Capstone Project 2: Project Proposal

Title: NYC short-term rental new listing price predictor

Business Problem:

- In this project, I aim to build a price machine-learning focused prediction model for short-term rental listings in NYC.
- The short-term rental market is highly competitive and dynamic pricing is very common. Having a reliable price estimator can give property owners an advantage in attracting renters and maximizing their earnings.
- Pricing is still a challenging task for the host as there is a need to consider a number of features and amenities that are competitive in the market.

Business Objective:

Who is your client and why do they care about this problem? In other words, what will your client do or decide based on your analysis?

- A start-up local to NYC is looking to develop a machine-learning model to estimate the optimal price for new listings on their platform.

Data:

What data are you using? How will you acquire the data

- Detailed Airbnb listings data for NYC, NY, 2022.
- Free download from InsideAirbnb.com

Methodology:

Briefly outline how you'll solve this problem. Your approach may change later, but this is a good first step to get you thinking about a method and solution

- Currently, Airbnb's website indicates the method for estimating prices is by reviewing the past 12 months of booking data from similar listings. They use information provided by the host about the listing as well as the exact location. They will then look at the top 50% similar listings in that area based on earnings to compare the hosts listing to.
- To predict an estimated price, I will focus on different factors (location, property type, amenities, number of bedrooms and baths, local market conditions and past rental data).
- I will assess which of these attributes has a significant impact on pricing.
- Build a model using regressive analysis.
- The price will be the dependent variable in this study.

Deliverables:

What are your deliverables?

- For this capstone, the deliverables will contain the complete project code along with the final report and presentation slides stored in a Github repository.