NYC Taxi Fare Prediction— Model Evaluation Report

Automatidata • NYC Taxi Analytics Project

ISSUE / PROBLEM

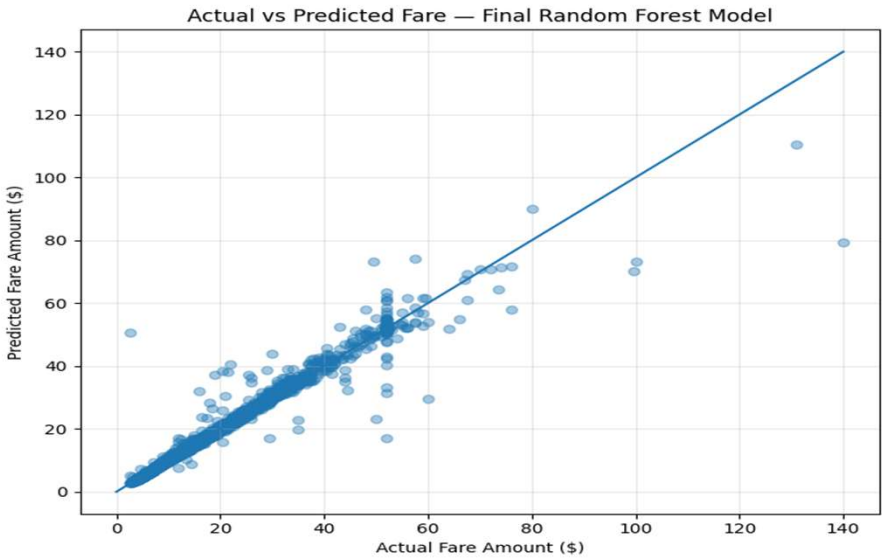
- The final model must be evaluated to confirm that strong training performance translates to **reliable predictions on unseen data**.
- Evaluation focuses on error magnitude, consistency, and real-world usability rather than statistical significance alone.

RESPONSE

- The final Random Forest model was evaluated using **MAE, RMSE, and R^2** on the held-out test set.
- Results were compared against the baseline configuration to confirm improved accuracy and generalization.
- Evaluation was performed strictly on unseen data to avoid information leakage.

KEY INSIGHTS

- The model achieved **low MAE**, indicating accurate fare predictions in dollar terms.
- RMSE remained controlled, showing robustness against larger fare deviations.
- High R^2 confirms the model explains most variance in fare amounts on new data.
- Performance remained stable across different fare ranges.



IMPACT

- The evaluation confirms that the final model delivers **consistent and dependable fare estimates** suitable for production use.
- Low prediction error supports rider-facing applications where pricing transparency is critical.
- Overall, the model balances accuracy, stability, and scalability for real-world deployment.