

HOTEL BOOKING CANCELLATION PREDICTION

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TABLE OF CONTENTS

01

BUSINESS
PROBLEM

02

DATA
UNDERSTANDING

03

DATA
PREPARATION

04

MODELING

05

EVALUATION

06

RECOMMENDATIONS

07

FUTURE STEPS



BUSINESS PROBLEM

Hotel cancellations have risen to an average of 40% of overall bookings.

Goal: Accurately predict hotel booking cancellations

- Build a predictive model to forecast cancellations.
- Analyze key factors influencing cancellations
- Implement strategies to reduce cancellation rates.

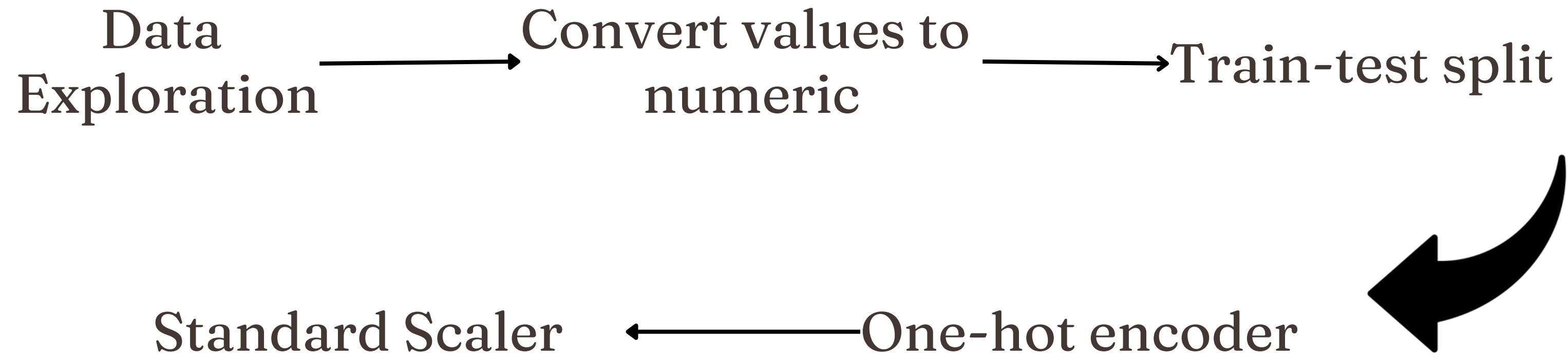


DATA UNDERSTANDING

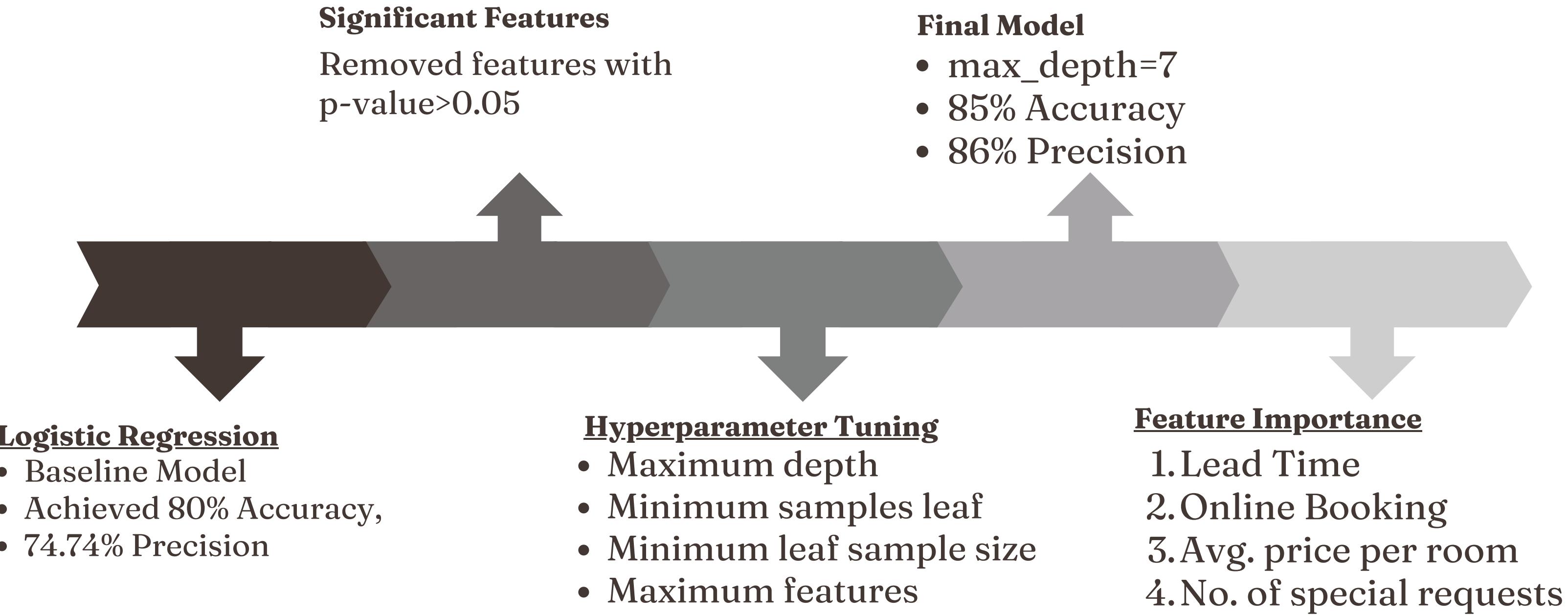
Hotel Dataset

- 36275 hotel bookings.
- Includes 18 unique attributes of the customer reservation details.
- Booking Status is our target column.

DATA PREPARATION



MODELING PROCESS



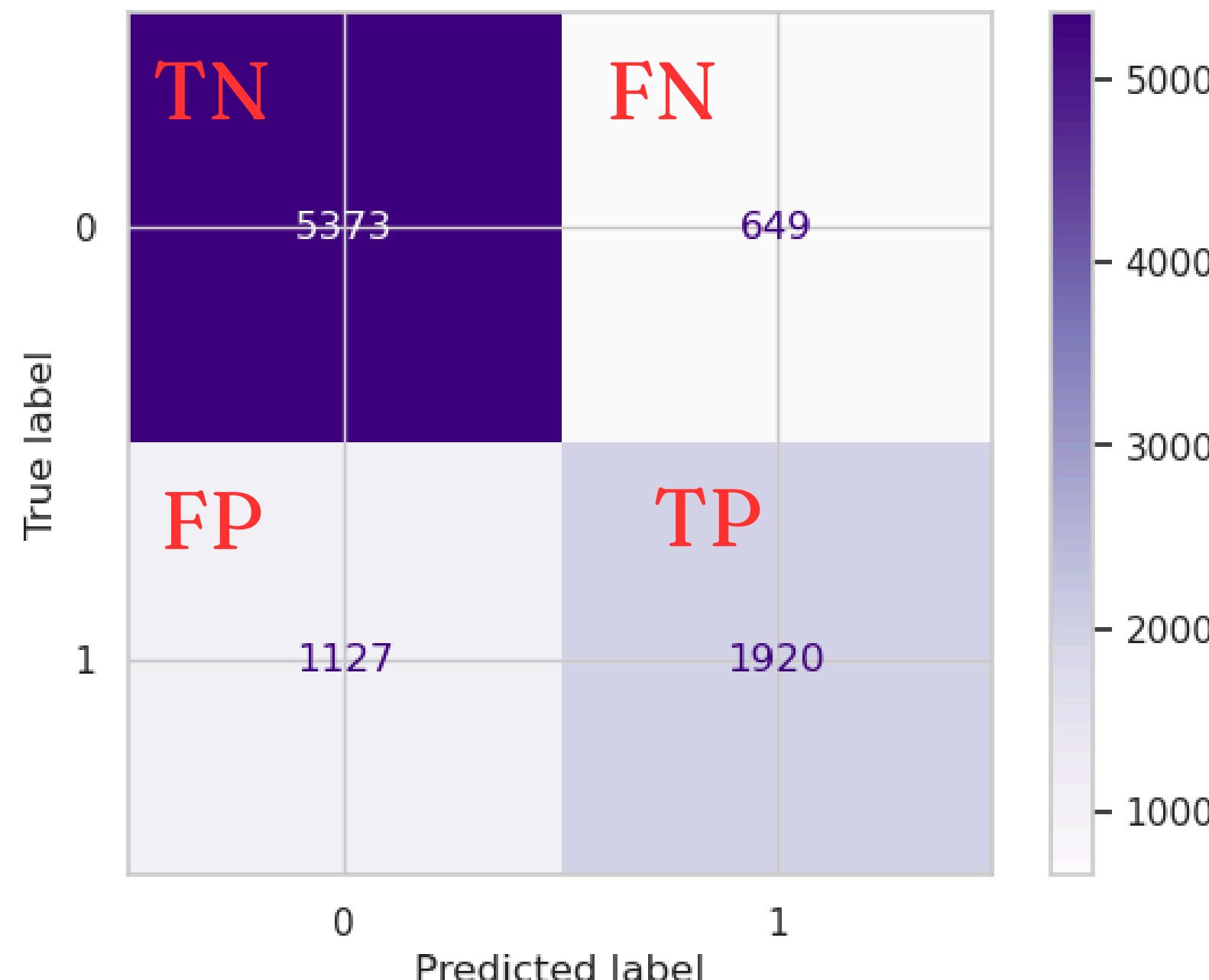
EVALUATION

80%
ACCURACY

75%
PRECISION

0.76
AUC

BASELINE - LOGISTIC REGRESSION



649

retained bookings that were predicted to cancel

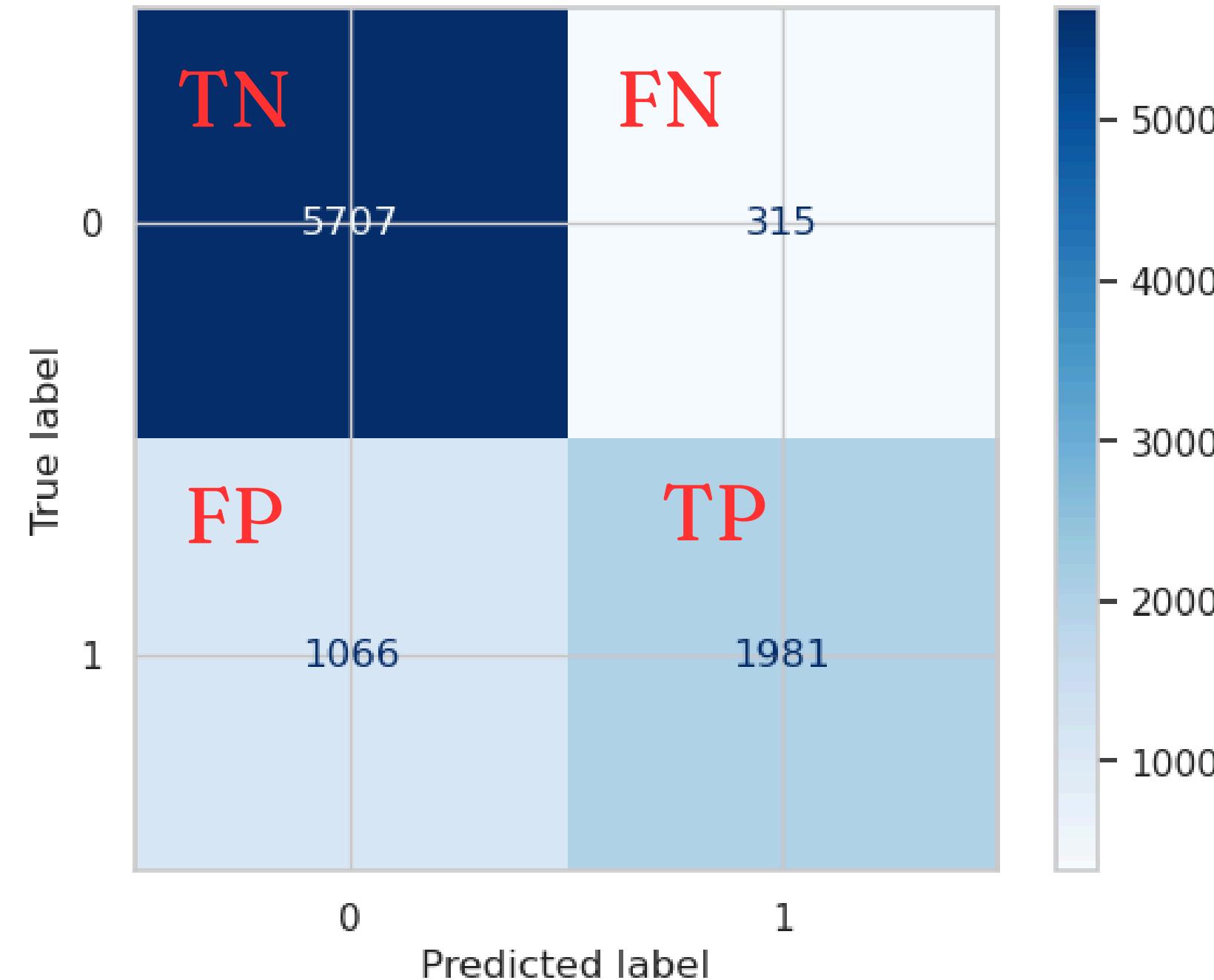
EVALUATION

85% ACCURACY

86% PRECISION

0.8 AUC

DECISION TREE



315

retained bookings that were predicted to cancel

RECOMMENDATIONS

1. Lead time - Longer lead times increase cancellation risk. Consider policy adjustments/early confirmation incentives.
2. Dynamic pricing - Adjust room rates based on cancellation likelihood.
3. Monitor market segments - Tailor strategies to each segment.
4. Loyalty program - offer incentives for booking retention.





NEXT STEPS

1. Experiment with other ML models to try and improve performance.
2. Gather recent data.
3. Investigate further the top factors of cancellations.
4. Incorporate additional features in the data like weather and reputation.

THANKS!

Do you have any questions?
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