

Predicting Customer Holiday Booking Behaviour

- Objective

Predict whether a customer will complete a holiday booking using historical booking data.

- Approach

Data cleaning & feature encoding

Random Forest Classifier

Class imbalance handled

5-fold stratified cross-validation

- Key Results

Accuracy: **85.25%**

Balanced Accuracy: **53.68%**

Stable performance across folds

- Top Booking Drivers

Purchase lead time, Route, Booking origin,

Flight hour, Length of stay

- Business Impact

Enables early identification of high-intent customers

Supports proactive and targeted marketing

Improves customer acquisition before travel

