PROJECT : COMMUNICATE WITH YOUR DATA

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INTRODUCTION

Dataset overview

- The dataset comes from the Ford GoBike System (February 2019).
- It contains bike-sharing trip data, including:
  - Trip Duration (in seconds)
  - Start & End Stations
  - User Type (Subscriber or Customer)
  - Rider Age & Gender
  - Bike ID & Rental Details

PURPOSE OF ANALYSIS

1.

- Understand user behavior patterns in bike-sharing.

2.

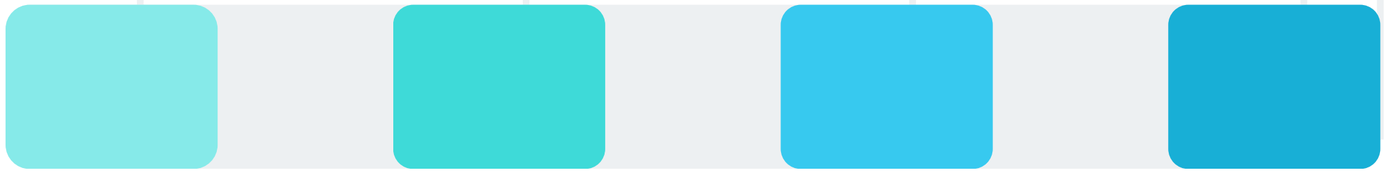
- Explore ride duration variations across age groups.

3.

- Identify correlations between user demographics and ride characteristics.

4.

- Present data-driven insights to optimize the bike-sharing experience.



KEY QUESTIONS & OBJECTIVES (WHAT YOU AIMED TO FIND)

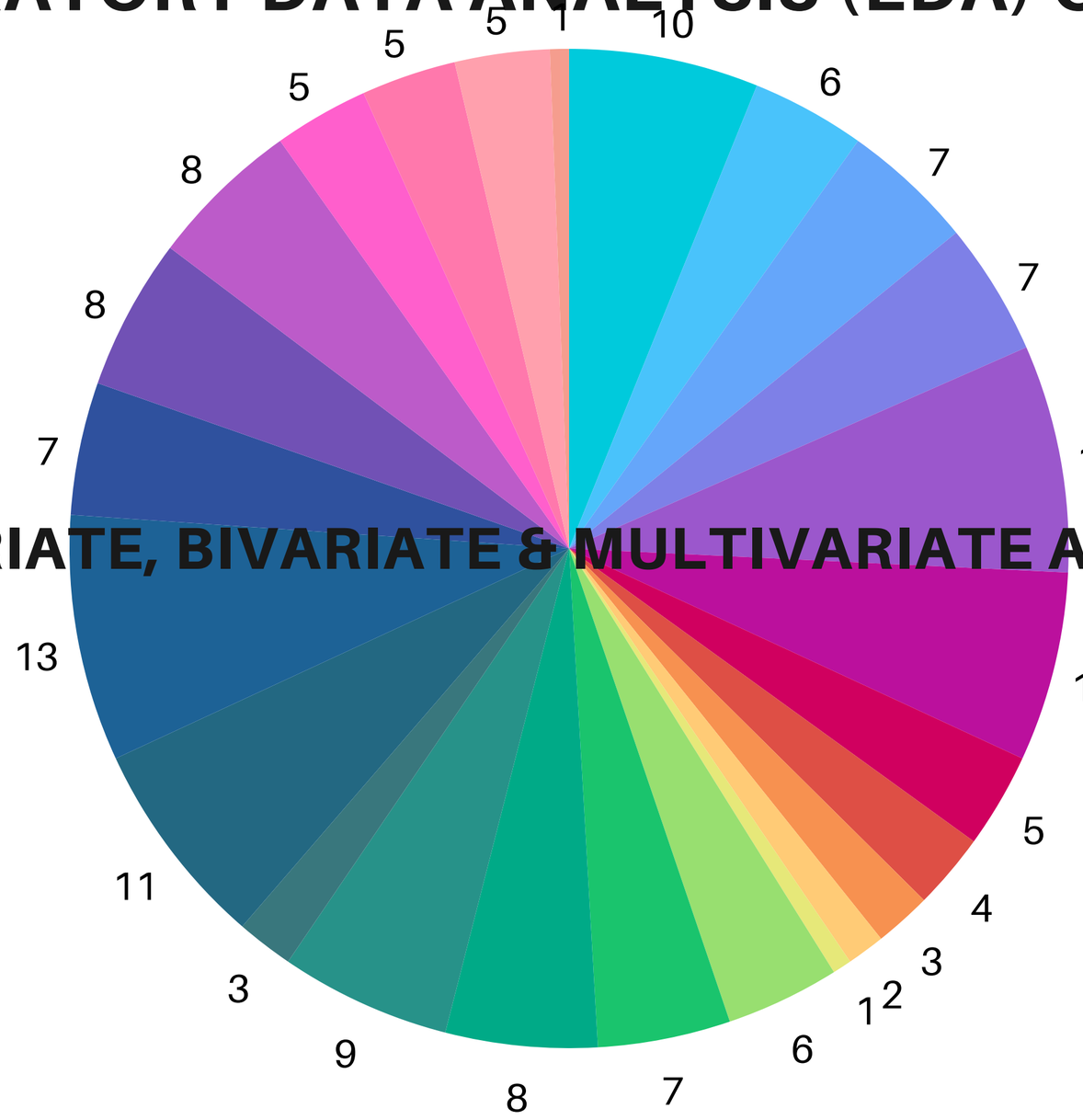
- Key Questions
  - How does ride duration distribution change across different age brackets?
  - What is the most rented month for bike usage?
  - How do ride durations vary by user type (Subscriber vs. Customer)?
  - What are the most popular hours for bike rentals?
  - How is gender distribution represented among riders?

- Purpose of Analysis
  - Understanding user behavior and ride patterns
  - Identifying key trends in bike rentals

DATA CLEANING & PREPROCESSING

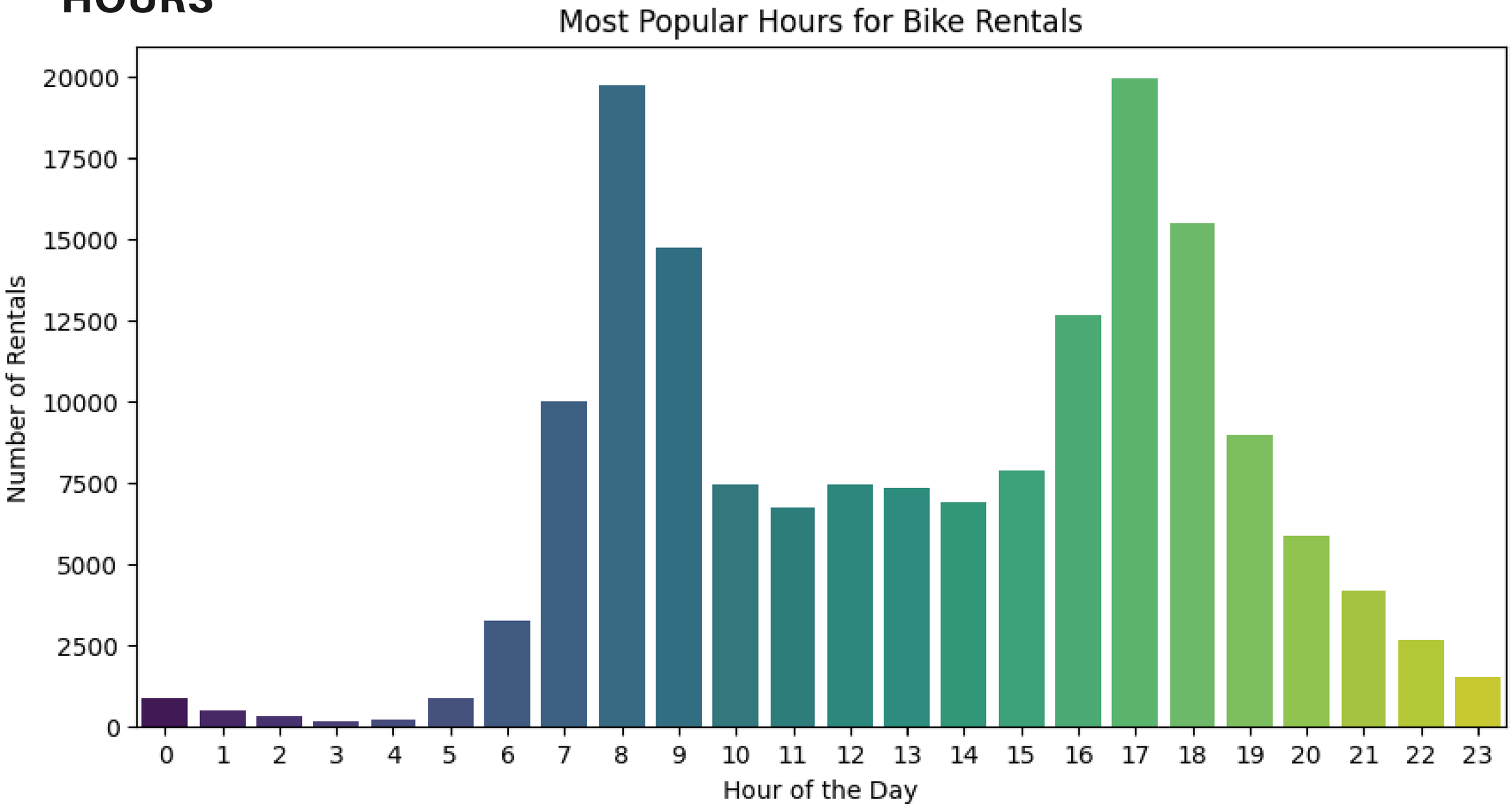
- Steps taken:
  - Handling :
    - Missing values
    - Outliers,
- Data formatting

EXPLORATORY DATA ANALYSIS (EDA) OVERVIEW

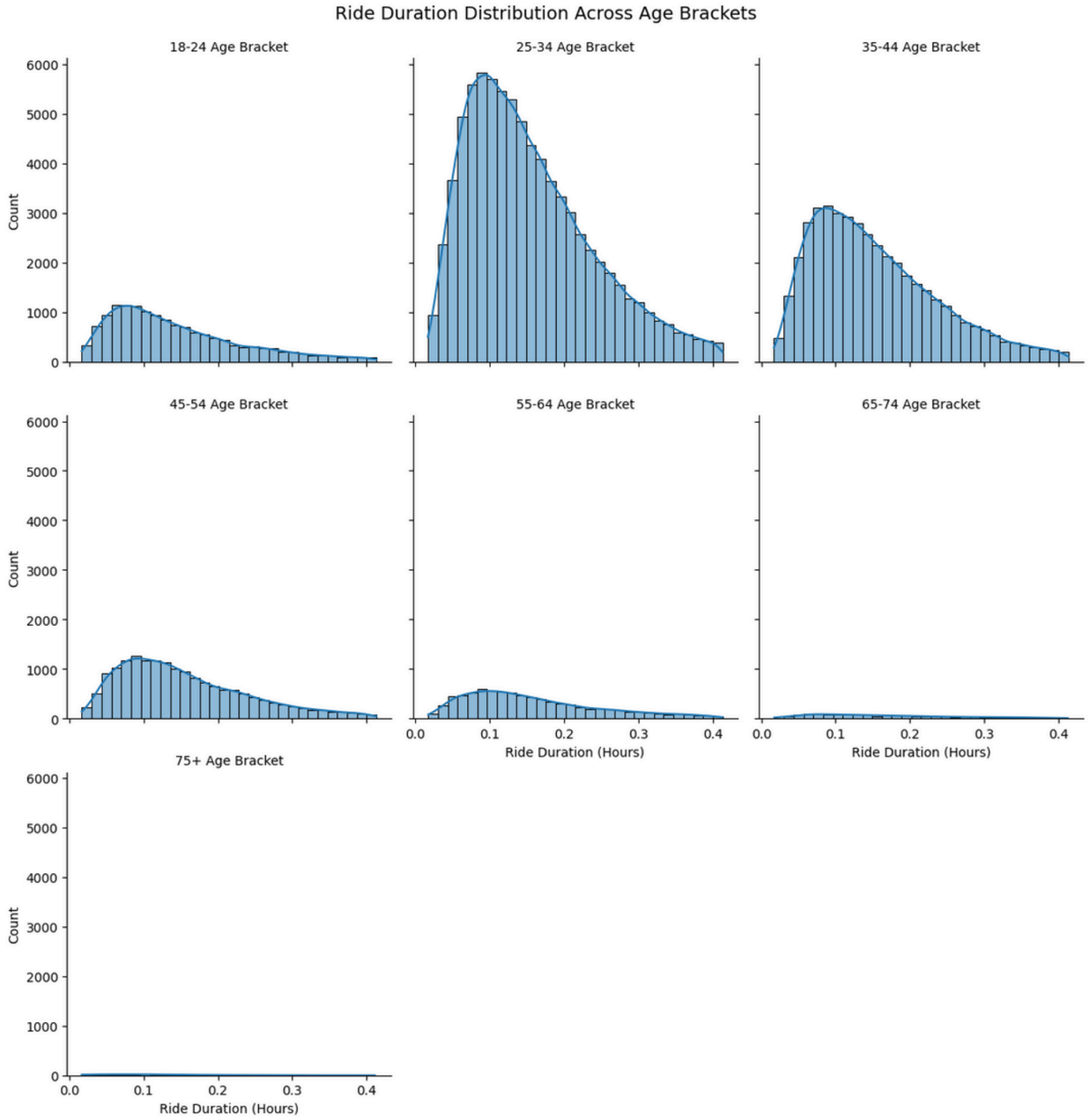


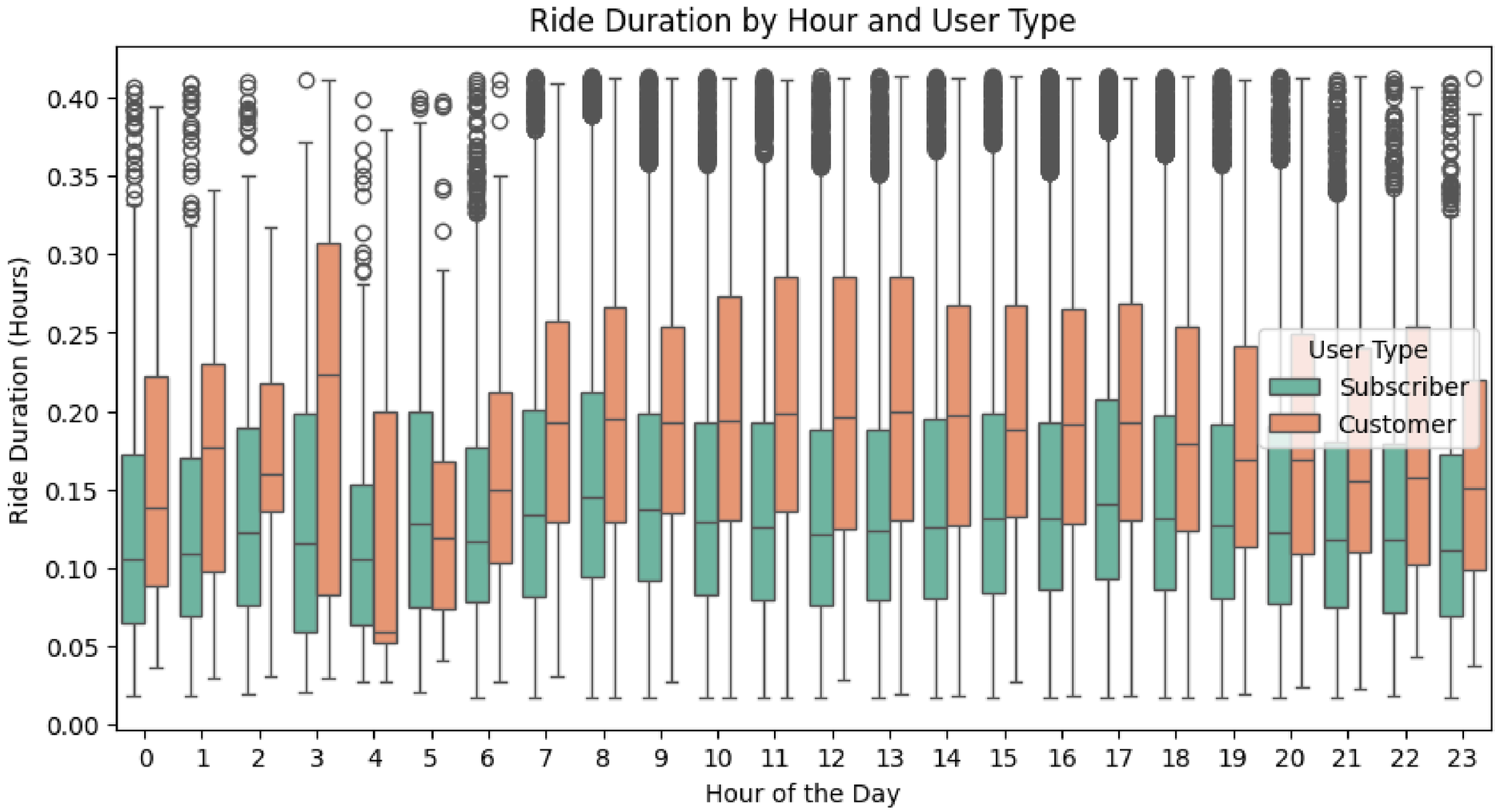
UNIVARIATE, BIVARIATE & MULTIVARIATE ANALYSES

- **UNIVARIATE ANALYSIS: BAR CHART OF MOST POPULAR RENTAL HOURS**



BIVARIATE ANALYSIS: BOXPLOT: RIDE DURATION VS. AGE BRACKETS





Multivariate Analysis

Facet Grid: Ride Duration vs. Age & User Type

Key Findings & Insights

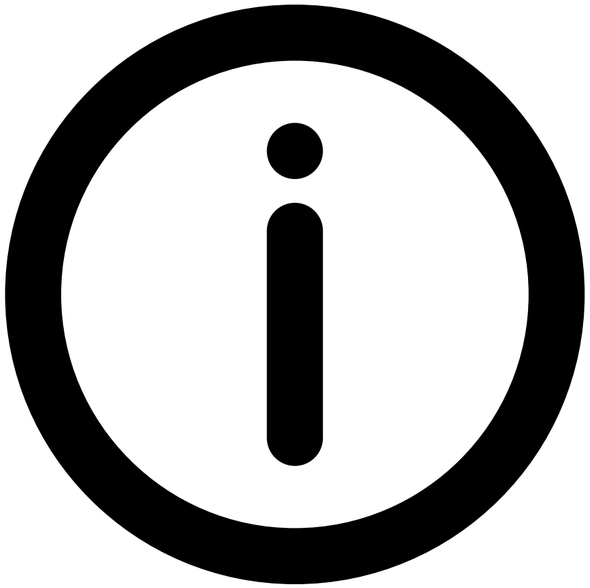
- Peak usage times and age group trends
  - “Peak hour is 5 PM with 17500+ rentals”).
- Subscriber vs. Customer ride behavior
  - That is clear in the day parts
- Gender-based differences in ride patterns
  - Males ride bikes by 75%!

Challenges & Limitations

- Outliers in ride duration
- Data gaps & missing values

CONCLUSION & RECOMMENDATIONS

- Key takeaways from the data analysis
  - Suggestions for improving service
  - (adjusting bike availability in high-demand areas,\
  - promoting usage during off-peak hours)



Thank You! 🎉