AI-DRIVEN INSIGHTS INTO BOOKING BEHAVIOUR

EXECUTIVE SUMMARY

- 🎯 **Objective:** Predict whether a customer will complete a booking
- 📊 **Model Used:** Random Forest
- ✅ **Accuracy:** 85%
- ⚠️ **Key Insight:** Model struggles with booking predictions (1 class)

MODEL PERFORMANCE

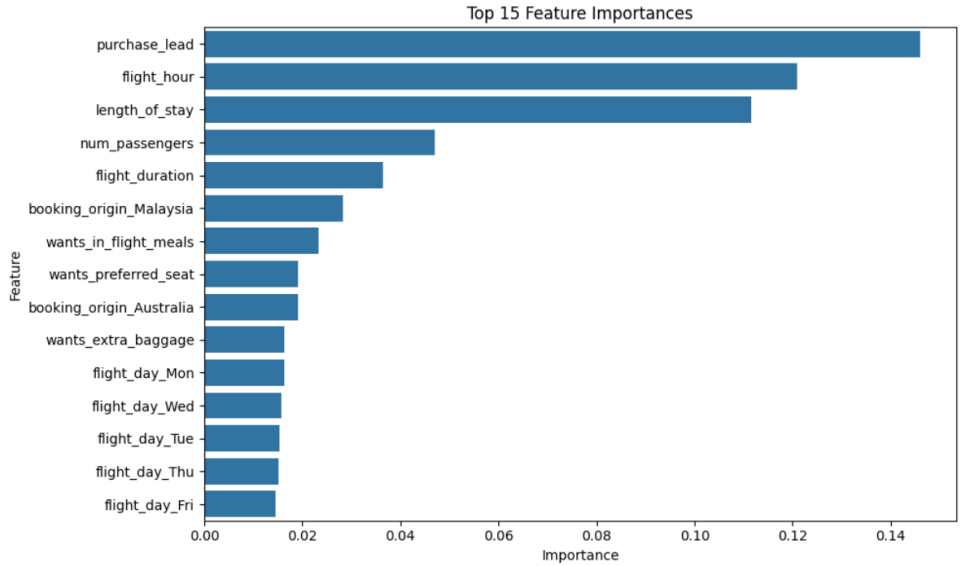
Metric	Class 0 (No Booking)	Class 1 (Booking)
Precision	0.87	0.53
Recall	0.98	0.13
F1-score	0.92	0.21

- 🧠 **Model is biased toward predicting "no booking"**
- ⚠️ **Low recall (13%) for bookings** → many actual bookings not identified

🔍 KEY DRIVERS OF BOOKING PREDICTIONS

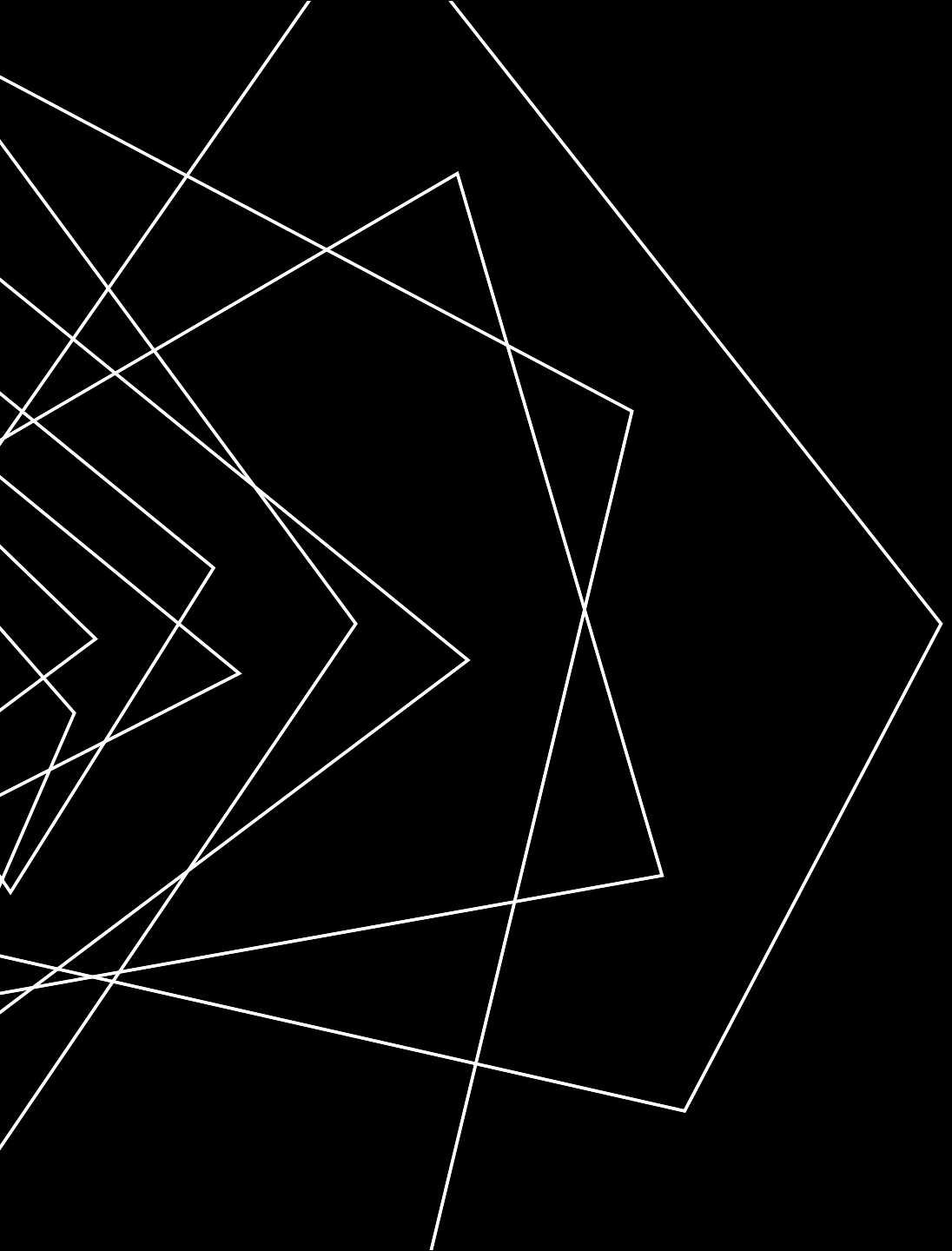
Content:

- Top features from Random Forest importance:
  - purchase_lead
  - wants_preferred_seat
  - booking_origin
  - sales_channel
  - flight_hour



NEXT STEPS & IMPROVEMENTS

- ✅ **Resample data** to address class imbalance (e.g., SMOTE, class weights)
- 🔁 **Tune model hyperparameters** or try alternative models (e.g., XGBoost)
- 🎯 **Focus on improving recall** for the minority class
- 📈 **Use business knowledge** to engineer better features (e.g., customer loyalty, recent searches)



THANK YOU