YOUTUBE WATCHING AND EATING PATTERNS ANALYSIS

A Data-Driven Look into Viewing and Eating Habits

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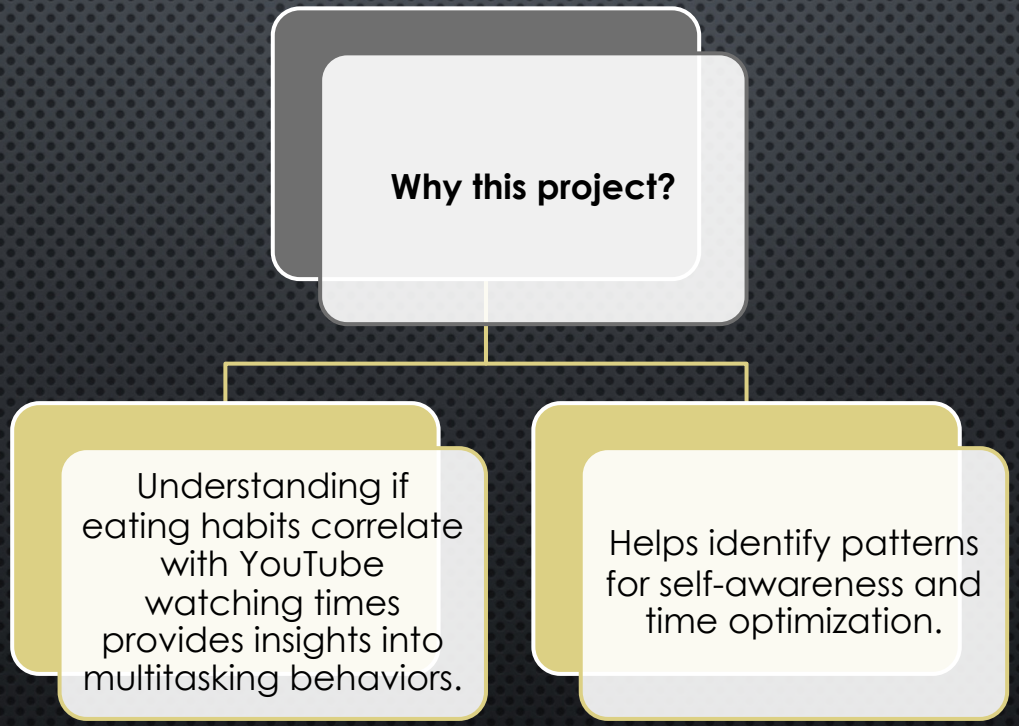
MOTIVATION


Why this project?
Understanding if eating habits correlate with YouTube watching times provides insights into multitasking behaviors.
Helps identify patterns for self-awareness and time optimization.

GOALS

Key Questions: Do YouTube viewing hours align with meal times?

Are there specific hours or patterns that reveal connections between eating and viewing habits?

Importance: Helps evaluate digital consumption alongside daily routines.

Highlights multitasking behaviors and habits.

HYPOTHESIS

EXPECTED OUTCOMES:

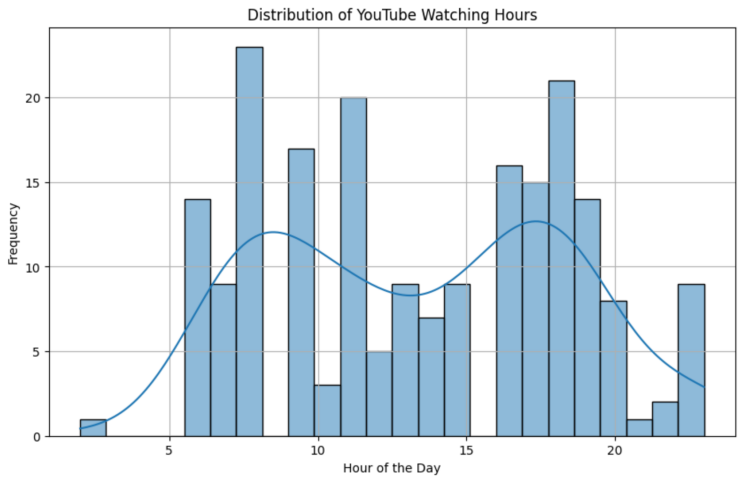
- PEAKS IN YOUTUBE WATCHING TIMES COINCIDE WITH FOOD ORDERS.
- EVENING HOURS SHOW STRONGER CORRELATIONS BETWEEN VIEWING AND EATING HABITS.

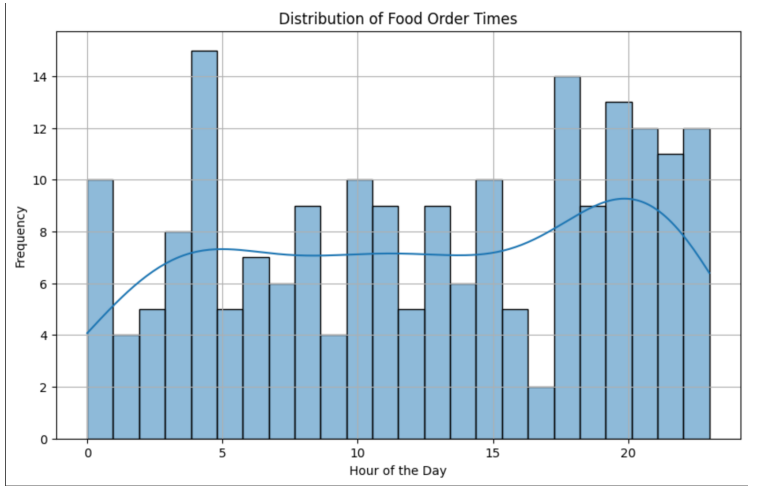
DATASET

- **YouTube Data**: Exported via Google Takeout (timestamps, titles, channels).**Bank Transactions:** data of transactions for Yemeksepeti orders (timestamps, amounts).

EXPLORATORY DATA ANALYSIS (EDA)

- **OVERVIEW:**
  - ANALYZED HOURLY VIEWING TRENDS.
  - VISUALIZED PATTERNS FOR BOTH DATASETS SEPARATELY.
- **FINDINGS:**
  - WATCHING TRENDS PEAK IN THE EVENINGS.
  - FOOD ORDERS ALIGN WITH SIMILAR PATTERNS.





DATA CLEANING & ADJUSTMENTS

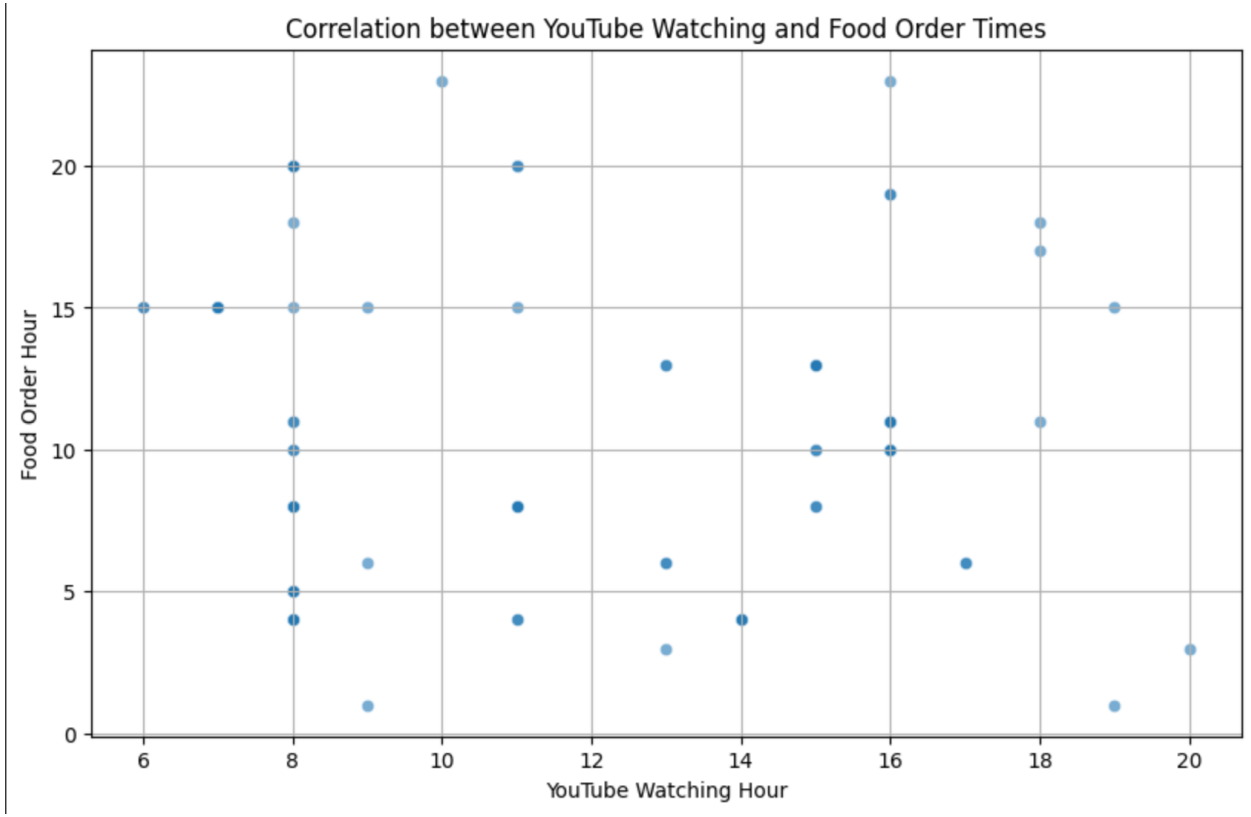
STEPS TAKEN:

- CONVERTED TIMESTAMPS TO LOCAL TIME.
- EXTRACTED HOURS, WEEKDAYS, AND DATES.

```
3]  1 watch_history['Timestamp'] = pd.to_datetime(watch_history['Timest
    2 bank_transactions['Timestamp'] = pd.to_datetime(bank_transactions

4]  1 watch_history['Date'] = watch_history['Timestamp'].dt.date
    2 watch_history['Hour'] = watch_history['Timestamp'].dt.hour
    3 watch_history['Weekday'] = watch_history['Timestamp'].dt.day_name
    4
    5 bank_transactions['Date'] = bank_transactions['Timestamp'].dt.dat
    6 bank_transactions['Hour'] = bank_transactions['Timestamp'].dt.hou
    7 bank_transactions['Weekday'] = bank_transactions['Timestamp'].dt.

5]  1 watch_history.to_csv('cleaned_watch_history_updated.csv', index=F
    2 bank_transactions.to_csv('cleaned_bank_transactions_updated.csv',

6]  1 print("Watch History Dataset Summary:")
    2 print(watch_history.info())
    3 print(watch_history.describe(include='all'))
    4
    5 print("\nBank Transactions Dataset Summary:")
    6 print(bank_transactions.info())
    7 print(bank_transactions.describe(include='all'))
```

DETAILED ANALYSIS

- IT CAN BE SEEN THAT THERE IS A RELATION BETWEEN MY WATCHING HOURS AND FOOD ORDER TIMES. I ALSO USED STATISTICAL ANALYSIS TO PROVE THIS.



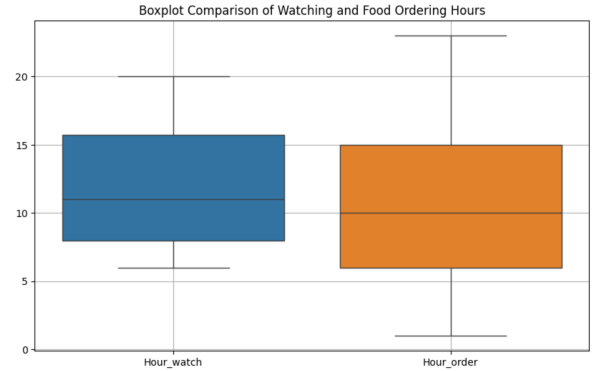
```
[12]  1 correlation = merged_data[['Hour_watch', 'Hour_order']].corr()
      2 print("\nCorrelation Matrix:")
      3 print(correlation)
```

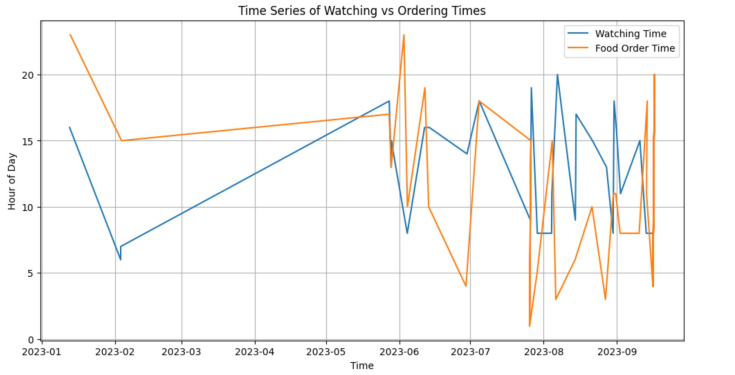
```
Correlation Matrix:
             Hour_watch  Hour_order
Hour_watch     1.000000   -0.043893
Hour_order    -0.043893    1.000000
```

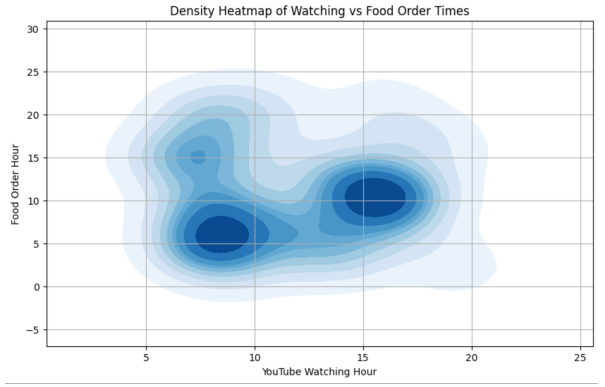
NUMERICAL ANALYSIS

COMPLEX GRAPHS

- BY THESE 3 DETAILED GRAPHS IT CAN BE SEEN THAT MY HYPOTHESIS IS PROVED. ALSO USED PEARSON CORRELATION COEFFICIENT IN THE NEXT SLIDE TO SHOW IT MATHEMATICALLY.







```
[16]  1 from scipy.stats import pearsonr
      2 correlation_coef, p_value = pearsonr(merged_data['Hour_watch'], merged_data['Hour_order'])
      3 print(f"Pearson Correlation Coefficient: {correlation_coef}")
      4 print(f"P-value: {p_value}")
```

```
Pearson Correlation Coefficient: -0.04389333351008637
P-value: 0.6882087124857948
```

PEARSON CORELLATION COEFFICIENT

CONCLUSION

KEY TAKEAWAYS:

HYPOTHESIS SUPPORTED—YOUTUBE WATCHING TIMES OFTEN MATCH EATING TIMES.

EVENING HABITS STAND OUT.

IMPLICATIONS:REFLECTS MULTITASKING HABITS THAT COMBINE ENTERTAINMENT AND EATING.

FUTURE WORK

POTENTIAL IMPROVEMENTS:.

- ADD CONTENT TYPE ANALYSIS (E.G., COOKING VIDEOS DURING MEALS).
- EXPAND DATASETS TO INCLUDE OTHER ACTIVITIES LIKE EXERCISING OR STUDYING.