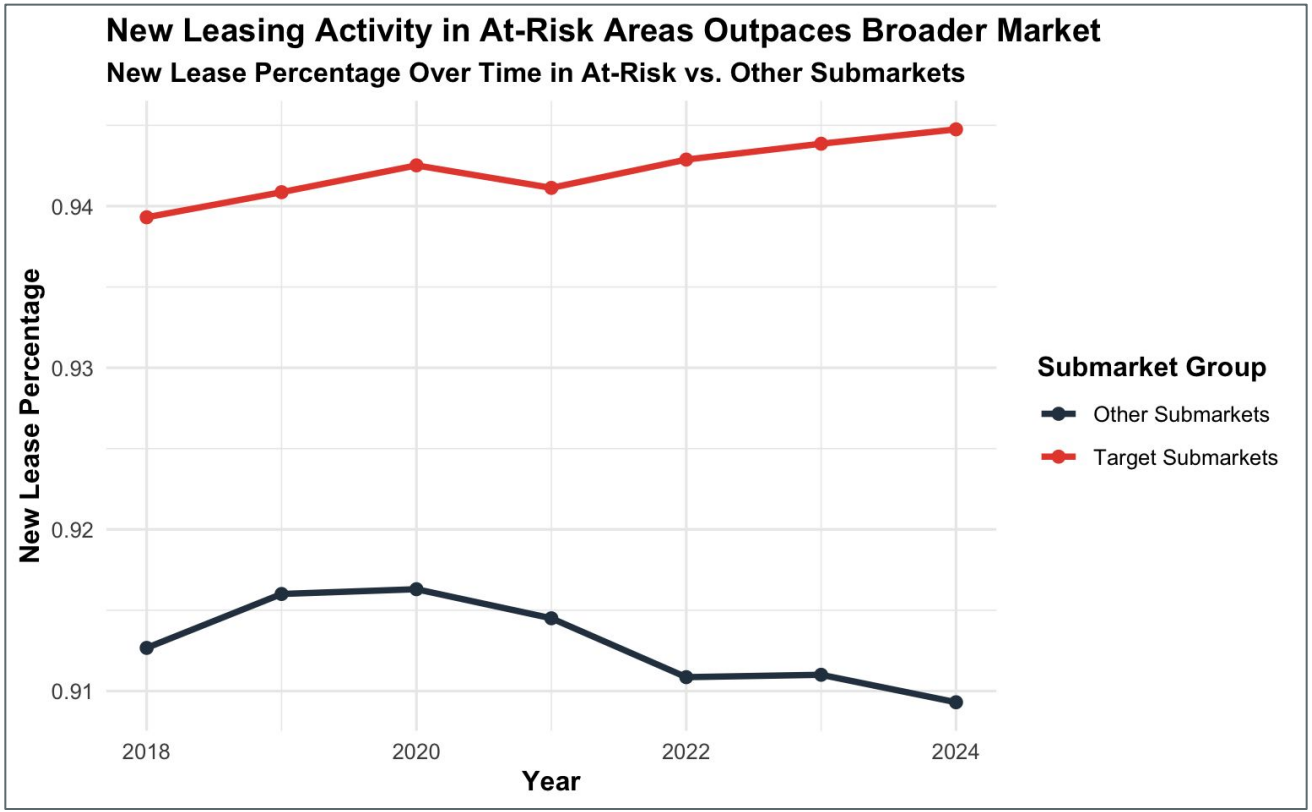

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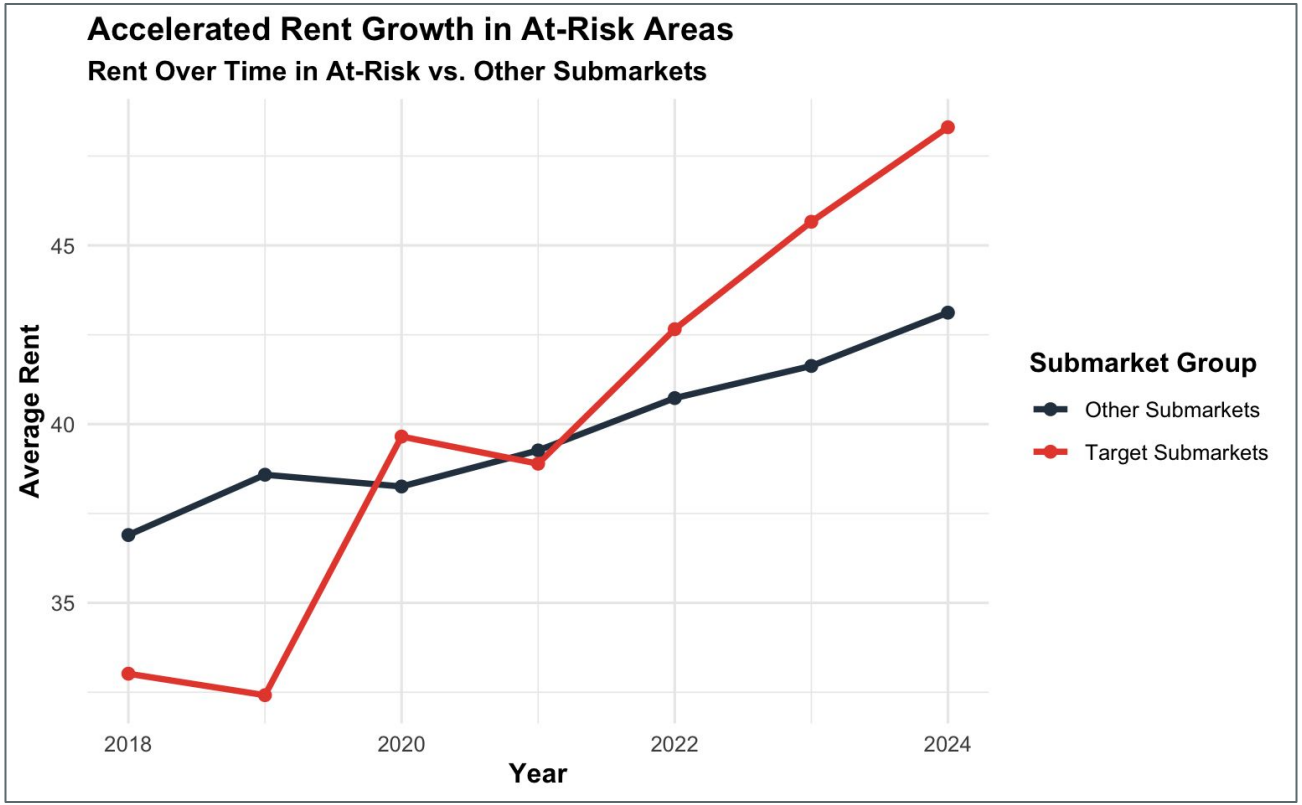

Shiny App!

Shiny
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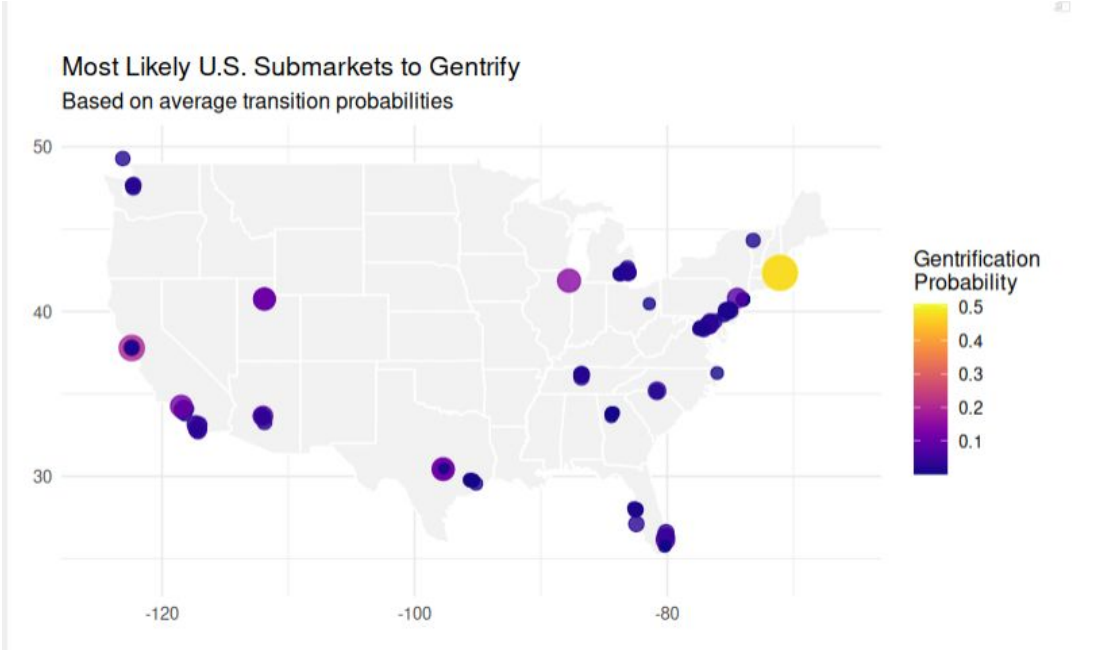
Most Likely U.S. Submarkets to Gentrify
Based on average transition probabilities
50
40
30
-120
-100
-80
Gentrification Probability
0.5
0.4
0.3
0.2
0.1

Past Flagged Areas

	market	internal_submarket	year	quarter	transition_prob	transition_pred
1	Austin	East	2020	Q1	0.884135246276855	Likely
2	Boston	Seaport/South Boston	2019	Q3	0.881645202636719	Likely
3	Boston	Cambridge	2019	Q3	0.879059135913849	Likely
4	Boston	Back Bay	2019	Q3	0.87555056810379	Likely
5	Boston	Financial District	2019	Q3	0.870230138301849	Likely
6	Boston	Route 128 West	2019	Q3	0.870230138301849	Likely
7	Boston	Neighborhoods District	2019	Q3	0.867611885070801	Likely
8	Boston	Route 128 South	2019	Q3	0.864696264266968	Likely
9	Boston	Financial District	2019	Q4	0.857740819454193	Likely
10	Austin	CBD	2020	Q1	0.854013979434967	Likely

August 2020: Austin city council criticized for approving massive rezoning in East Austin

Tell City Hall to Stop the Gentrification Gold Rush in East Austin

How Savills Can Use This Tool

- Early warning system: flag at-risk submarkets
- Client advisory: steer clients away from over-priced areas
- Policy advocacy: work with cities to incentivize balanced growth

Example workflow:

- Run quarterly predictions
- Generate reports for brokers
- Highlight alternatives in “emerging but stable” areas

Conclusion

- Gentrification harms long-term stability
- Our model identifies risk before prices spike
- Savills can lead in **ethical** real estate advisory

Questions?