UBER TRIP ANALYSIS USING PYTHON AND SQL

A Project Report

Submitted for Internship Evaluation

Submitted by

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Submitted to

Unified Mentor Internship Program

ABSTRACT

Ride-sharing services like Uber generate massive amounts of trip data every day. Analyzing this data helps understand travel patterns, demand trends, and operational efficiency.

This project analyzes Uber trip data using Python and SQL. The dataset contains trip records including date, time, and trip frequency. Exploratory data analysis and SQL queries were used to extract meaningful insights. The project demonstrates practical data analytics skills using real-world transportation data.

1. INTRODUCTION

Uber is one of the world's largest ride-sharing platforms. Understanding trip data can help optimize services, improve customer experience, and support data-driven decision-making.

This project focuses on analyzing Uber trip data to identify patterns related to time, frequency, and usage trends.

2. OBJECTIVES

• Analyze Uber trip data using Python

• Perform data cleaning and preprocessing

• Identify peak travel times

• Analyze trip trends using SQL queries

• Visualize insights using graphs

3. DATASET DESCRIPTION

The dataset used is "Uber-Jan-Feb-FOIL.csv".

It contains Uber trip records for January and February.

Key attributes include:

• Date

• Time

• Number of Trips

The dataset was cleaned and processed before analysis.

4. TOOLS AND TECHNOLOGIES USED

• Python

• Pandas

• NumPy

• Matplotlib / Seaborn

• SQL

• Jupyter Notebook

• CSV Dataset

5. METHODOLOGY

1. Data loading and inspection

2. Data cleaning and formatting

3. Exploratory data analysis

4. SQL-based analysis using queries

5. Visualization of trip trends

6. Interpretation of results

6. RESULTS AND ANALYSIS

The analysis identified peak travel hours and high-demand days.

Weekday and weekend usage patterns were clearly visible through

visualizations and SQL queries.

The insights obtained can help optimize ride availability and

operational planning.

7. CONCLUSION

This project successfully analyzed Uber trip data using Python and SQL.

The findings highlight important trends in ride demand and trip frequency.

The project enhanced hands-on skills in data analysis, SQL querying,

and data visualization.

8. FUTURE SCOPE

• Analyze data across multiple cities

• Include fare and distance data

• Apply machine learning for demand prediction

• Build dashboards for real-time analysis

9. REFERENCES

• Uber Trip Dataset

- Python Documentation

- SQL Documentation

- Pandas Documentation