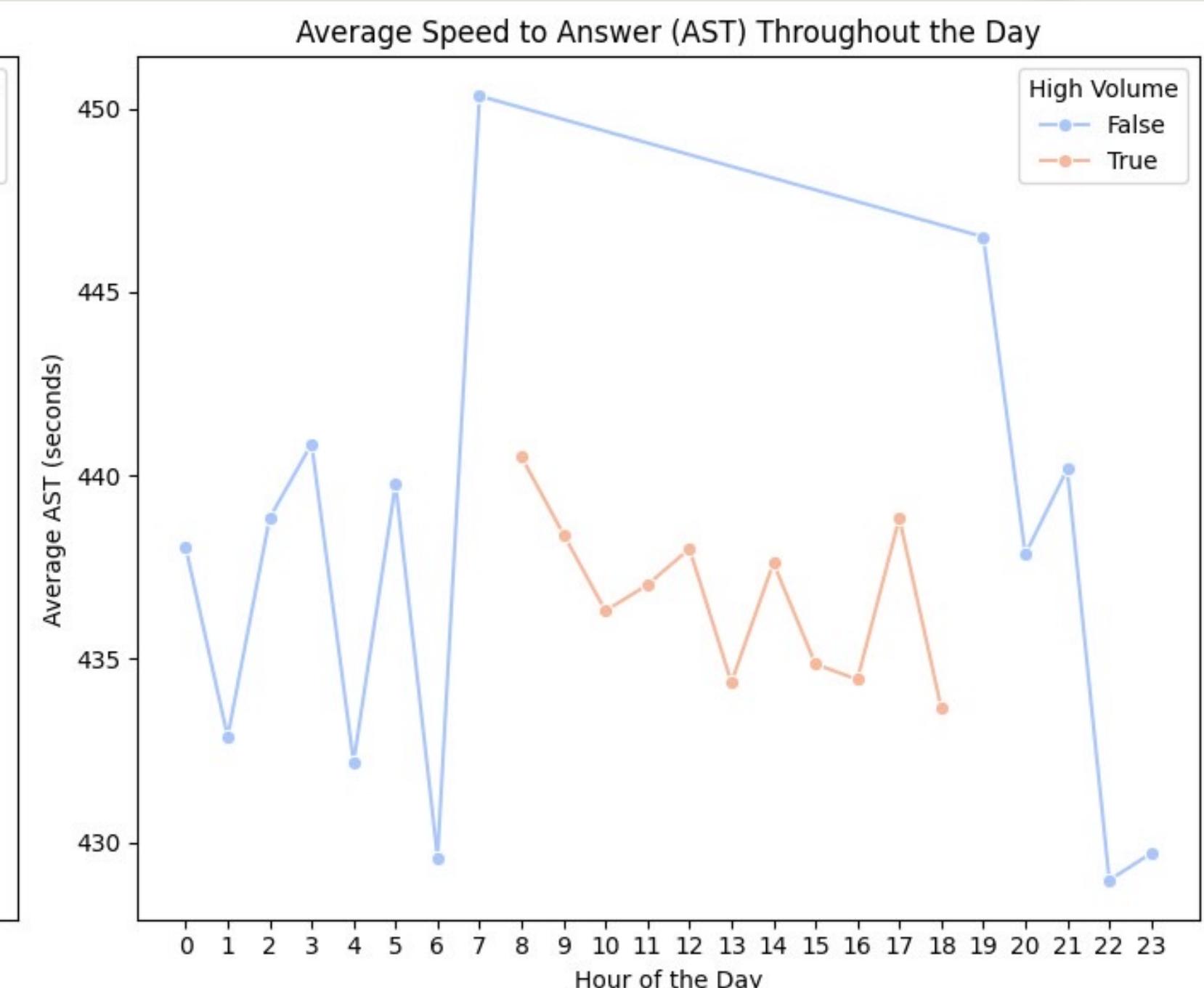
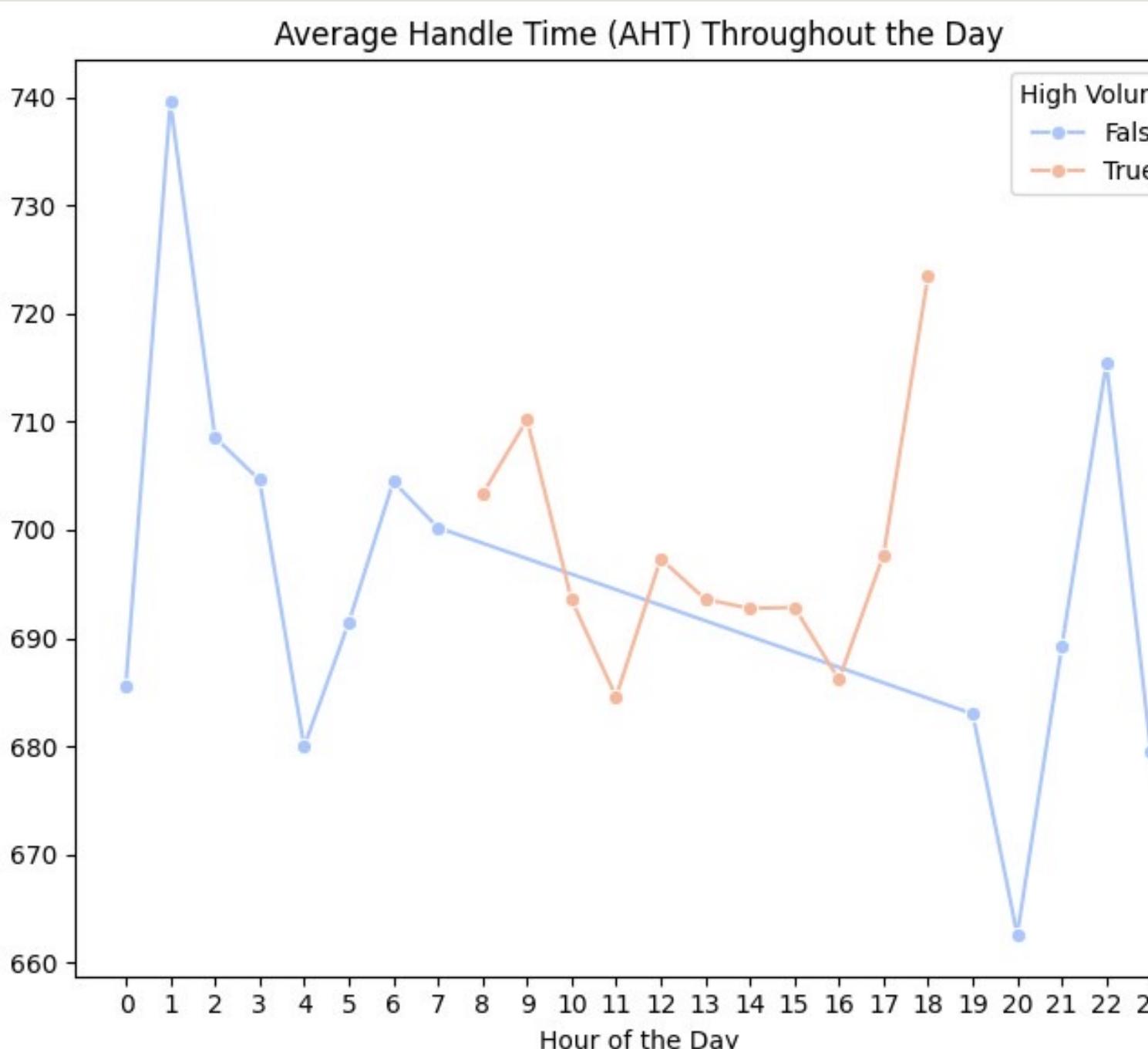


BY:
GURMEJ SINGH

KEY FINDINGS FROM DATA ANALYSIS

IMPACT OF HIGH-VOLUME PERIODS:

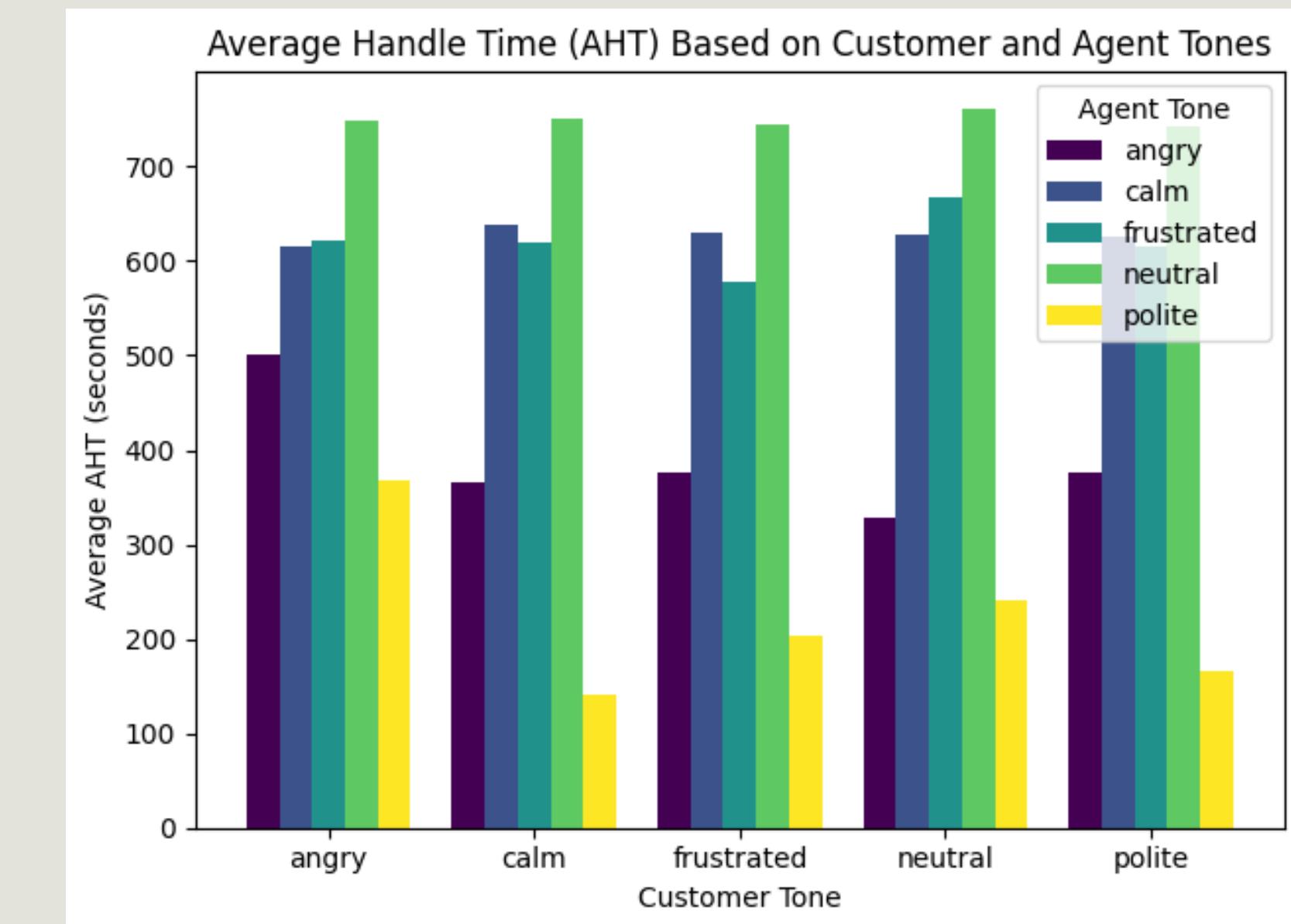
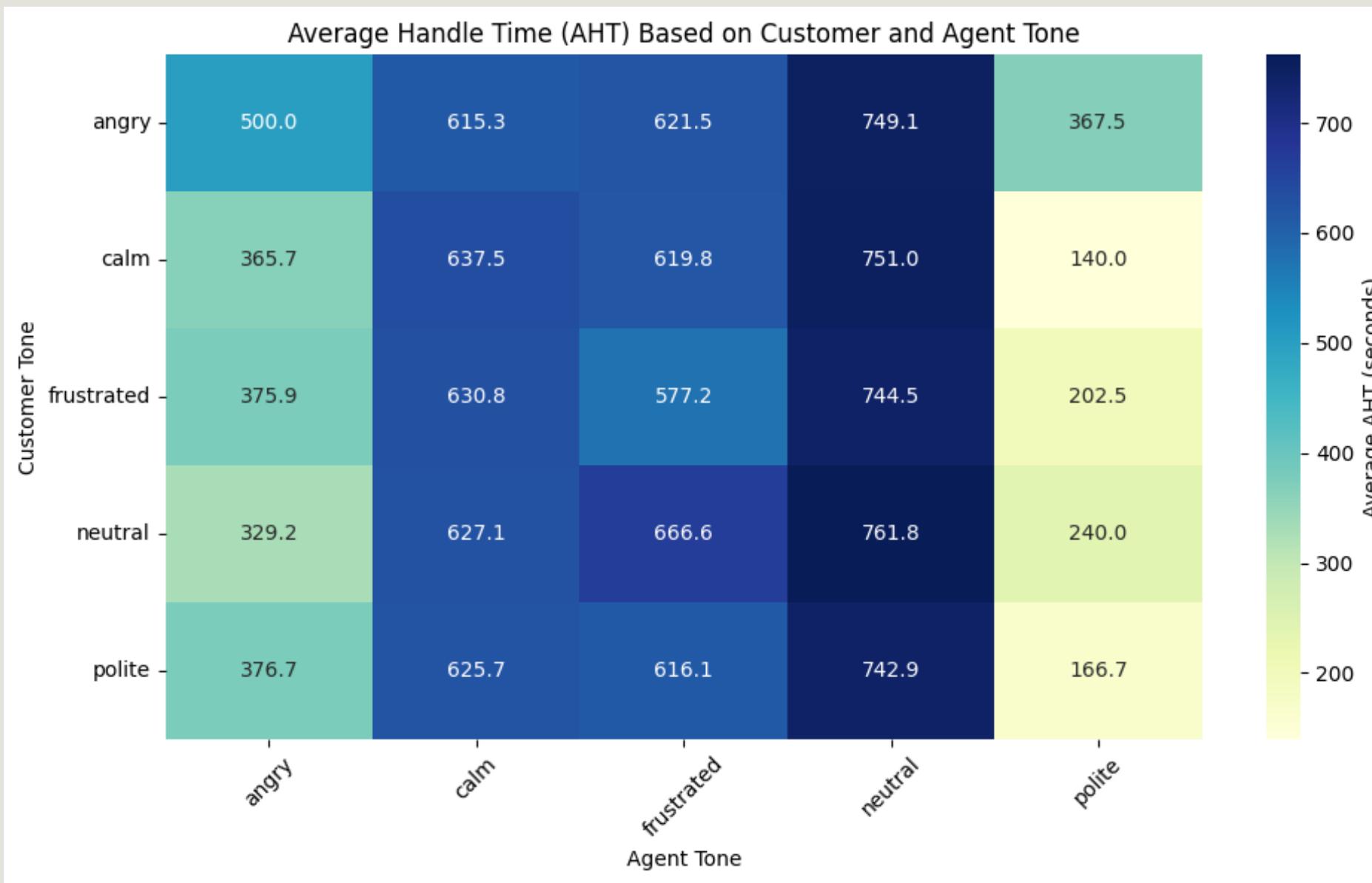
- AHT VARIES AND AST DECREASES SIGNIFICANTLY DURING HIGH-VOLUME CALL PERIODS.



KEY FINDINGS FROM DATA ANALYSIS

SENTIMENT AND CALL HANDLING:

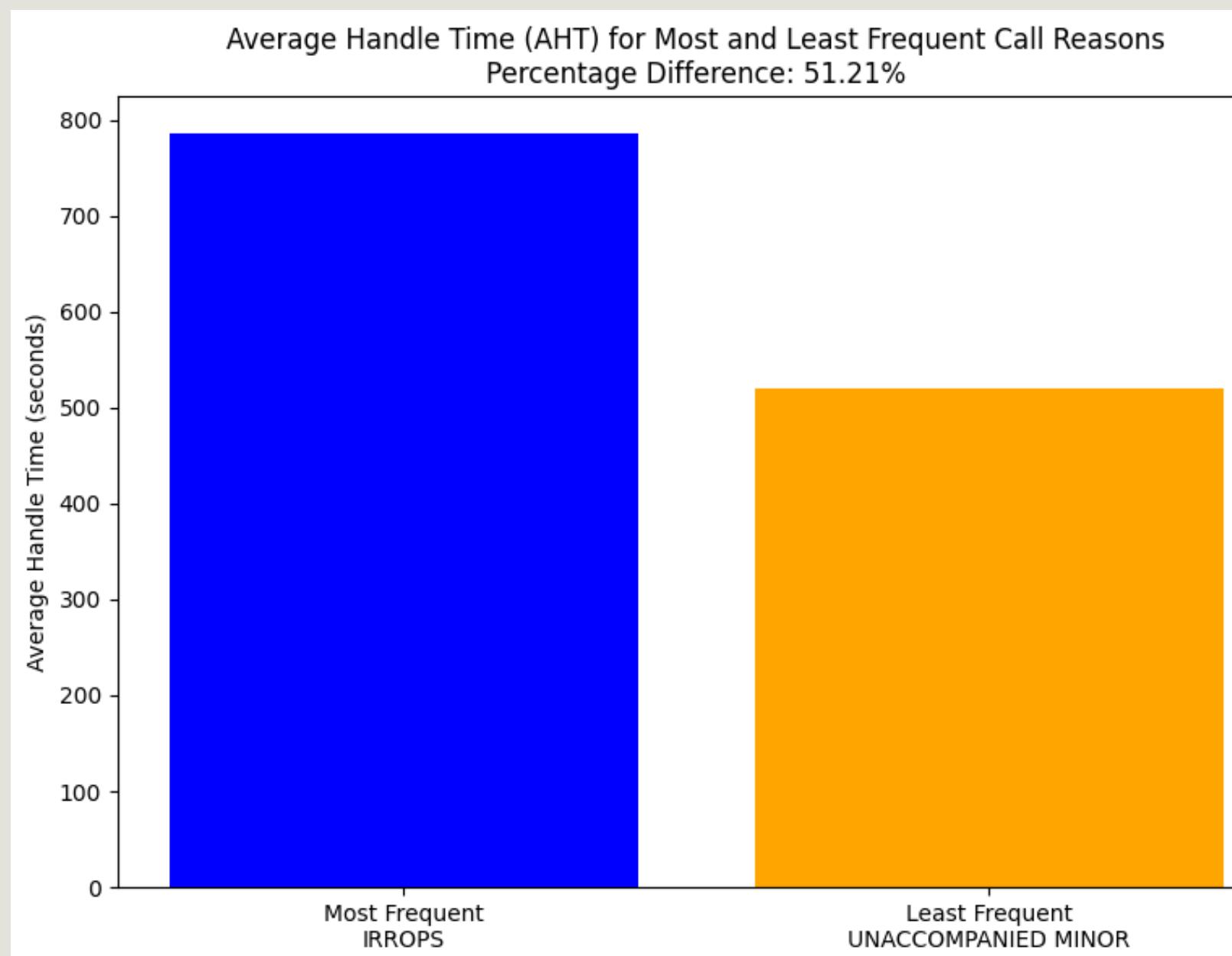
- NEGATIVE CUSTOMER TONES CORRELATE WITH LONGER AHT.



KEY FINDINGS FROM DATA ANALYSIS

CALL REASON FREQUENCY:

- MOST FREQUENT CALL REASONS: IRROP, VOLUNTARY CHANGE.
- LEAST FREQUENT CALL REASONS: DISABILITY, UNACCOMPANIED MINOR.



Most Frequent Call Reason:

Reason: IRROPS, Count: 13311

Least Frequent Call Reason:

Reason: UNACCOMPANIED MINOR, Count: 104

All Call Reasons with Counts:

IRROPS	13311	BOOKING	2637
VOLUNTARY CHANGE	10848	CHECK IN	1904
SEATING	6365	CHECKOUT	1888
MILEAGE PLUS	5851	VOLUNTARY CANCEL	1607
POST FLIGHT	4330	DIGITAL SUPPORT	1225
COMMUNICATIONS	3840	ETC	952
PRODUCTS AND SERVICES	3332	TRAVELER UPDATES	937
BAGGAGE	2832	OTHER TOPICS	818
UPGRADE	2738	SCHEDULE CHANGE	731
BOOKING	2637	DISABILITY	403
CHECK IN	1904	UNACCOMPANIED MINOR	104
CHECKOUT	1888		

GRANULAR REASONS & IVR IMPROVEMENTS:

I IRROPS (IRREGULAR OPERATIONS):

- Automate flight status updates, delay notifications, booking options.
- Reasoning: Customers can quickly manage disruptions without agent involvement.

II VOLUNTARY CHANGE:

- IVR Improvement: Enable flight modification or cancellation through self-service.
- Reasoning: Reduces agent workload by automating common voluntary changes.

III SEATING:

- IVR Improvement: Add seat selection/change options in IVR.
- Reasoning: Allows quick self-service for seating preferences, reducing agent interaction.



ADVANCED IVR PERSONALIZATION

I PRIORITIZE CALLS BASED ON SENTIMENT:

- Integrate sentiment analysis to detect negative tones and escalate/allot calls accordingly.

Benefits:

1. Reduces AHT for frustrated customers, improving overall experience.



II ELITE CUSTOMER PERSONALIZATION;

- Offer VIP pathways for elite loyalty members, enabling them to bypass certain IVR steps.

Benefits:

1. Enhances loyalty and satisfaction by providing quick, personalized service.

PREDICTING CALL REASONS:

CLASSIFIER MODEL:

BUILT A RANDOM FOREST CLASSIFIER TO PREDICT PRIMARY_CALL_REASON USING FEATURES LIKE SENTIMENT, AHT, AND CALL TRANSCRIPTS ;(PROPOSED MODEL DISTILBERT EMBEDDINGS).

accuracy		0.22	19996
macro avg	0.05	0.06	0.04
weighted avg	0.13	0.22	0.12

Class: VOLUNTARY CHANGE			...
Precision: 0.19			Precision: 0.19
Recall: 0.35			Recall: 0.35
F1-Score: 0.25			F1-Score: 0.25

RESULTS :

ACHIEVED AVG ACCURACY IN PREDICTING FREQUENT CALL REASONS BUT LOWER ACCURACY FOR RARE CASES.



CSV OUTPUT: PREDICTIONS SAVED TO CALL_PREDICTIONS.CSV FOR EACH CALL, COMPARING ACTUAL VS. PREDICTED CALL REASONS.

CONCLUSION AND NEXT STEPS

SUMMARY:

- KEY FINDINGS: HIGH-VOLUME PERIODS AND NEGATIVE SENTIMENT ARE MAJOR DRIVERS OF LONG AHT AND AST.
- IVR PROPOSALS: AUTOMATION AND PERSONALIZATION OF IVR OPTIONS WILL REDUCE AGENT INTERVENTION AND IMPROVE CUSTOMER SATISFACTION.

FUTURE IMPLEMENTATIONS:

- IMPLEMENT IVR ENHANCEMENTS AND TRACK THE IMPACT ON AHT, AST, AND AGENT PRODUCTIVITY.
- CONTINUE REFINING SENTIMENT ANALYSIS MODELS TO PRIORITIZE ESCALATIONS AND BETTER PREDICTIVE MODELS FOR CLASSIFICATION .



THANK YOU!