

Hotel Room Price Predictor for the Ministry Of Tourism

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The Fatma

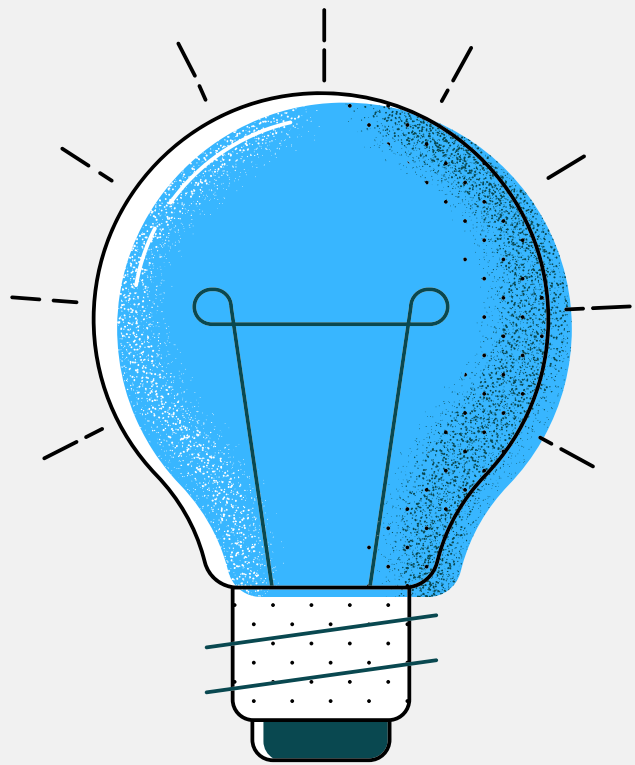


Story Time



Motivation!

The Ministry of Tourism needs to understand the fluctuation in hotel room prices on and off the tourist season in the kingdom

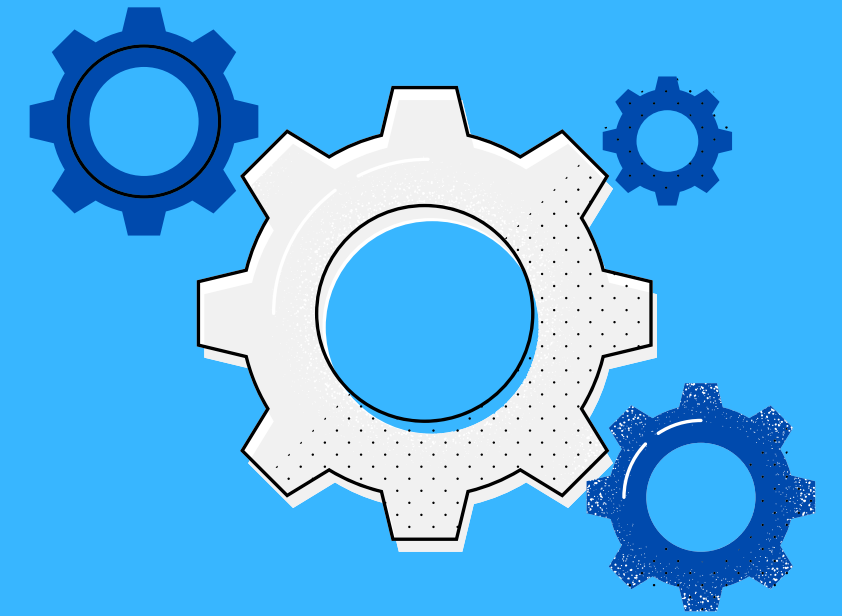


Why?

To regulate prices and make it competitive with the top countries attracting tourists around the world

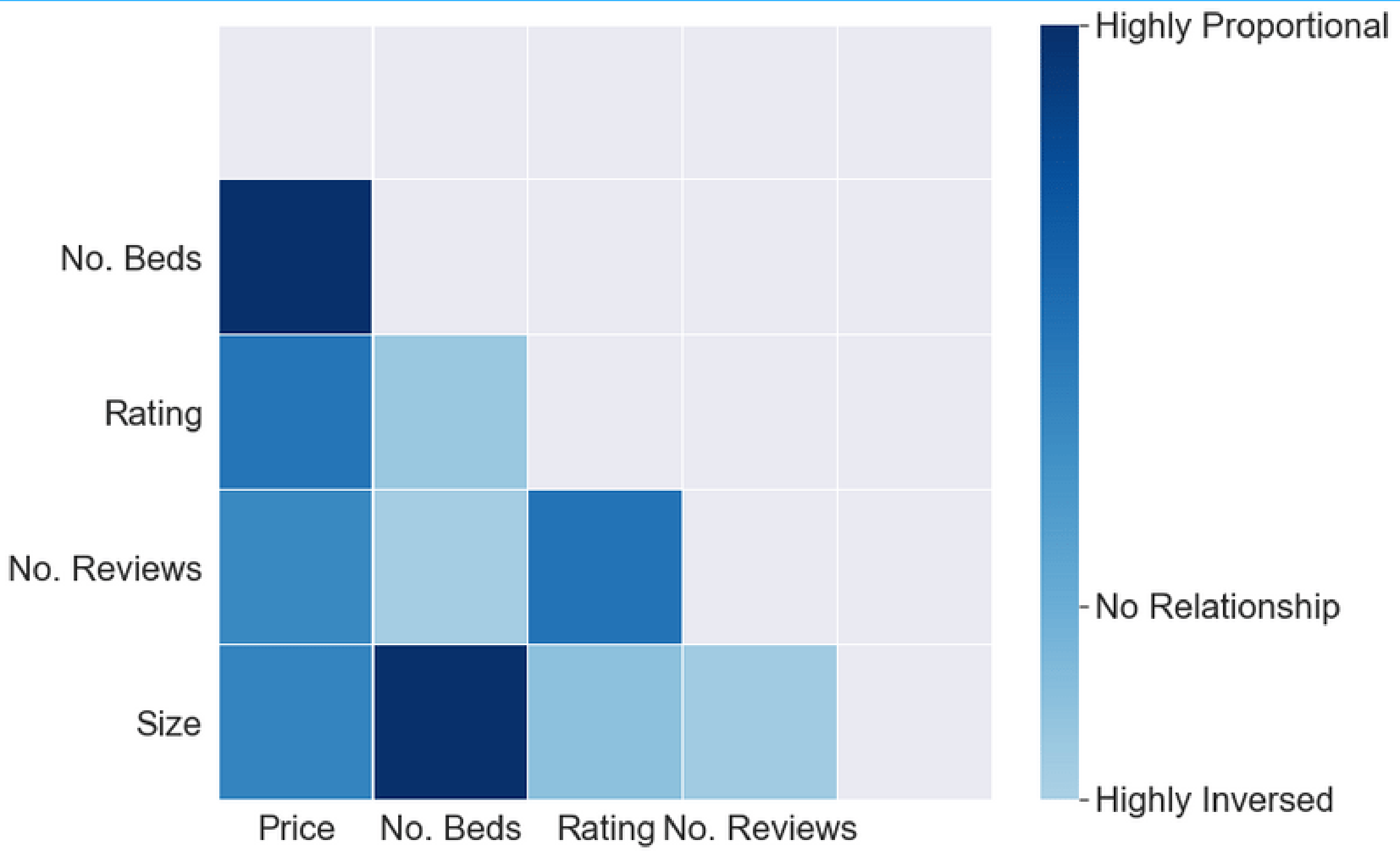
Data

Using Booking.com the following features were scraped resulting in having 1075 observations:

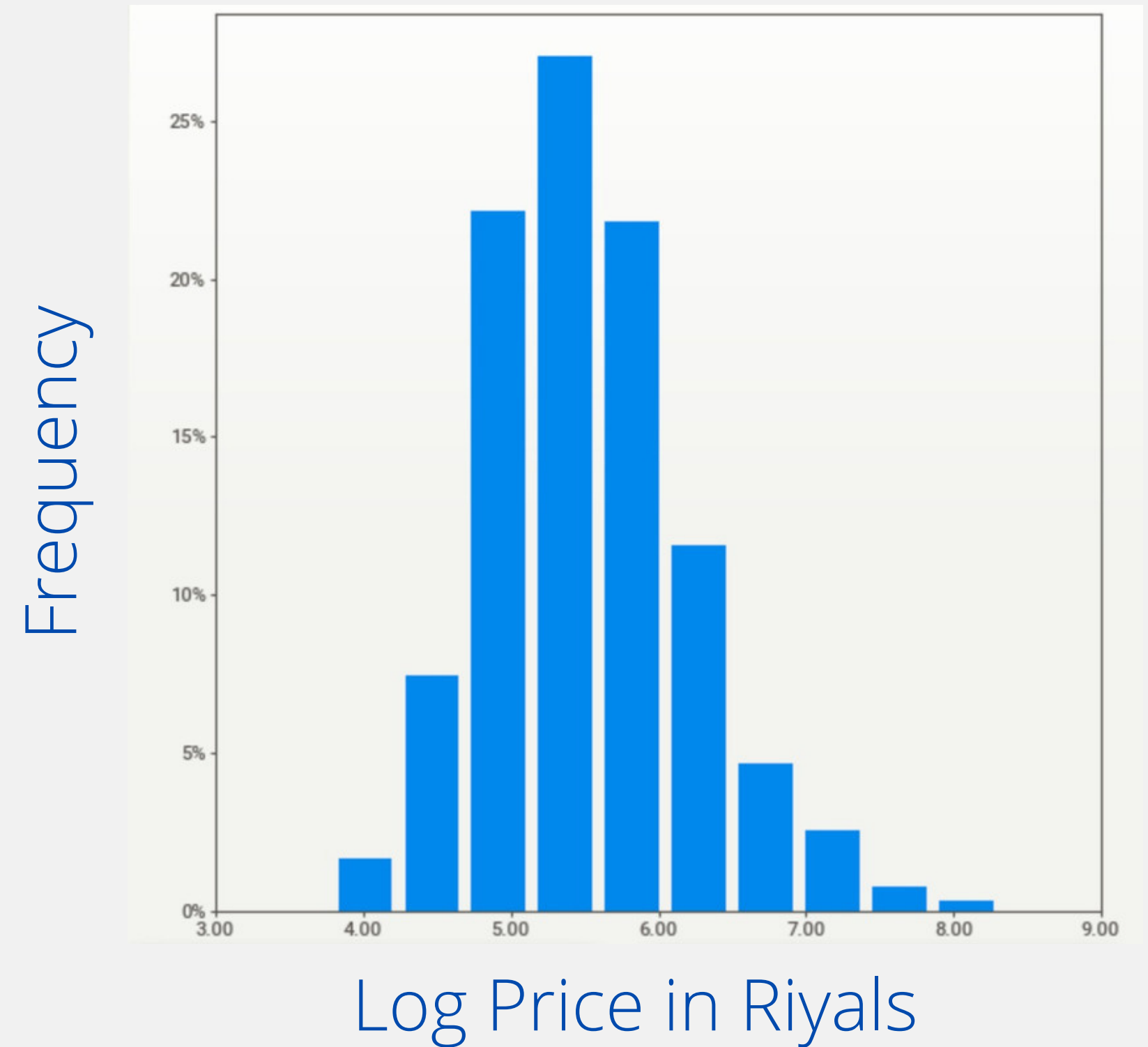
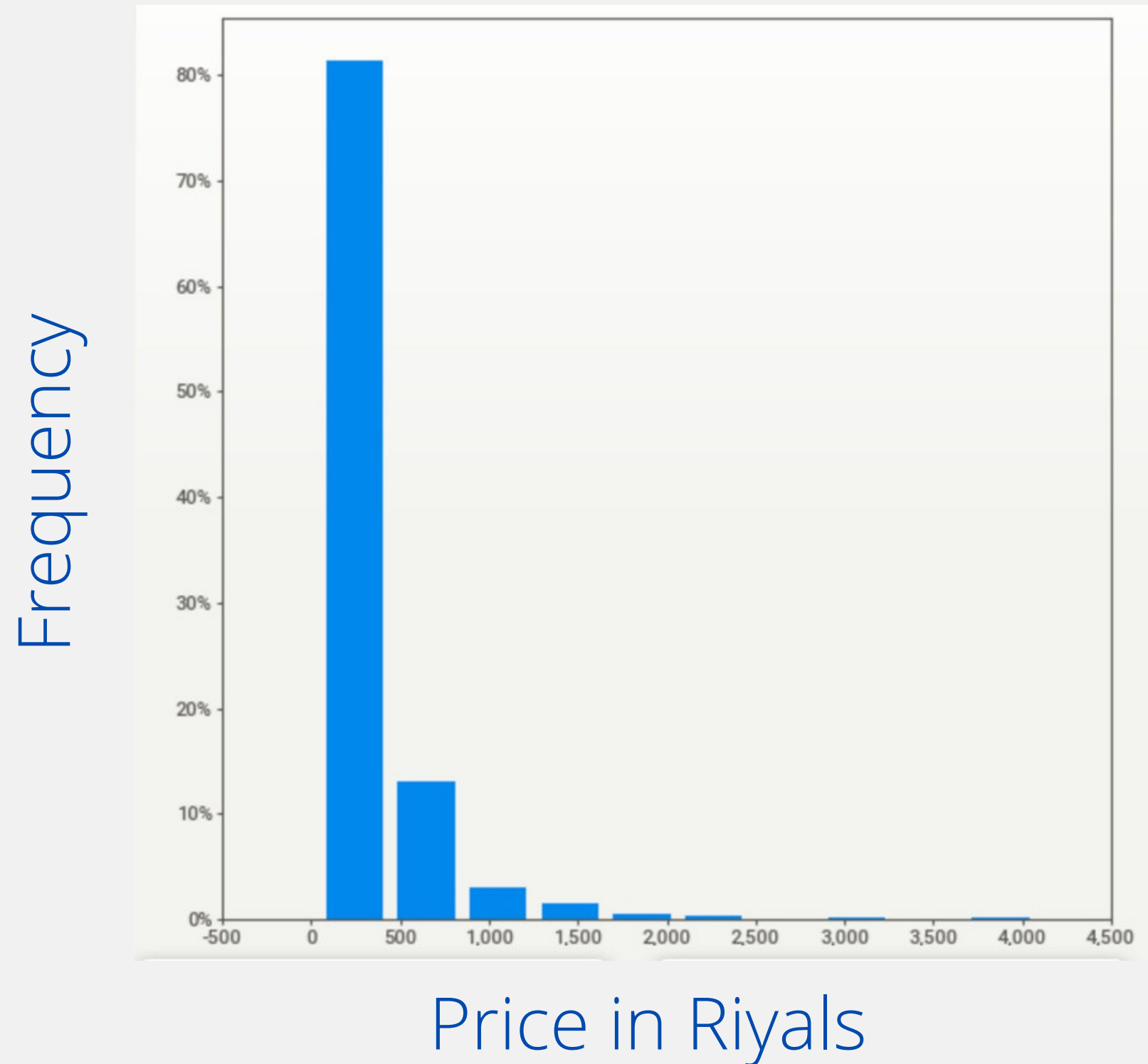


- | | |
|---------------|----------------------|
| 1. Hotel Name | 6. Number of Beds |
| 2. Location | 7. Hotel Rating |
| 3. Room Type | 8. Rating Title |
| 4. Price | 9. Number of Reviews |
| 5. Price for | 10. Room Size |

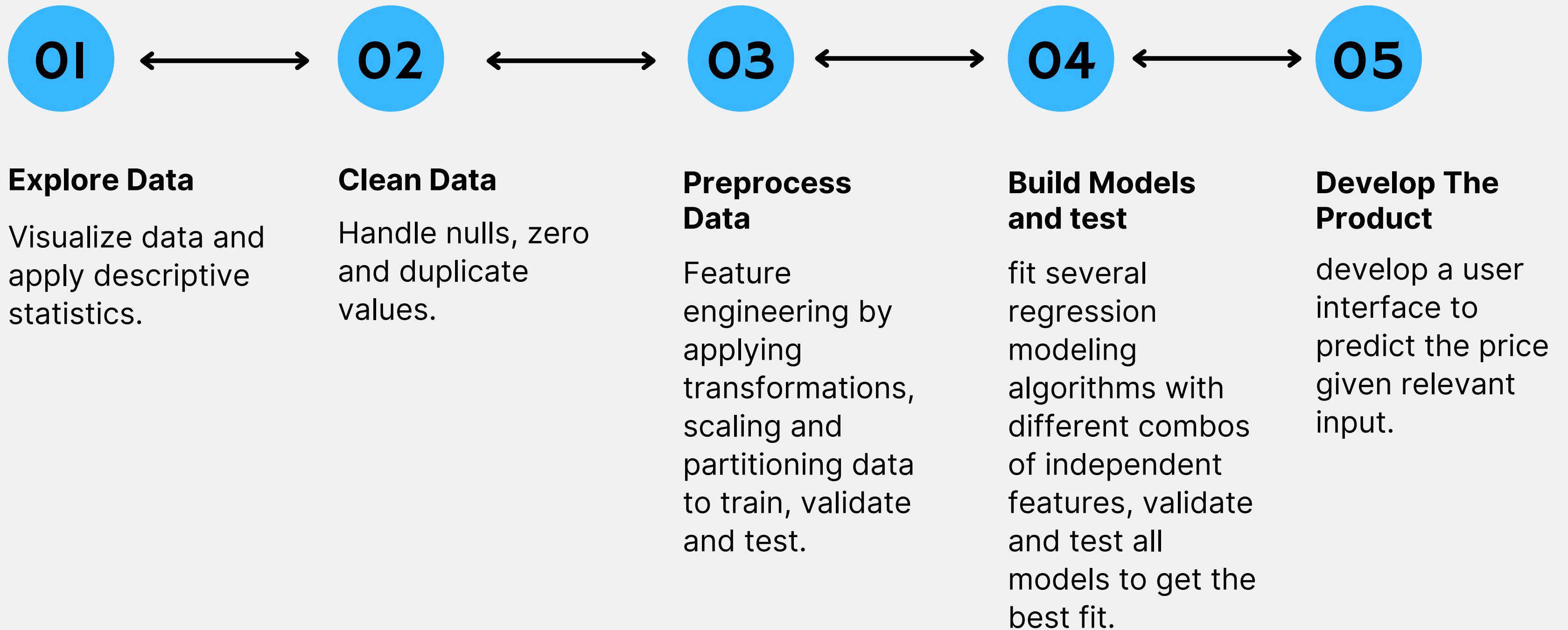
Relationships between features



Normalizing the Price Feature



Methodology



Results of Models

Linear

91.61% Accurate

Polynomial

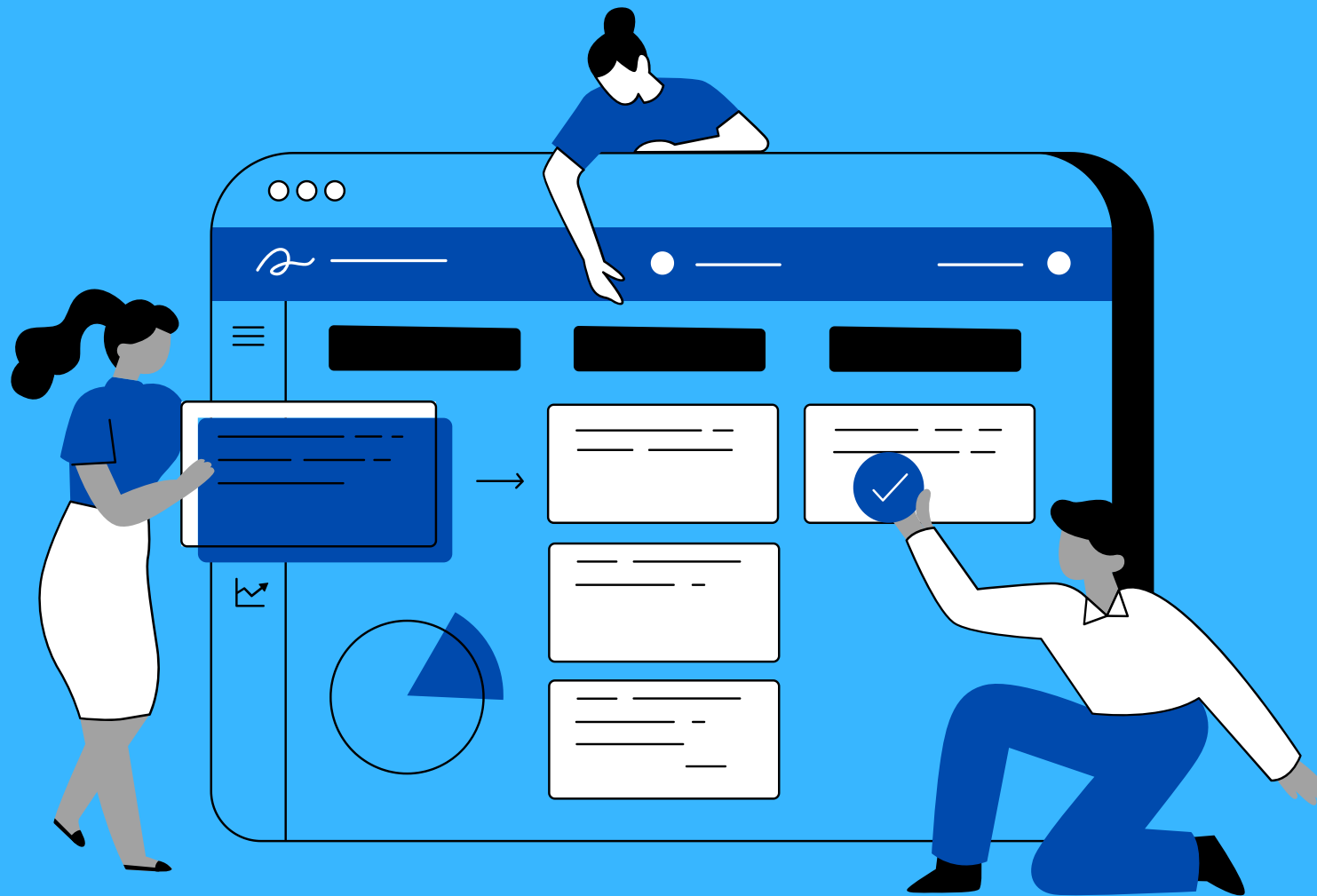
93.40% Accurate

**Gradient
Booster**

92.75% Accurate

**Random
Forest**

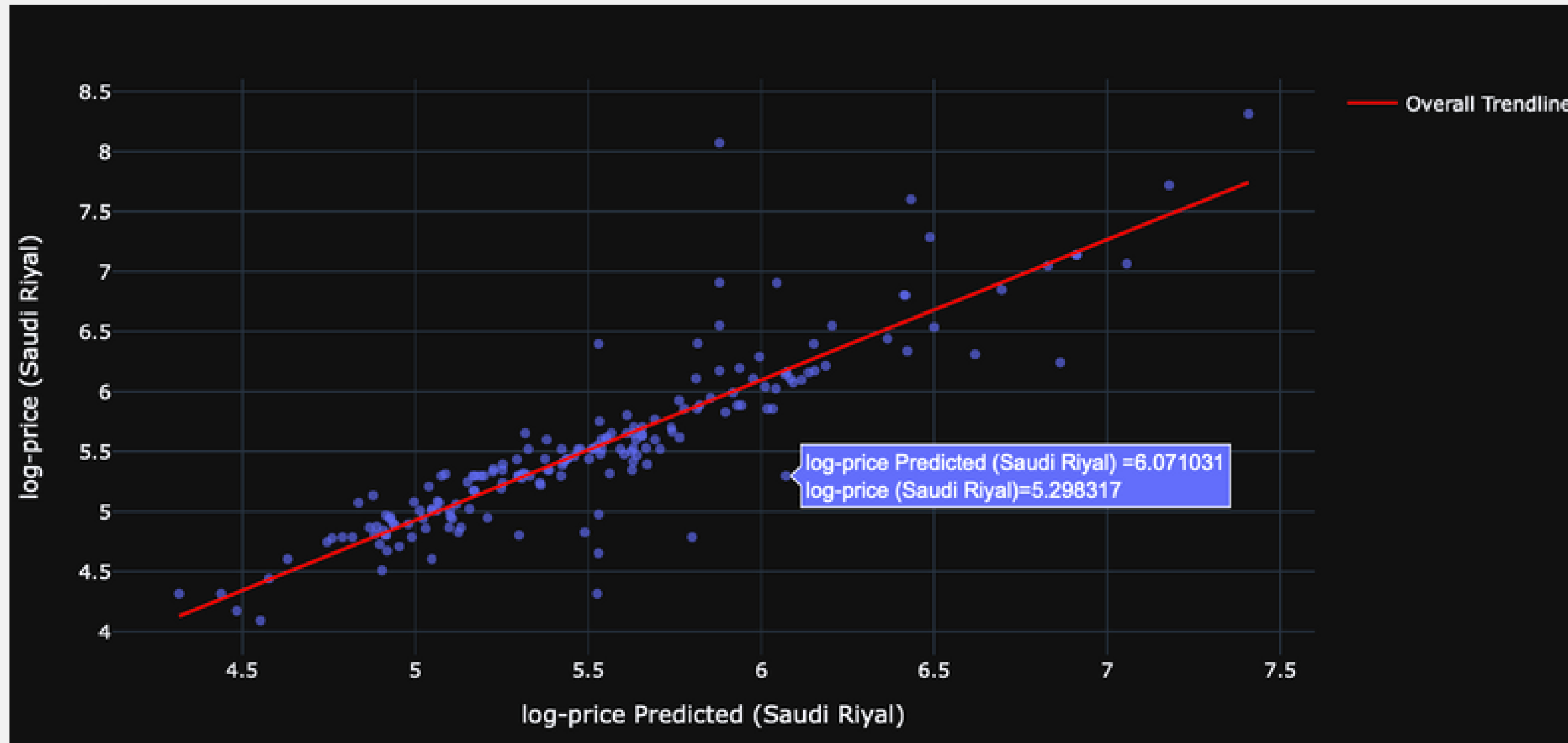
96% Accurate



Best Model

Random Forest Regressor:

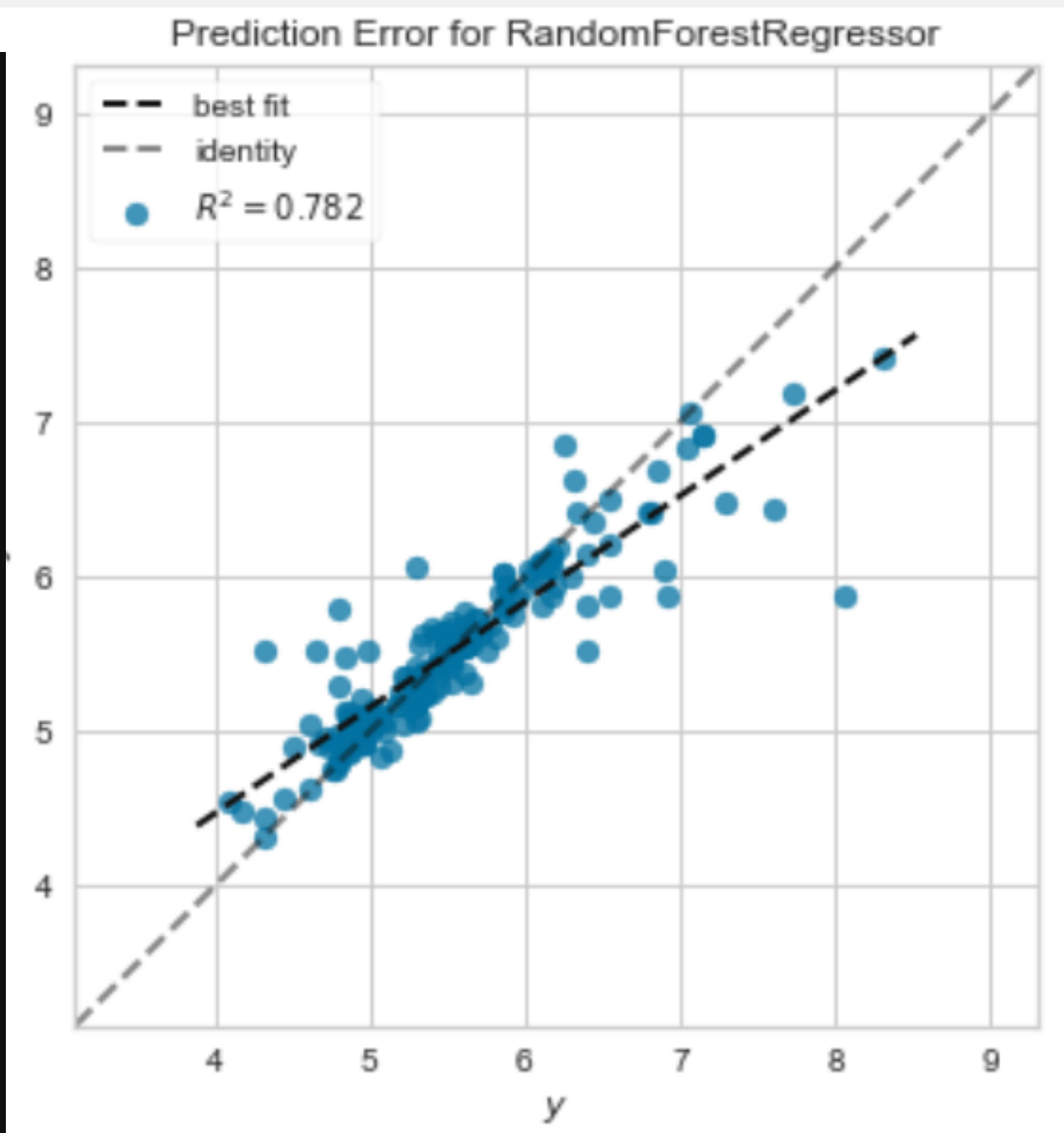
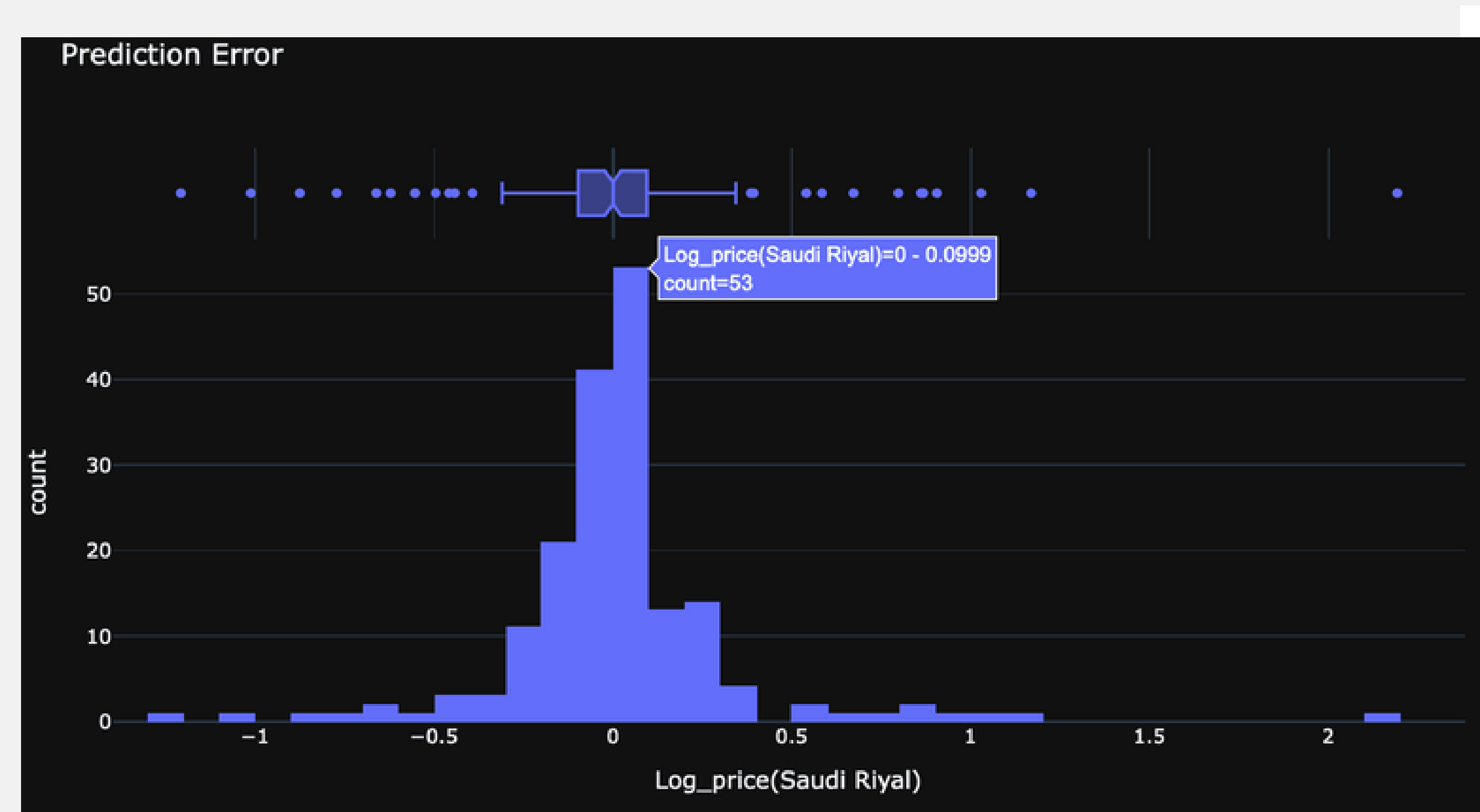
- Evaluate our model performance.
- Achieving 96% accuracy
- The mean absolute error (MAE) is 0.1974 degrees.



Best Model

Random Forest Regressor Residuals:

- Prediction of errors.
- Explore the residuals to make sure everything was fine with our data.
- RF should have gotten a very good model with a good fit.



The Demo

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☰

Welcome To T5 🌟

Dynamic Price Prediction

- This app predicts the Booking.com Prices!
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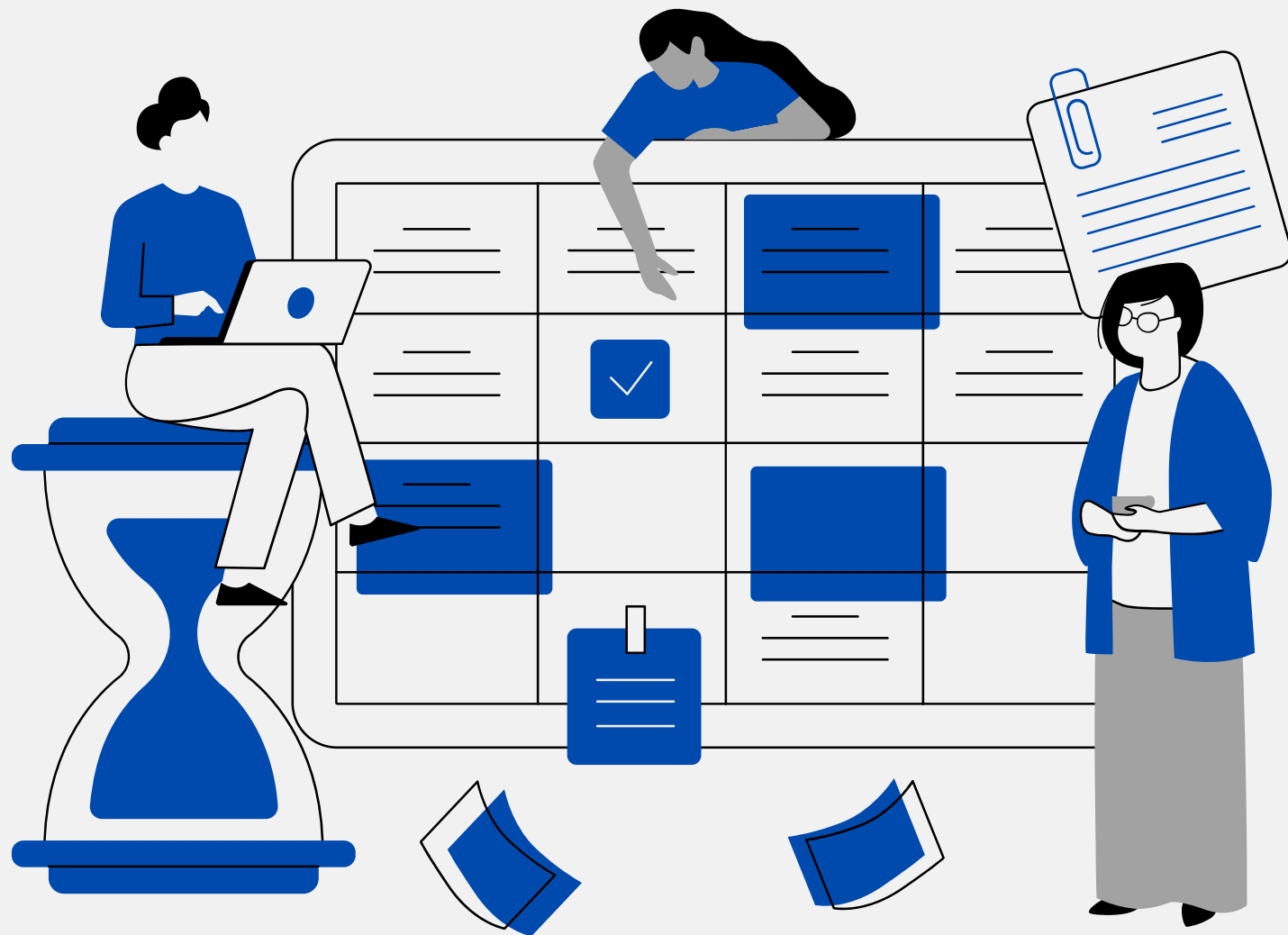
Predicted Price (Saudi Riyal) 🟠

	0
0	481.4000

Feature Importance

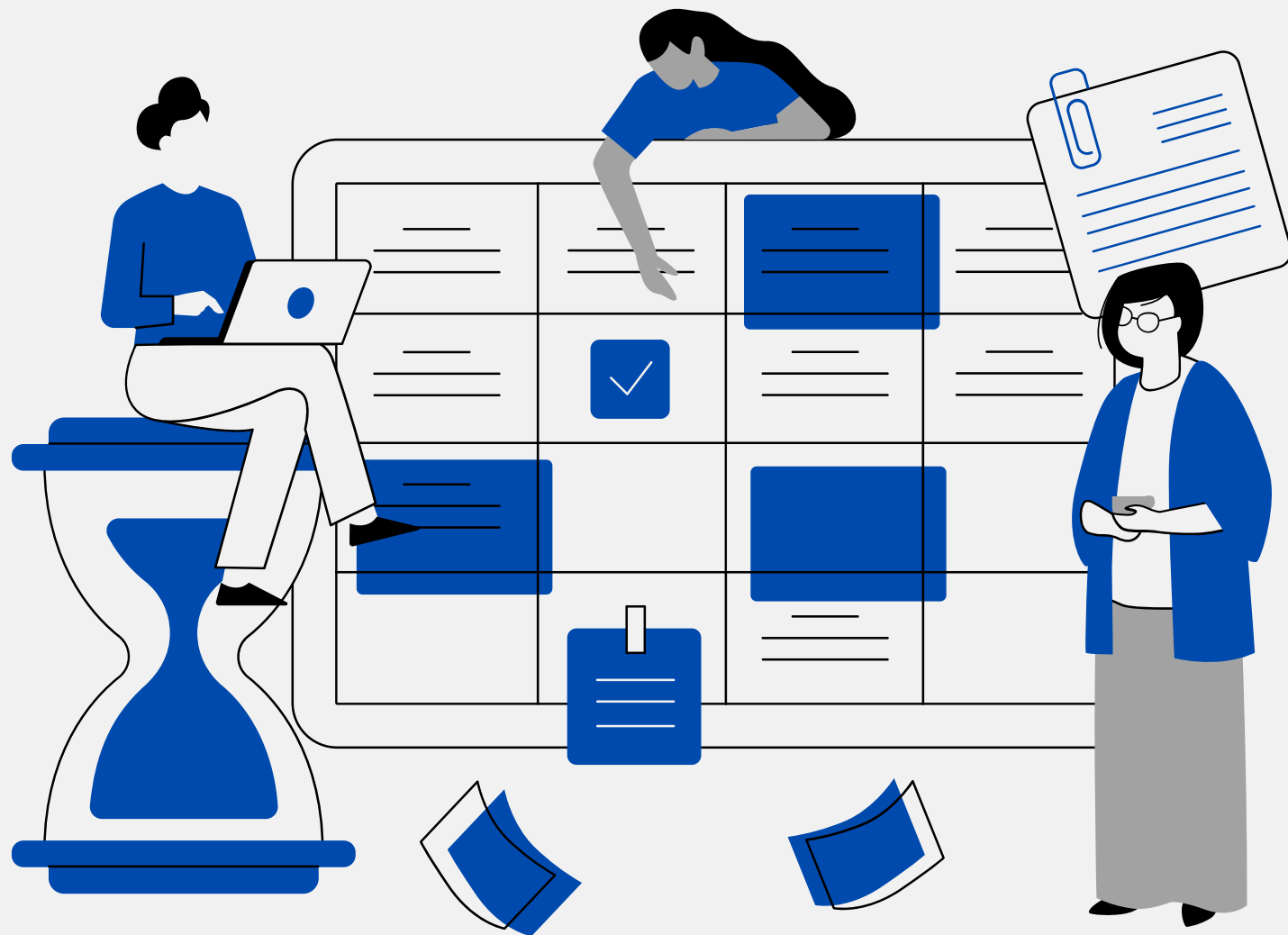
Conclusion

- **Model building is iterative over time, to increase the accuracy its a must**
- **The ministry should handle false information about the rooms on online travel agencies platforms**

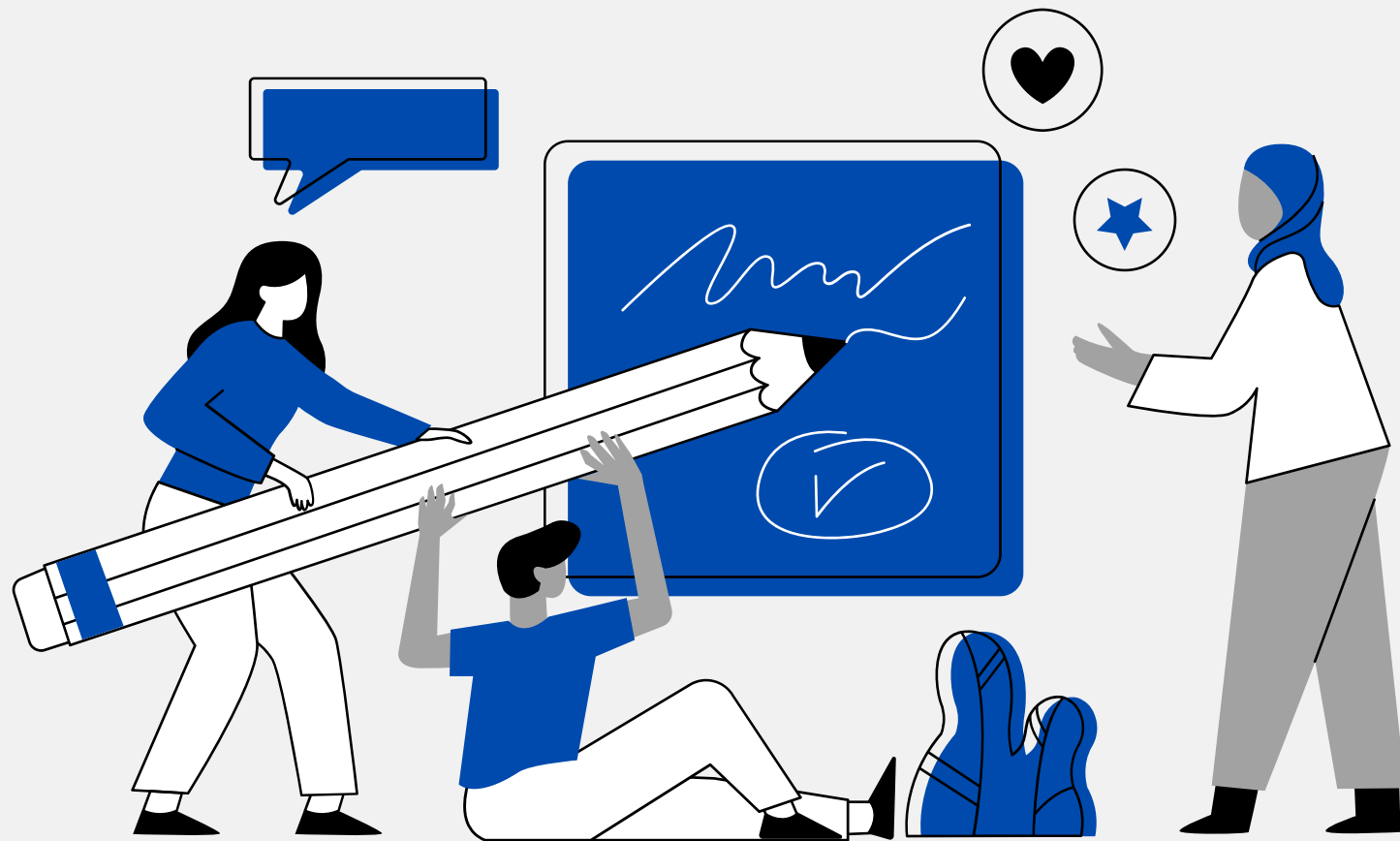


Future Work

- **Increase the accuracy of the model by adding more relevant variables**
- **Develop a better user experience**
- **Factor in seasonality**
- **Adding more data from other online travel agencies platforms**



Thank You For Listening.



Do you have any questions?