Greystar

Greystar is the global real estate investment leader in rental housing with expertise in real estate sectors across multiple geographies. Greystar has 61 offices with over 20,000 employees and operates over 2,700 properties across 200+ global markets in their investment portfolio.

Project Description

The HDAG team will work to answer whether Greystar's data, combined with other publicly or commercially available data, can identify the most pertinent factors for rental pricing and provide actionable insights. Indeed, optimal rental pricing is foundational to Greystar's operational and financial success. The factors that drive rental prices are many and varied, and include obvious factors such as the broader economy, amenities, square footage, #bedrooms, #bathrooms, and location but may also include more subtle relationships.

A rough outline of the project may look like:

- Phase I of this project will identify candidate data and create a correlation matrix to determine the potential predictability of candidate variables.
- Phase II of this project will involve a regression analysis or other applicable analysis to determine which, if any, candidate variables offer true predictive value and to what extent.
- Phase III of this project will apply findings from Phase II to prescribe optimal pricing for each property.
- Phase IV, if possible, will prescribe what enhancements could be applied to a specific property, or alternatively, what properties have the highest potential for enhancement given the pricing potential of that property's market factors.

Internal Partners: Chief Data Officer of Greystar, Greystar Enterprise Services Data & Analytics technical team members, domain knowledge (subject matter experts to provide context + meaning to data)

Datasets: Greystar-provided lease and rental pricing data hosted in MSFT Azure, externally collected datasets (ie. housing market conditions, macroeconomic conditions, etc.)

Coding Languages: Statistical modeling languages (Python, SQL, MSFT Office, R)

Specific Skills

4. Statistical Analysis: Perform data fitting analysis (correlation, multivariable regression, time series, etc.), analyze variables (collinearity and multicollinearity variables), and model performance (goodness of fit, R^2, etc.)
5. Data Management & Analytics: Wrangling, joining, reshaping data (management) and exploring, processing and deriving valuable insights from data (analytics)
6. Data Visualization: Creating useful and interactive visualizations

Expected Technical Difficulty: **Intermediate**