

# Chicago Taxi Trips Data Analysis

*Gulay Samatli*

# Introduction

**Question:** Demand and fare by time and location;  
Chicago Taxi Cab Revenue Optimization

- Districts
- Month
- Days of the week
- Competitive market

**Motivation:**

- to help taxi cab companies to schedule their staff

DATA Acquisition

January-October, 2021

Soda API



Data Storage

SQLAlchemy

Data Process

Python

Web App

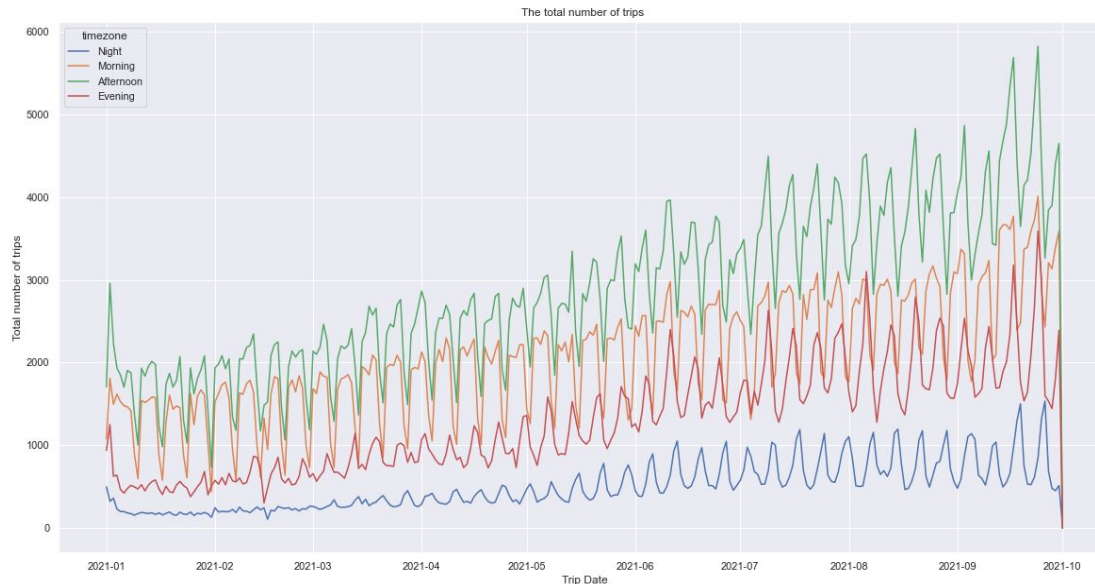
Streamlit



# Data, EDA

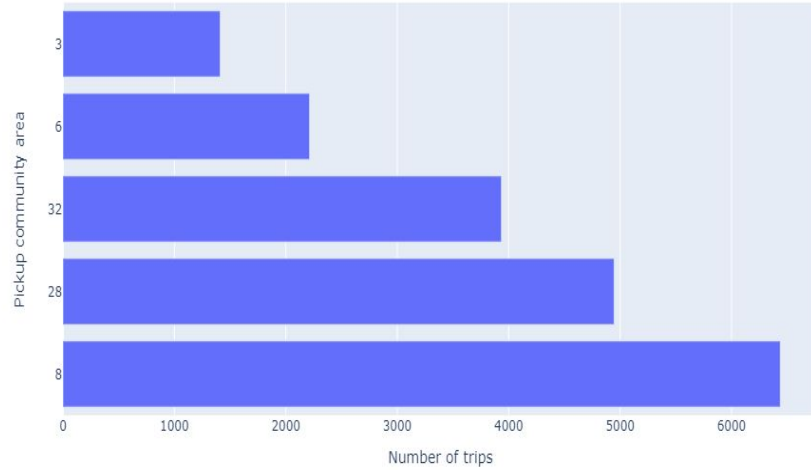
- Features:

`trip_id`  
`trip_start_timestamp`  
`trip_seconds`  
`trip_miles`  
`dropoff_community_area`  
`fare`  
`trip_total`  
`payment_type`  
`company`  
`dropoff_centroid_latitude`  
`dropoff_centroid_longitude`  
`pickup_community_area`  
`pickup_centroid_latitude`  
`pickup_centroid_longitude`

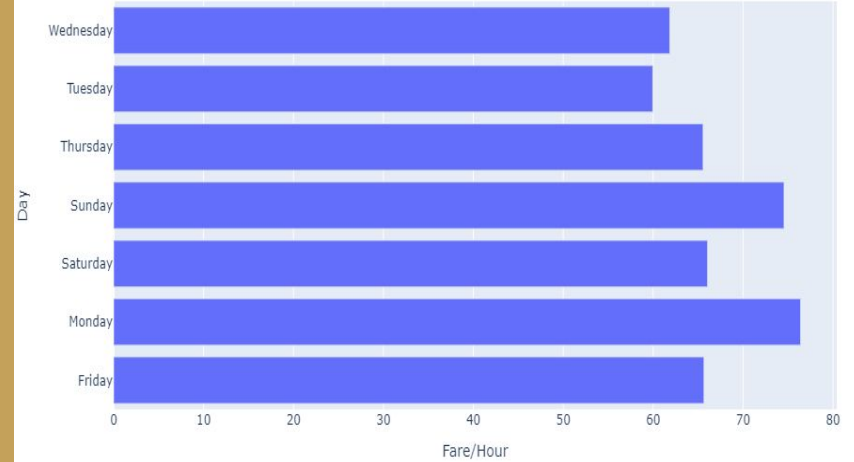


# EDA

Total number of trips in the selected time



Average Fare per Hour over the selected period



- For the selected month and time of day
  - Districts with top 5 demand
  - Popular pickup/Dropoff locations
  - Average fare per hour with respect to day of the week
  - Top 5 best performing companies

# Chicago Taxi Trips Analysis

Data Taxi trip database can be reached from [City of Chicago Transportation website](#). This data includes trip information between 2021-01-01 and 2021-10-01. By sliding the slider you can explore trips information in different time periods.

Select Trip Info

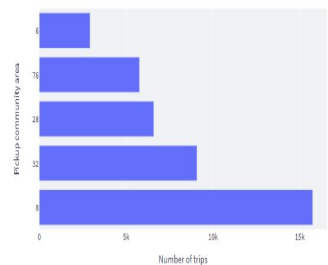
Months: 

March

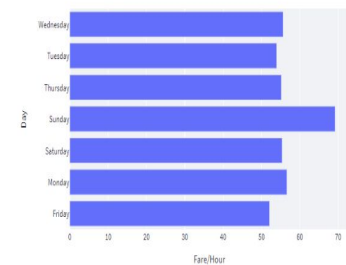
Time of day: 

Afternoon

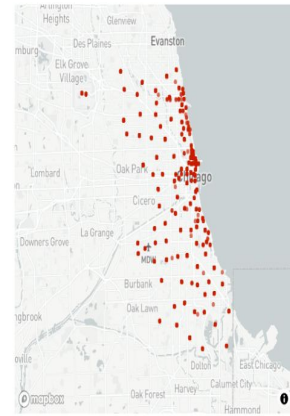
Total number of trips over the selected period



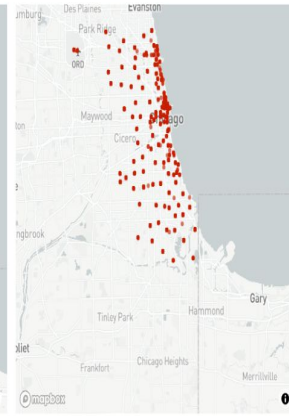
Average Fare per Hour over the selected period



Pickup Location



Drop-off Location




Taxi Company Metrics

Company	Total	Fare/Mile	Mile/Trip
Fresh Cab	24596	3.25	5.66
Taxi Affiliation Services	20019	4.55	4.13
Medallion License	4311	3.43	5.18
Twicab Insurance Agency LLC	3250	3.13	5.48
Sun Taxi	2670	3.03	6.28



# Future Works

- Build a predictive model
  - taxi trip duration, fare, demand
- Provide more filters on app
- Provide more graphs/charts on app



*Thank you*