

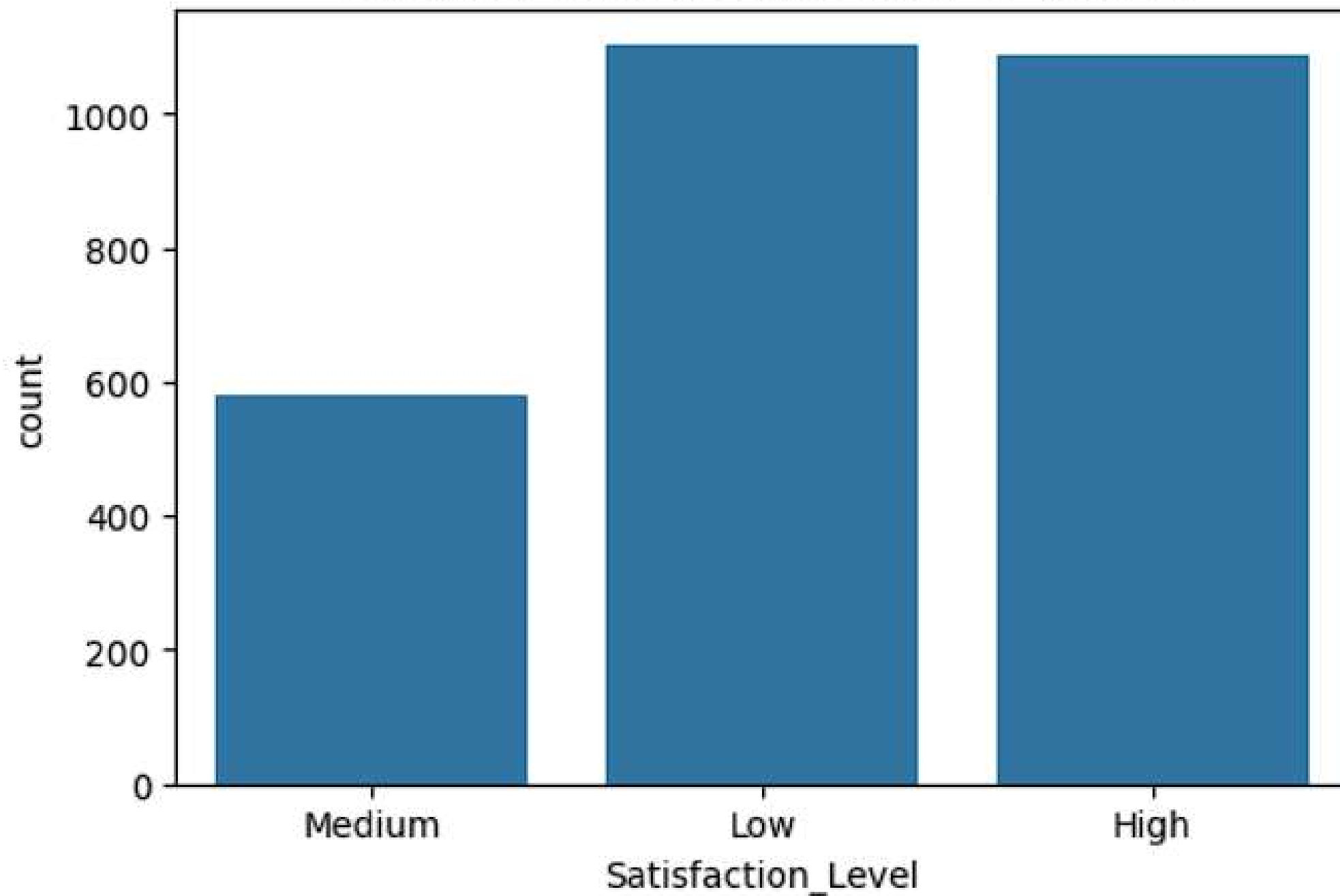
	Customer Age	Customer Gender	Product Purchased	Date of Purchase	Ticket Type	Ticket Subject	Ticket Description	Ticket Status	Resolution	Ticket Priority	Ticket Channel	Customer Satisfaction Rating	Resolution_Time_Hours	Satisfaction_Level
2	48	2	10	2020-07-14	4	8	53	0	343	2	3	3.0	6.850000	2
3	27	0	25	2020-11-13	0	0	627	0	2549	2	3	3.0	-5.533333	2
4	67	0	5	2020-02-04	0	3	188	0	2657	2	1	1.0	19.683333	1
10	48	1	30	2021-01-19	1	3	1323	0	1368	1	2	1.0	-17.916667	1
11	51	1	27	2021-10-24	2	15	360	0	1366	1	0	1.0	-2.633333	1

Customer Support Tickets - Q3 2023															
Ticket Details and Customer Information															
Ticket Tracking and Resolution Status															
Ticket ID	Customer Name	Customer Email	Customer Age	Customer Gender	Product Purchased	Date of Purchase	Ticket Type	Ticket Subject	Ticket Description	Ticket Status	Resolution	Ticket Priority	Ticket Channel	First Response Time	
0	1	Marisa Obrien	carrollallison@example.com	32	Other	GoPro Hero	2021-03-22	Technical issue	Product setup	I'm having an issue with the {product_purchase...}	Pending Customer Response	NaN	Critical	Social media	2023-09-12:15:00
1	2	Jessica Rios	clarkeashley@example.com	42	Female	LG Smart TV	2021-05-22	Technical issue	Peripheral compatibility	I'm having an issue with the {product_purchase...}	Pending Customer Response	NaN	Critical	Chat	2023-09-16:45:00
2	3	Christopher Robbins	gonzalestracy@example.com	48	Other	Dell XPS	2020-07-14	Technical issue	Network problem	I'm facing a problem with my {product_purchase...}	Closed	Case maybe show recently my computer follow.	Low	Social media	2023-09-11:14:00
3	4	Christina Dillon	bradleyolson@example.org	27	Female	Microsoft Office	2020-11-13	Billing inquiry	Account access	I'm having an issue with the {product_purchase...}	Closed	Try capital clearly never color toward story.	Low	Social media	2023-09-07:29:00
4	5	Alexander Carroll	bradleymark@example.com	67	Female	Autodesk AutoCAD	2020-02-04	Billing inquiry	Data loss	I'm having an issue with the {product_purchase...}	Closed	West decision evidence bit.	Low	Email	2023-09-00:12:00

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8469 entries, 0 to 8468
Data columns (total 17 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Ticket ID                            8469 non-null   int64
1   Customer Name                        8469 non-null   object
2   Customer Email                      8469 non-null   object
3   Customer Age                        8469 non-null   int64
4   Customer Gender                     8469 non-null   object
5   Product Purchased                   8469 non-null   object
6   Date of Purchase                    8469 non-null   object
7   Ticket Type                         8469 non-null   object
8   Ticket Subject                      8469 non-null   object
9   Ticket Description                  8469 non-null   object
10  Ticket Status                       8469 non-null   object
11  Resolution                          2769 non-null   object
12  Ticket Priority                     8469 non-null   object
13  Ticket Channel                      8469 non-null   object
14  First Response Time                 5650 non-null   object
15  Time to Resolution                  2769 non-null   object
16  Customer Satisfaction Rating        2769 non-null   float64
dtypes: float64(1), int64(2), object(14)
memory usage: 1.1+ MB
```

	Ticket ID	Customer Age	Customer Satisfaction Rating
count	8469.000000	8469.000000	2769.000000
mean	4235.000000	44.026804	2.991333
std	2444.934048	15.296112	1.407016
min	1.000000	18.000000	1.000000
25%	2118.000000	31.000000	2.000000
50%	4235.000000	44.000000	3.000000
75%	6352.000000	57.000000	4.000000
max	8469.000000	70.000000	5.000000

Customer Satisfaction Level Distribution



Logistic Regression Accuracy: 0.4055354993983153

	precision	recall	f1-score	support
0	0.39	0.48	0.43	326
1	0.42	0.55	0.47	331
2	0.00	0.00	0.00	174
accuracy			0.41	831
macro avg	0.27	0.34	0.30	831
weighted avg	0.32	0.41	0.36	831

Random Forest Accuracy: 0.40794223826714804

	precision	recall	f1-score	support
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0	0.42	0.49	0.45	326
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1	0.40	0.53	0.46	331
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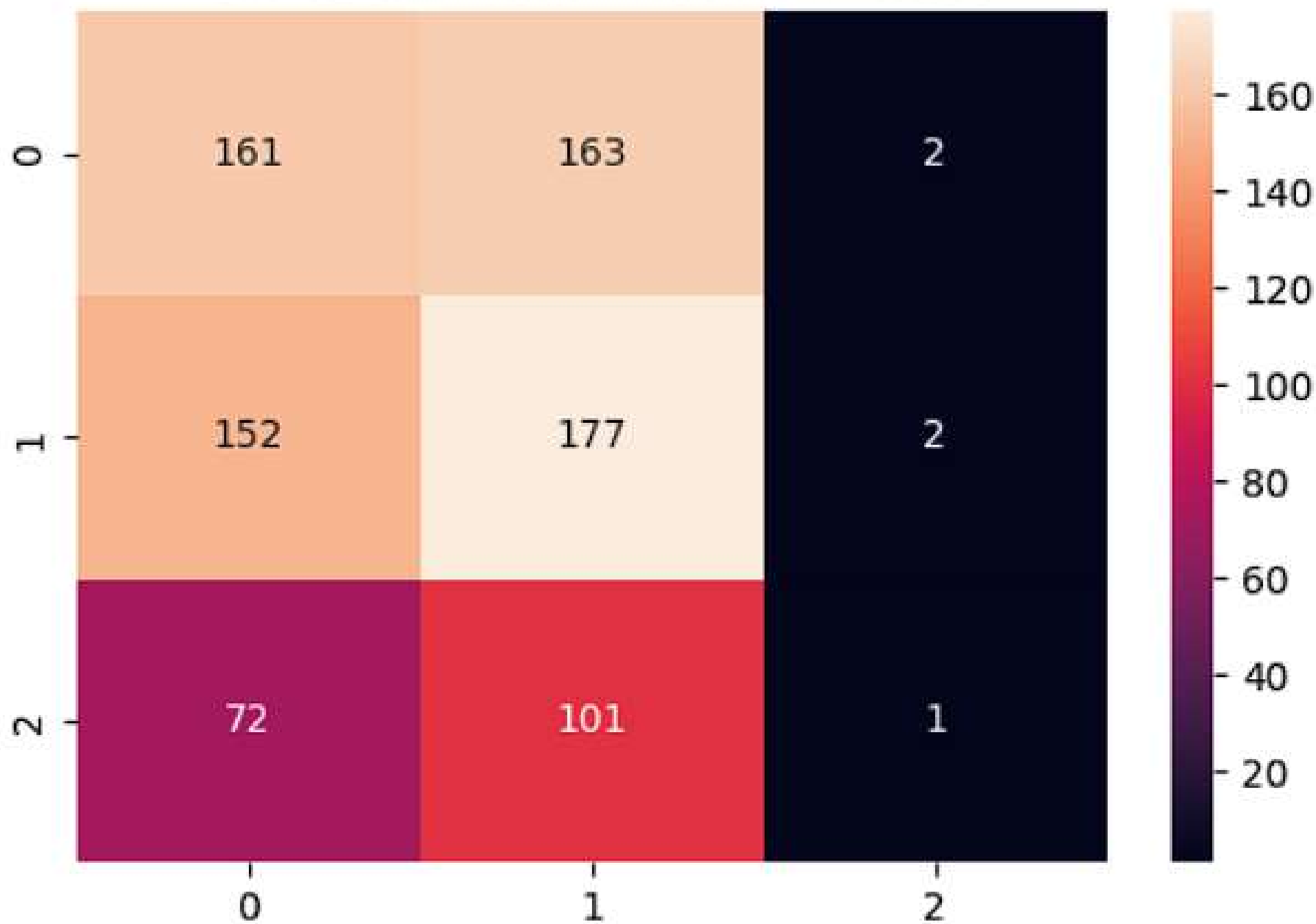
2	0.20	0.01	0.01	174
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accuracy			0.41	831
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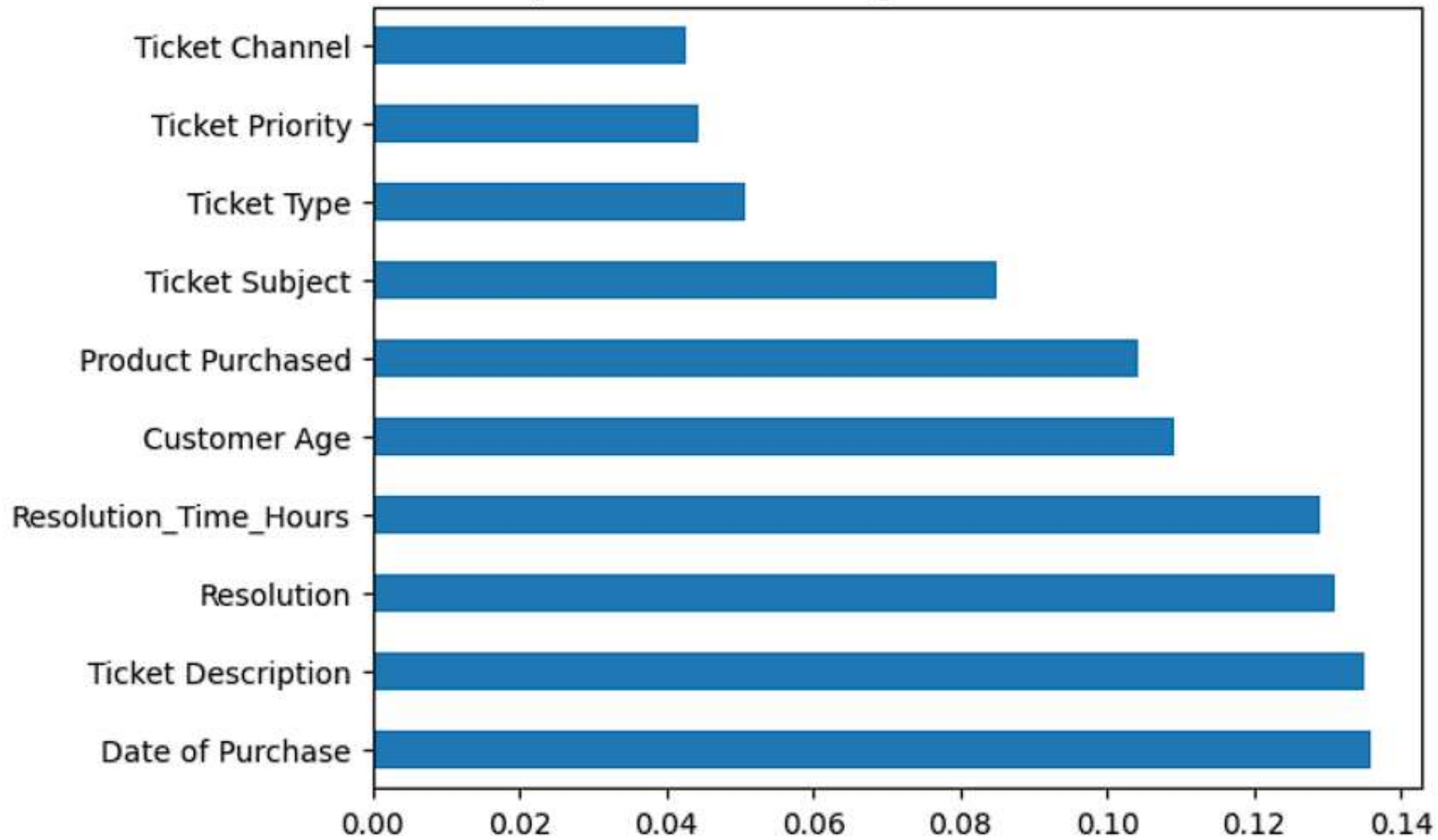
macro avg	0.34	0.34	0.31	831
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weighted avg	0.37	0.41	0.36	831
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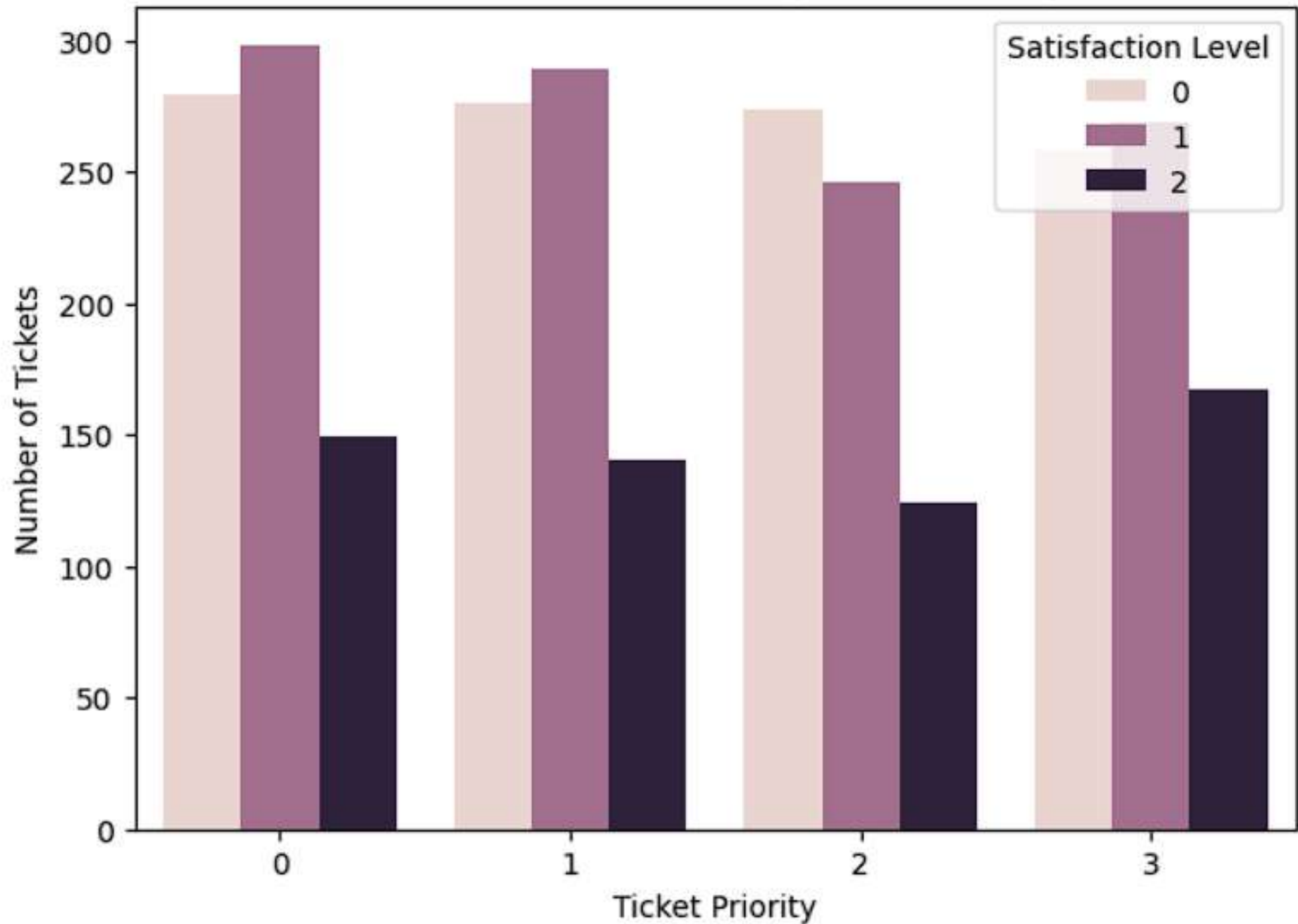
Confusion Matrix - Random Forest



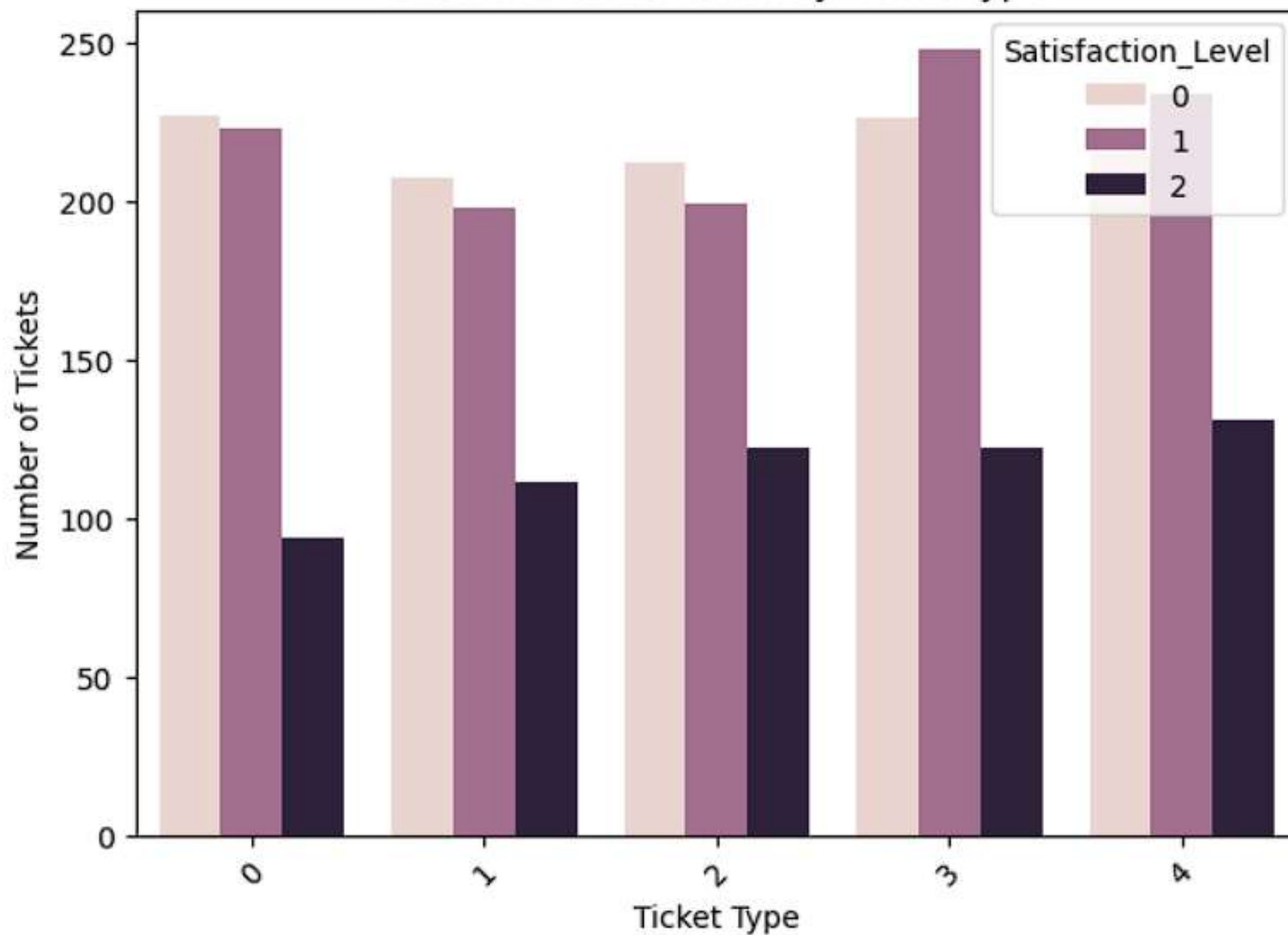
Top Factors Influencing Customer Satisfaction



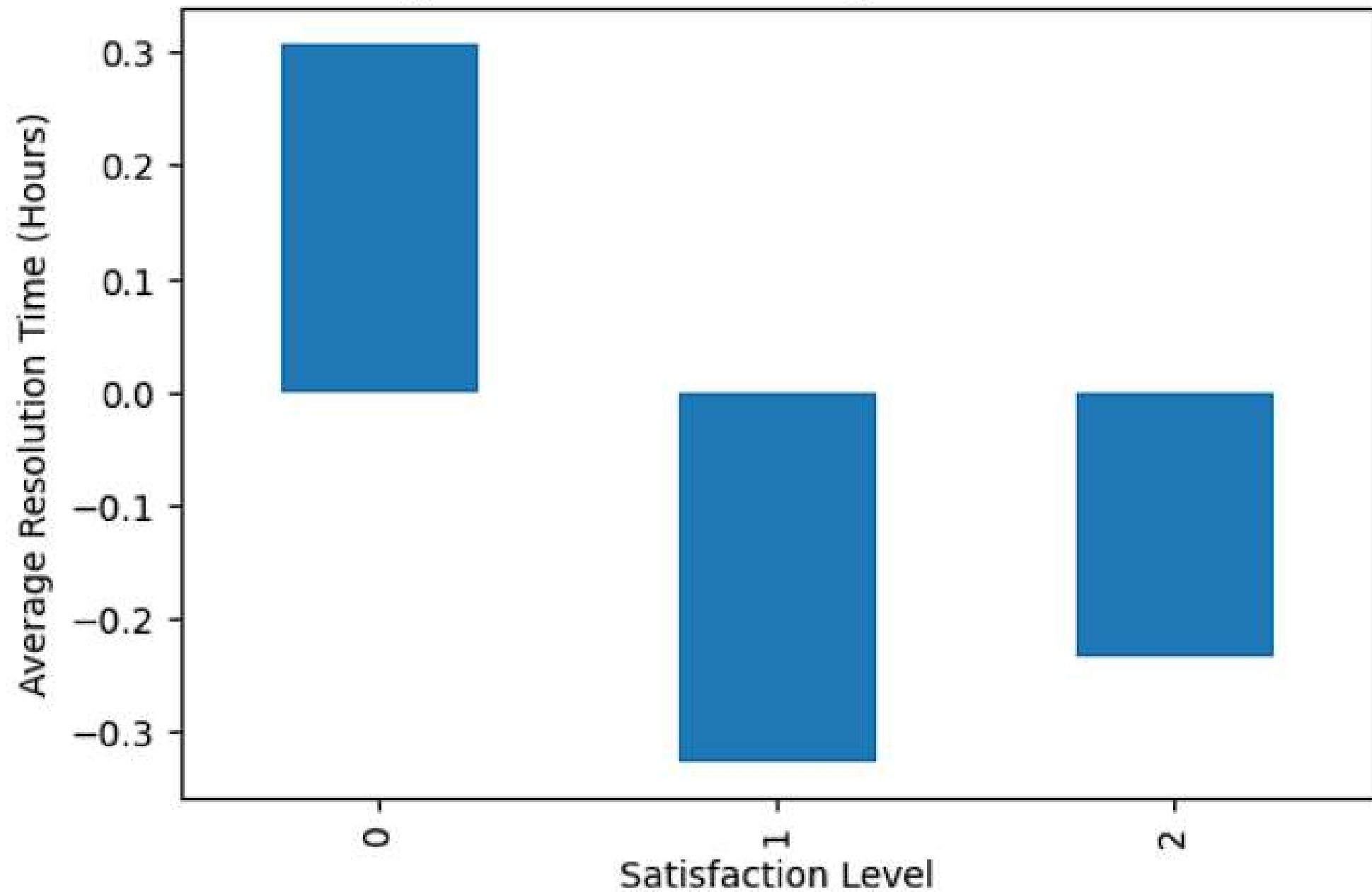
Customer Satisfaction by Ticket Priority



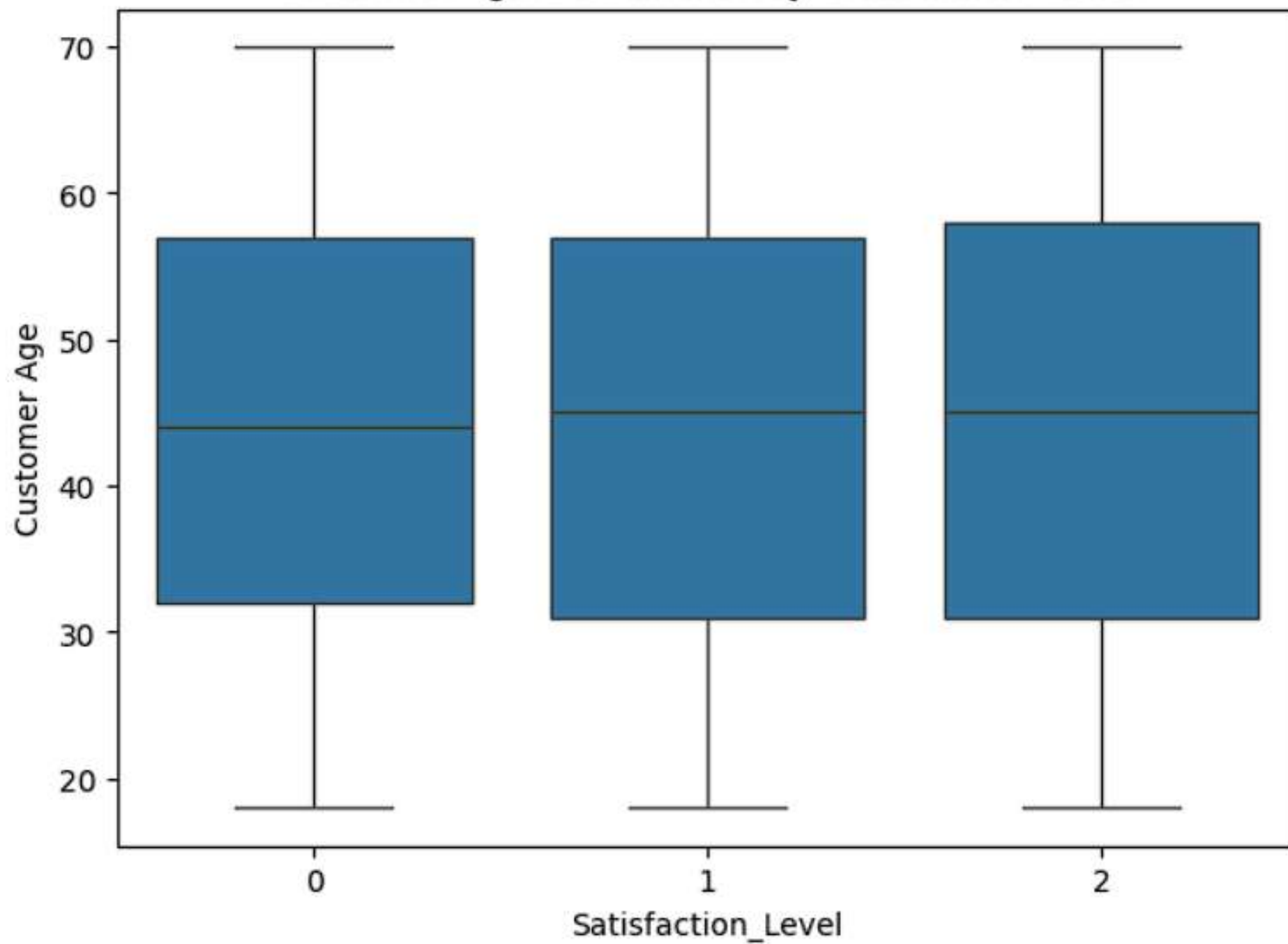
Customer Satisfaction by Ticket Type



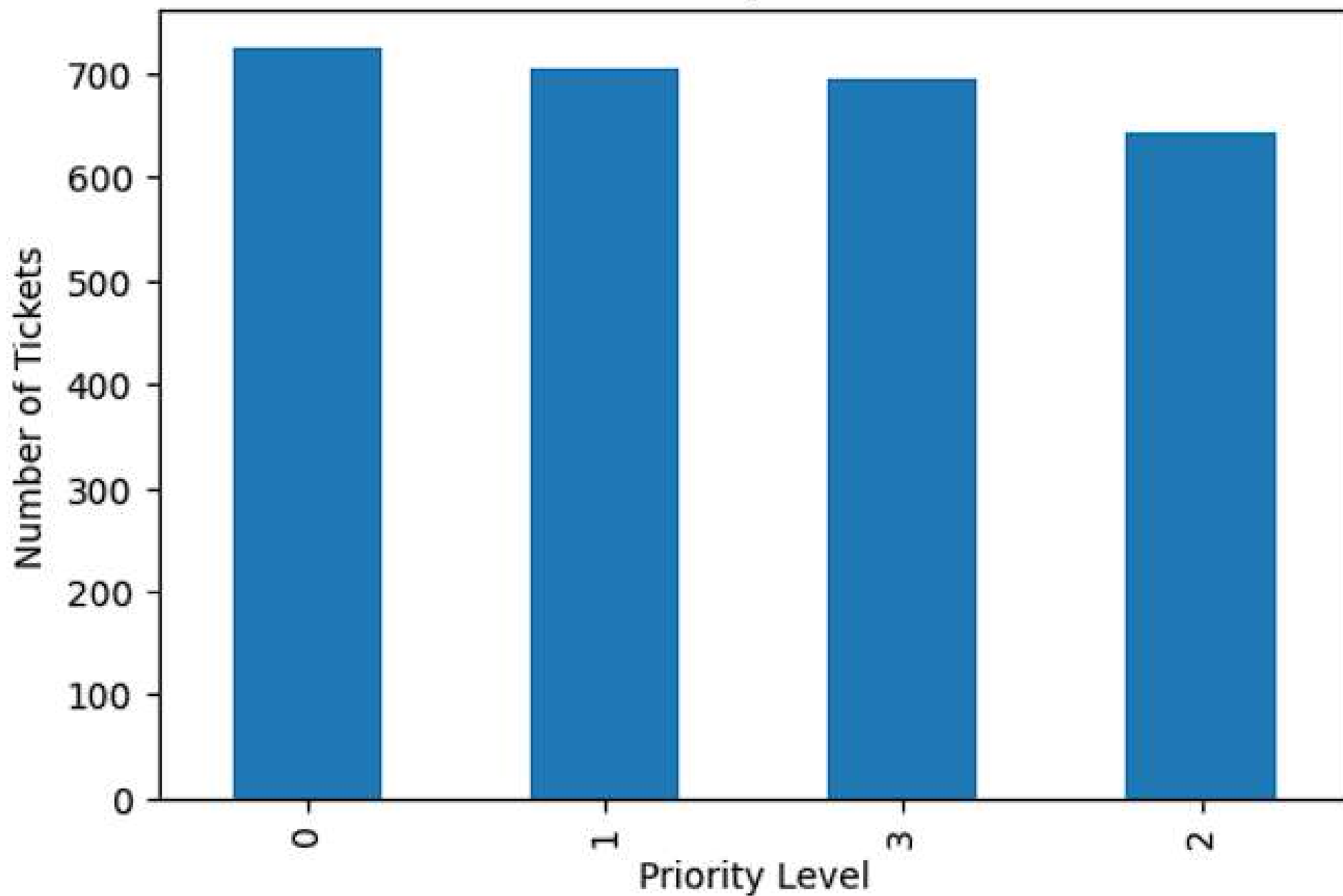
Average Resolution Time by Satisfaction Level



Customer Age Distribution by Satisfaction Level



Ticket Priority Distribution



Correlation Heatmap

