CUSTOMER SATISFACTION FOR INVISTICO AIRLINES

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01.

INTRODUCTION

PROBLEM STATEMENT

Predicting customer satisfaction based on their ratings

DATASET OVERVIEW

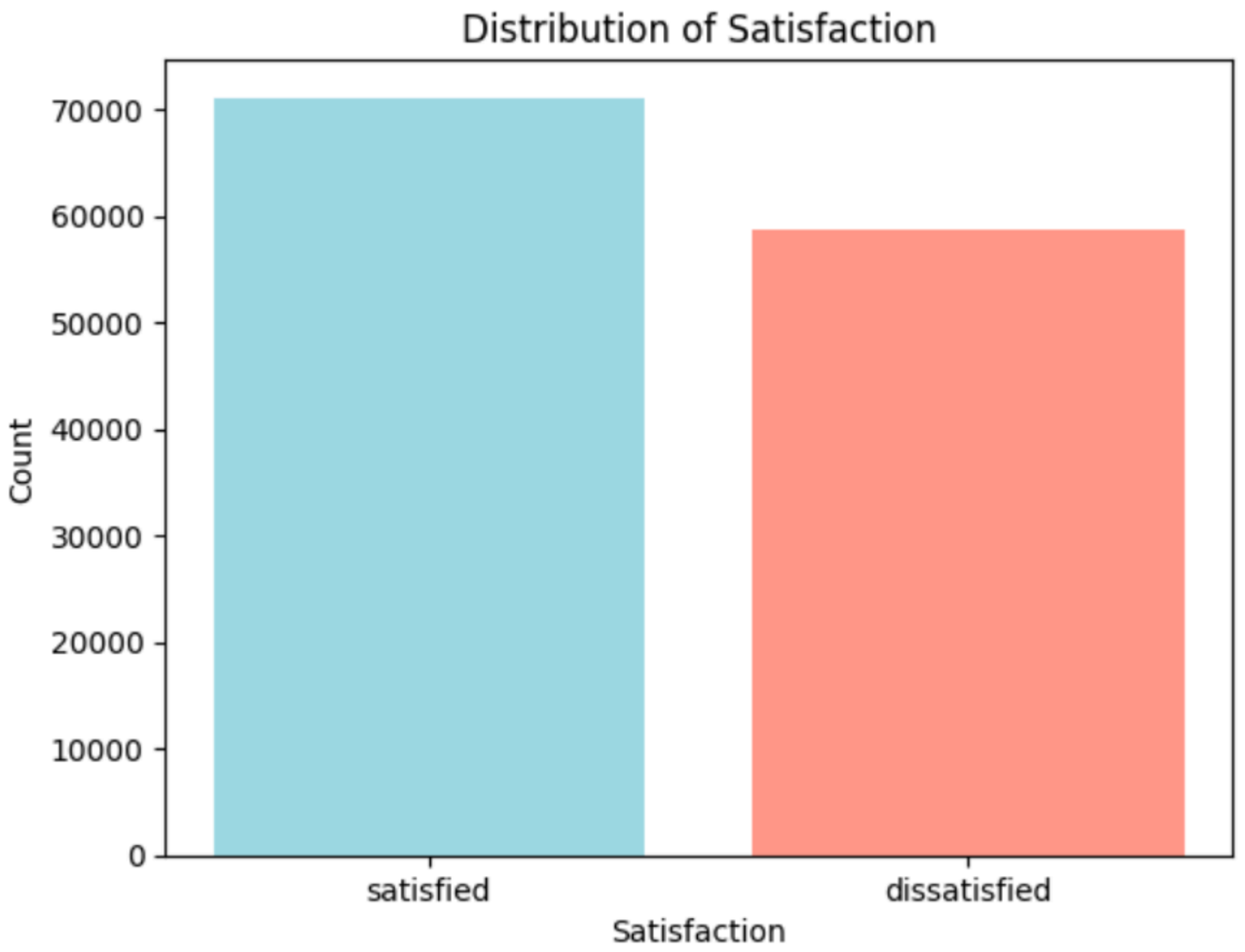
Target Variable: ***'satisfaction'***
21 predictor variables

02.

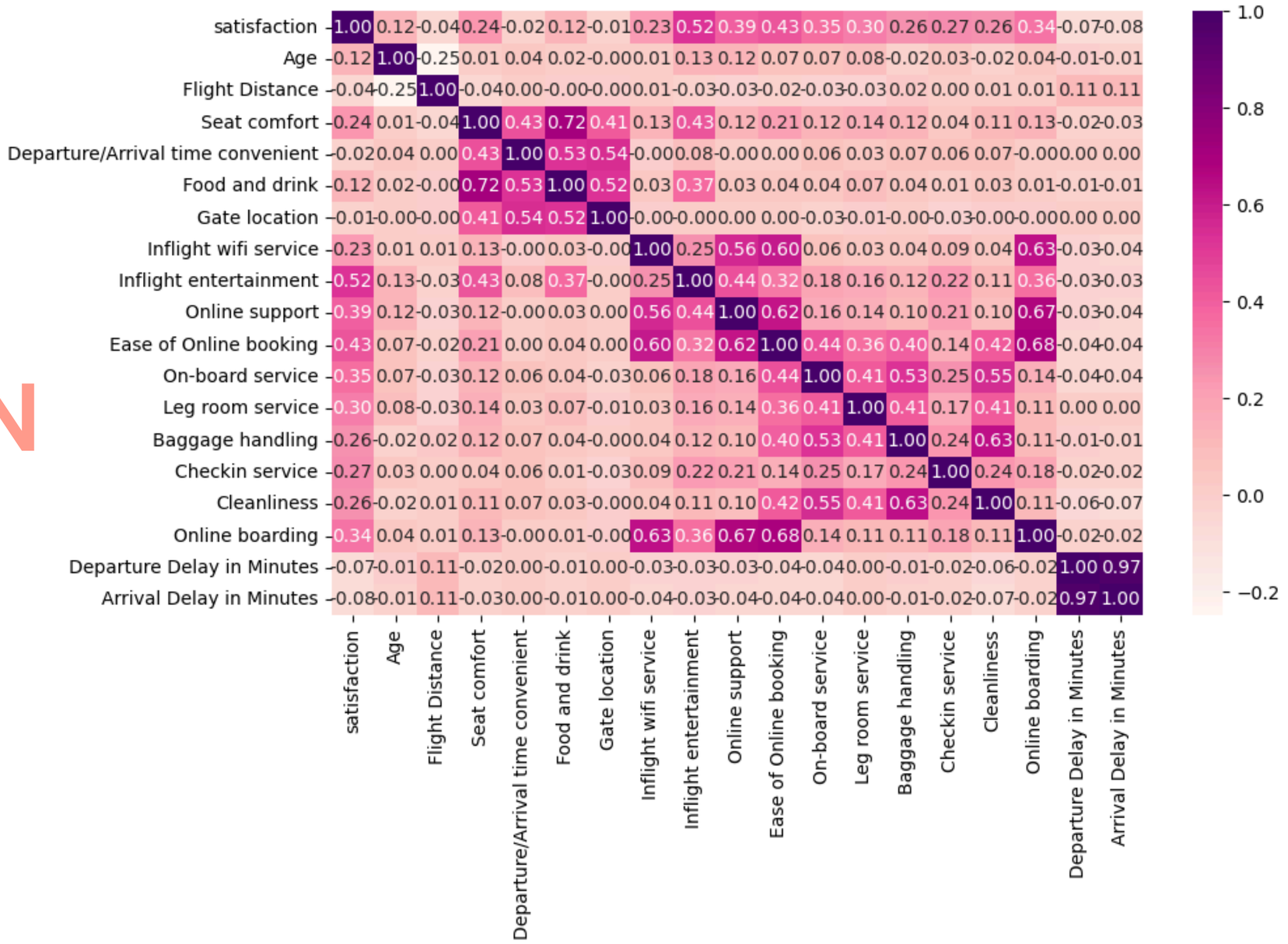
DATA EXPLORATION

TARGET DISTRIBUTION

~ 45%



CORRELATION MATRIX



03.

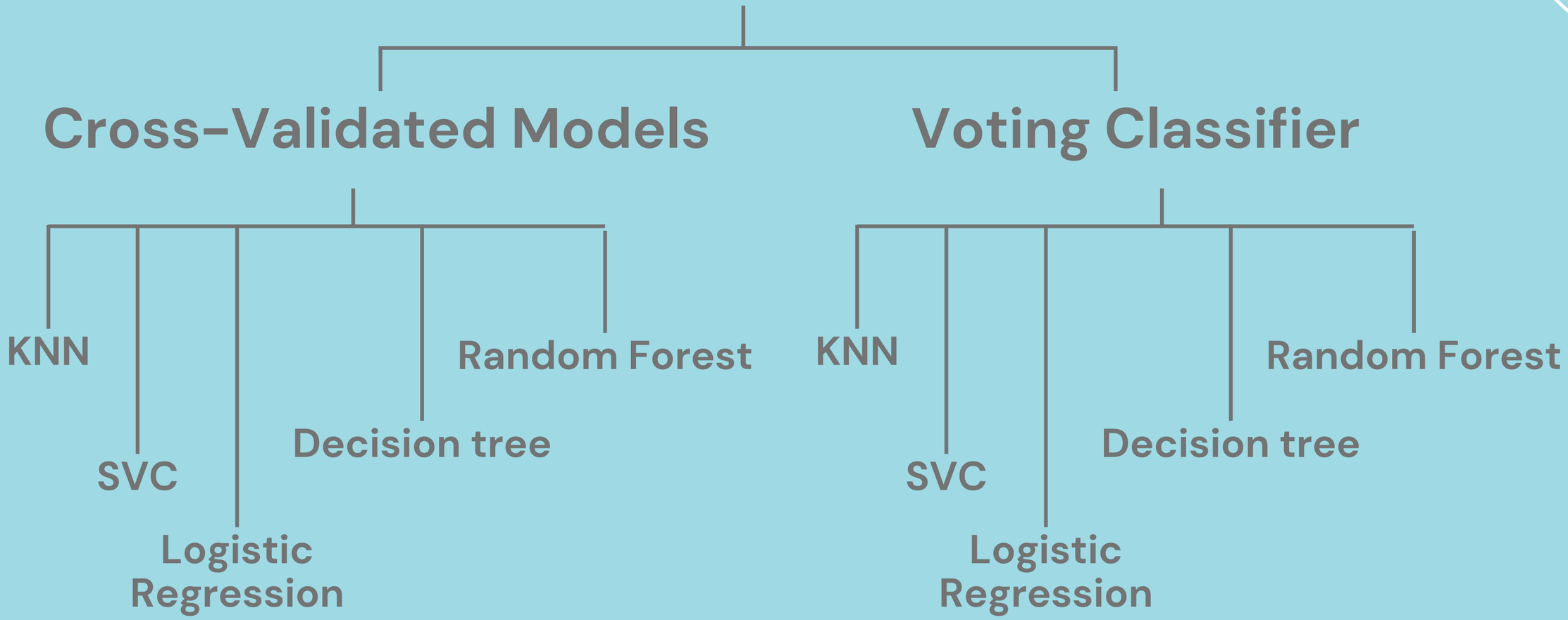
ANALYSIS

FEATURE SELECTION

SELECT K BEST → RECURSIVE → SEQUENTIAL

19 18 13

MODEL SELECTION



MODEL PERFORMANCE

Cross-Validated Results

	Model	Accuracy	Balanced Accuracy	Precision	Recall	ROC AUC Score
0	Logistic Reg	0.797546	0.794725	0.808469	0.825047	0.873121
1	K Neighbors	0.913962	0.91419	0.929494	0.911734	0.965814
2	SVC	0.924443	0.924302	0.935283	0.925822	0.977488
3	Decision Tree	0.913602	0.912749	0.920157	0.921915	0.913936
4	Random Forest	0.934822	0.93541	0.950539	0.929091	0.983887

MODEL PERFORMANCE

Voting Classifier Results

Model	Accuracy
Logistic Regression	0.7929
K-Neighbors	0.9123
Support Vector	0.9239
Decision Tree	0.9157
Random Forest	0.9347
Overall Vote	**0.9323**

04.

RESULTS & FINDINGS

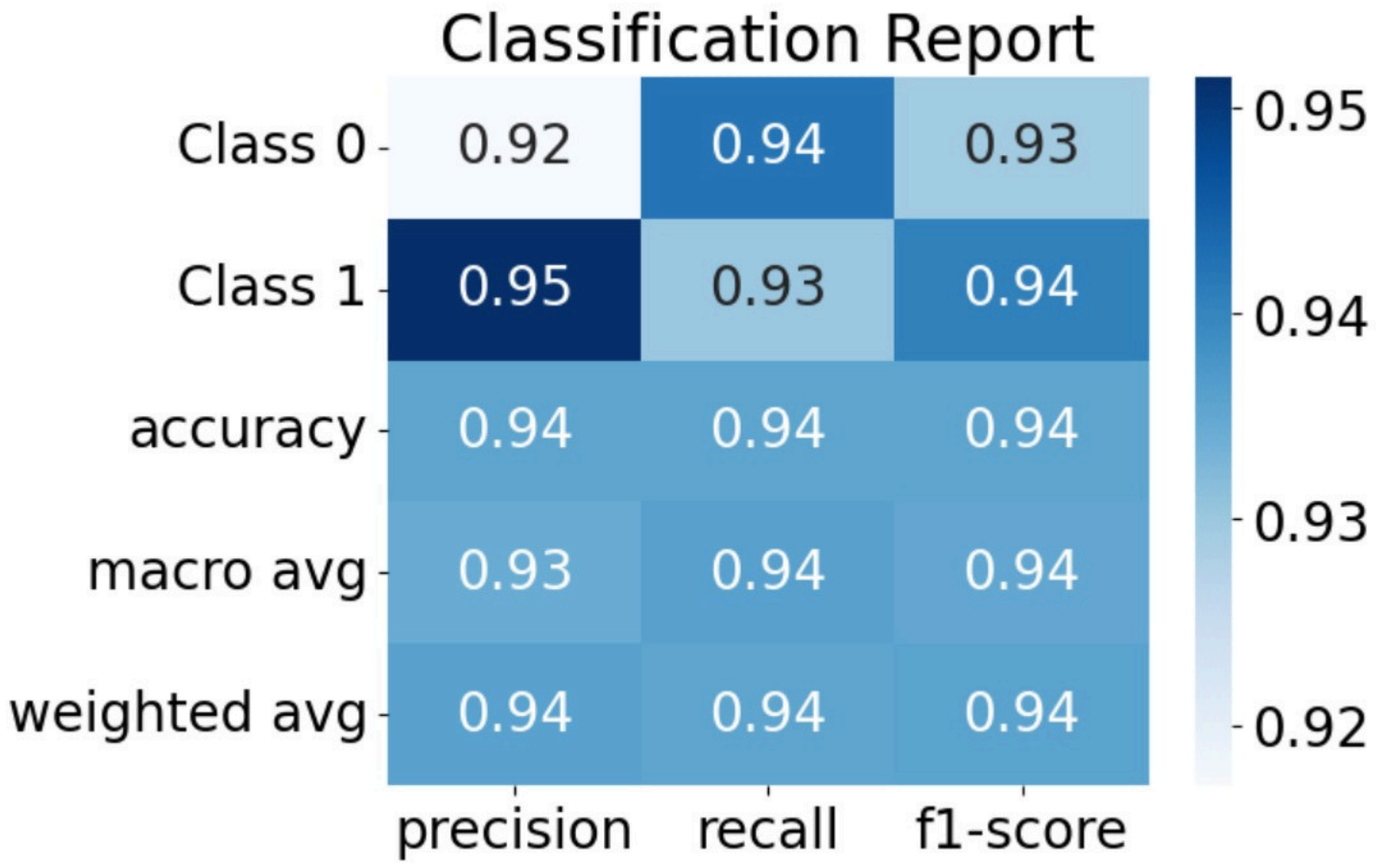
BEST MODEL

“Random Forest Classifier”

Max Depth: 17 | Max Features: ‘SQRT’ | n-Estimators: 81

Balanced Accuracy: 93.54%

BEST MODEL PERFORMANCE



93.62%
Balanced Accuracy

95.20%
Precision

93.00%
Recall

05.

CONCLUSION

Recommendations

COLAB NOTEBOOK

LINK