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# AIRBNB PRICE PREDICTION.



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# RECAP

**Overview:** What triggers the Airbnb rental price?

**Solution:** Analyse the factors that influence the rental price and develop models that captures the complexity of the pricing system.

**Impact:** Provides interesting insights that can benefit a host looking to maximize their profit.

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# DATASET AND PREPROCESSING.

## Dataset:

- Comprises information on Airbnb listings in USA with **74111 rows** and **29 columns**

## Preprocessing:

- **Data cleaning:** Almost clean !
- **Scaling:** Scale numerical features to similar range.
- **Encoding:** Label encoding.
- **Feature selection** : Identify the key features that are likely to influence.

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# IMPORTANT FINDINGS IN EDA.

- **Data Distribution:** Normal distribution.
- **Data Quality:** Missing values and outliers were handled appropriately.
- **Patterns and trends:** To understand underlying relationships and phenomena of data through visualization.
- **Correlation:** Analyze multicollinearity.
- **Feature importance:** Determining which features are most relevant for the target variable through visual inspection.

# BASELINE MODEL AND EVALUATION METRICS.

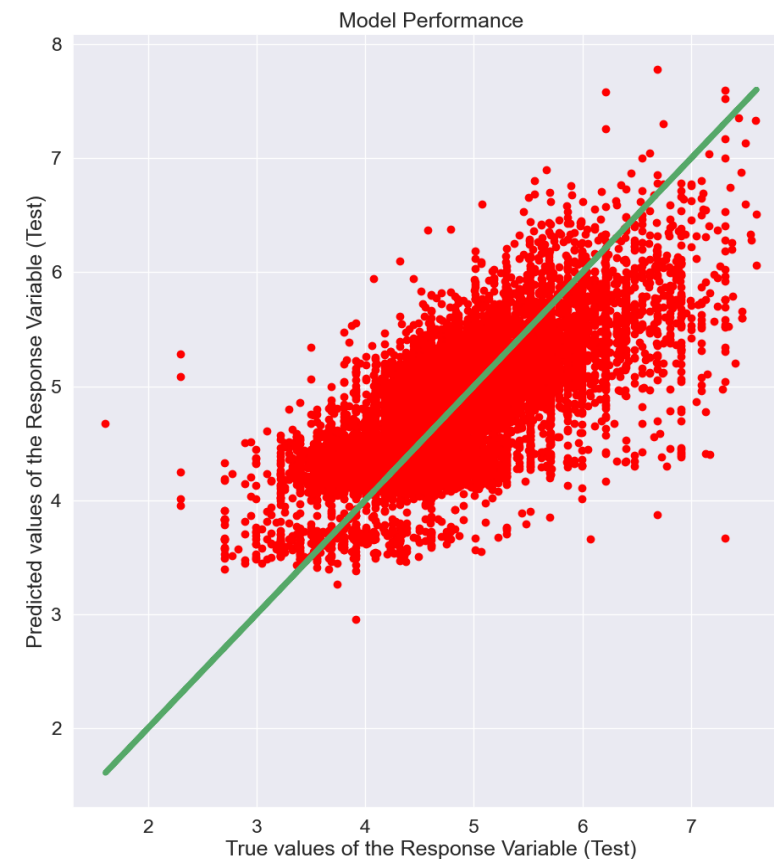
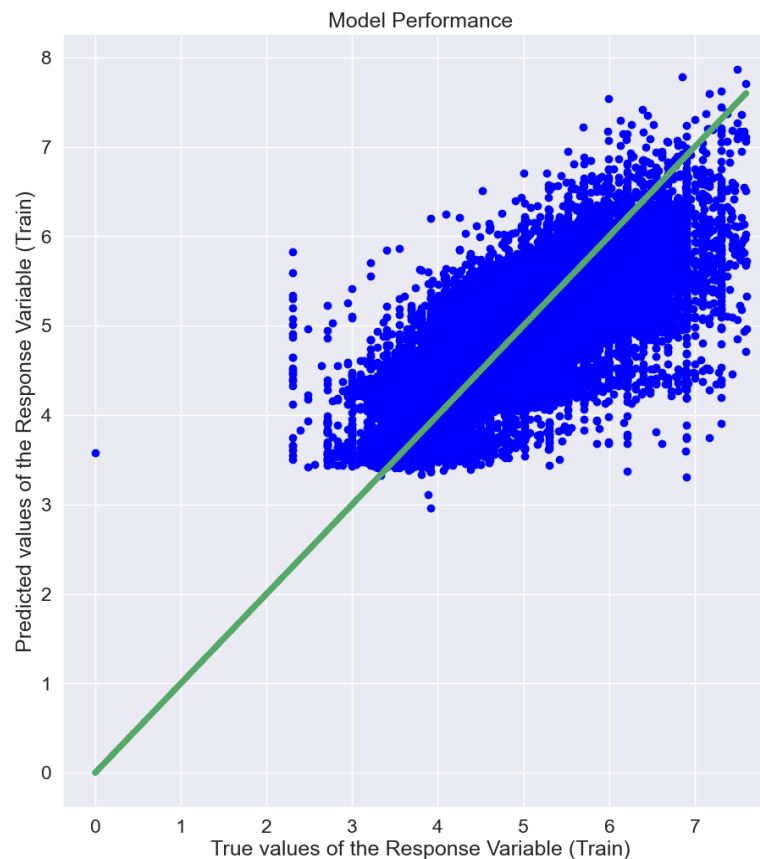
Baseline Model : **Linear  
Regression**

Mean Absolute Error (MAE): **0.36**

Mean Squared Error (MSE): **0.23**

Root Mean Squared Error  
(RMSE): **0.48**

R-squared (R<sup>2</sup>) Score: **0.54**



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# WHAT NEXT ?

- Random Forest Regression : Bootstrap Aggregation
- Neural Networks : Multilayered Neural Network With L1 Regularization

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**THANK  
YOU!**

**ANY QUESTIONS?**

