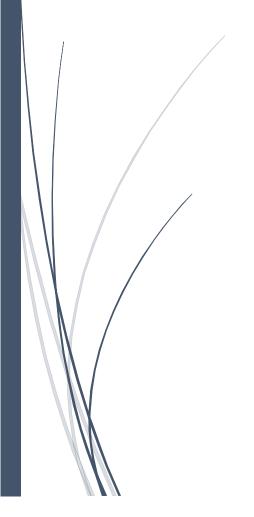
AIRBNB DYNAMIC PRICING RECOMMENDATIONS

An Exploratory and Predictive Analysis of Airbnb Listings



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Airbnb Dynamic Pricing Recommendation

Project Objective

To analyze historical Airbnb listing data and recommend optimal pricing based on location, seasonality, and listing quality.

Data Overview

- Source: Inside Airbnb Dataset
- Total Records: approx. [insert your number]
- Key Variables: room_type, price, number_of_reviews, neighbourhood_group, availability_365, etc.

Key Insights from Analysis

- Manhattan and Brooklyn are the most expensive neighbourhoods.
- Entire home/apt listings command the highest prices on average.
- Listings with more **positive reviews and high availability** tend to price higher.
- Price distribution is **right-skewed**; most listings are under \$500.

Predictive Modelling

- Used **Linear Regression** to model price based on predictors.
- **Significant Predictors**: Room type, reviews, location (lat/long), availability.
- Model Metrics:

o RMSE: 96.68

o R² Score: 0.27

Tableau Dashboard Highlights

- Interactive Filters: Room type, price range, neighbourhood.
- Visuals:
 - o Map showing price distribution by location
 - o Bar chart for avg price by neighbourhood
 - Scatter plot (Reviews vs Price)
 - Histogram for price spread

Insights

- Room Type Impact: Entire homes/apts have the highest average prices across NYC.
- Neighborhood Differences: Manhattan listings tend to be priced highest.

- Reviews vs Price: Popular listings (higher reviews) aren't always the most expensive.
- *Price Distribution*: Most listings are priced under \$200, suggesting a sweet spot for competitiveness.

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Recommendations

- For **premium pricing**, list properties in **central areas** like Manhattan.
- Choose "Entire home/apt" for higher revenue potential.
- Maintain high availability and encourage guest reviews to justify pricing.
- Dynamic pricing can be based on review count + location + seasonality.
- Set prices between \$100–\$200 to attract more bookings while staying profitable.
- If listing in Manhattan, consider slightly premium pricing due to demand.
- Improve review count and quality to enhance listing appeal.
- Adjust prices seasonally and monitor competition using tools like this dashboard.

Conclusion

• This engine provides dynamic pricing recommendations based on historical trends and listing features. Future improvements may include seasonal timeseries forecasting and sentiment analysis from reviews.