



62444 Data visualization and analysis

# **Presentation-Group 12**

January 21, 2024



## **Overview**

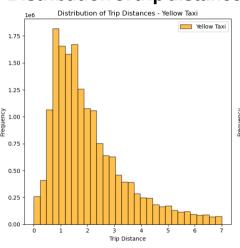
- Taxi project
- NASA project

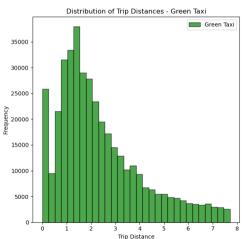


# Project 1 Analysis and Forecasting of NYC Taxi Rides

#### Taxi project

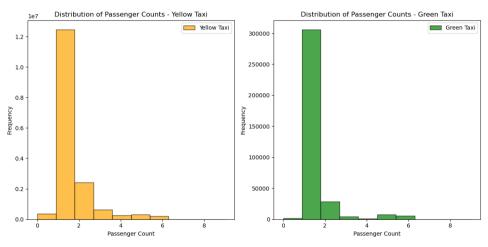
# Distribution of trip distance





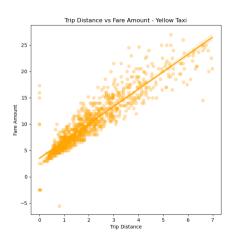
#### Taxi project

# Distribution of passenger count





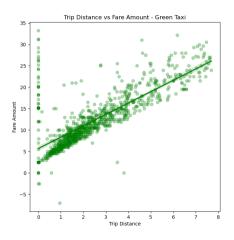
# Distribution of passenger count







# Distribution of passenger count

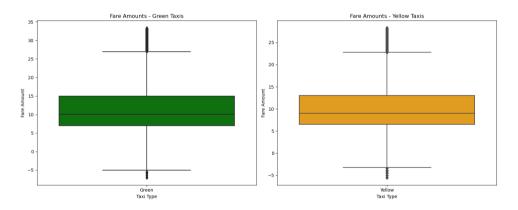


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#### Taxi project

# Distribution of passenger count

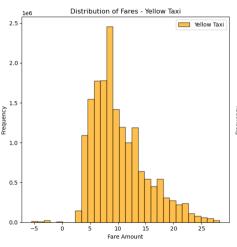


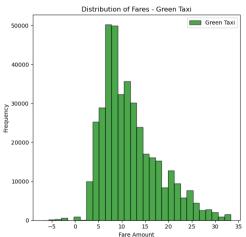
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#### Taxi project

## Distribution of fares



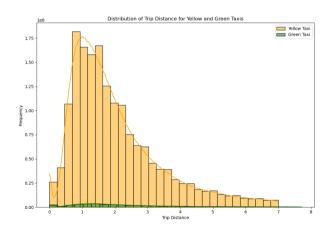


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# Distribution of passenger count



# Task 3



Figure: Most used Pickup locations for yellow and green taxas

#### Taxi project

# Task 3



Figure: The most used Pickup locations for yellow and green taxas

# Task 4

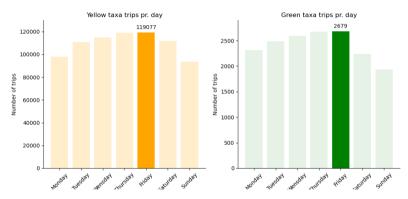


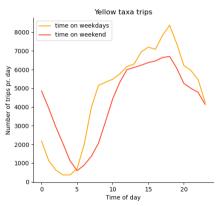
Figure: Average number of daily trips on day of week

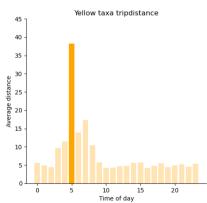


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# Taxi project

**Task 4** Yellow taxi trips and distance





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# Task 4

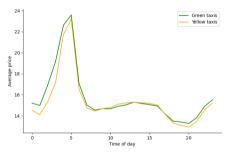


Figure: Average number of daily trips on day of week



#### Performance of forecast models:

	model 1	model 2	model 3	
rmse	12175	11713	6068	
months:	1-3	1-4	1-5	

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#### Taxi project

# Task 5

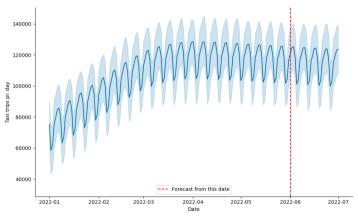


Figure: Forecast for Yellow taxis



# Project 2 NASA data collection and visualization



#### **Data statistics**

2687 near-eath objects (NEOs) was observed in 2022

mean	mode	std	min	Q1	median	Q3	max
267	25.9	412	2	39	123	323	5006

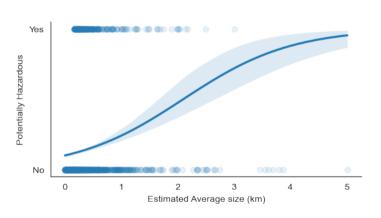
Table: Statistics for the average size of NEO's in meters



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#### **NASA** project

# NEO size vs. potential hazard correlation

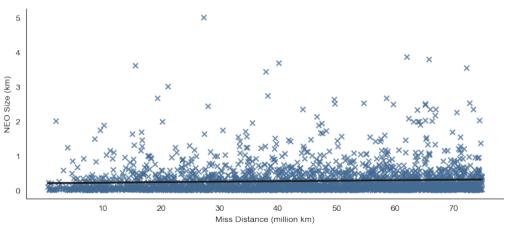


0.21
Weak correlation
between size of of
NEOs and if they are
potentially hazardous.

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#### **NASA** project

### NEO size vs. miss distance correlation

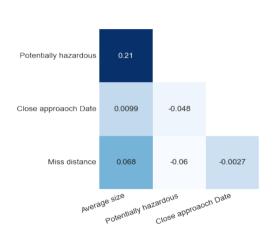


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#### **NASA** project

# **Correlation matrix**

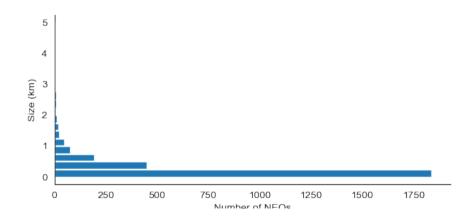




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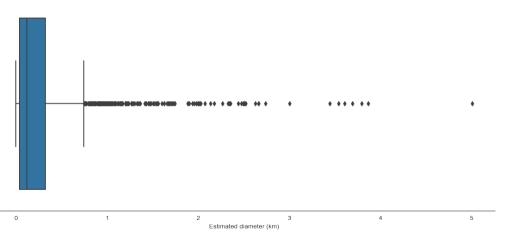
# **Distribution of NEO sizes**





#### **NASA** project

# Box plot of NEO sizes



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# Average NEO size per week

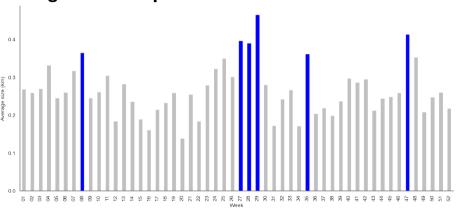
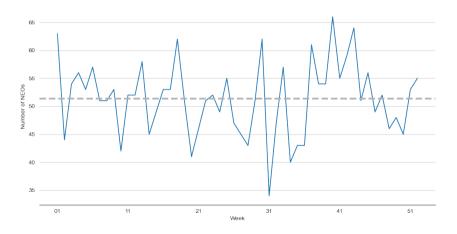


Figure: Average NEO size in the 90th quantile

# **NASA** project

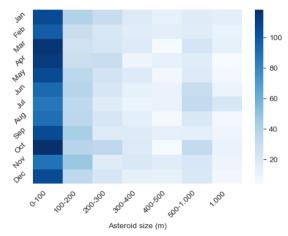
# **NEOs per week**



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# Heat map of NEOs per month



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#### **NASA** project

# Proportion of Hazardous vs Non-Hazardous NEOs

