THE BATTLE OF NEIGHBORHOODS

Optimizing an Advertising Campaign in NYC by Location Intelligence.

WHY?

The problem

Advertising campaign optimization

- A new and small wine brand would want to be widely known in NYC in a shortest period of time. But small businesses can't hire advertising agencies for campaigns involving a huge amount of money, so they need to set up an optimal advertising campaign minimizing the cost and maximizing its profits.
- They want to promote their young red wine and their fruity white one. For this, they seek areas (neighborhoods) localized whith high density of restaurants and high afluent of customers. In this way many people will know their product.
- Main goal: **Determine where to find their campaign audience**

WHAT?

The Data

Data Sources

- **TLC Trip Record Data:** The yellow and green taxi trip records include fields capturing pick-up and drop-off dates/times, pick-up and drop-off locations, trip distances, itemized fares, rate types, payment types, and driver-reported passenger counts. The data used in these datasets were collected and provided to the NYC Taxi and Limousine Commission (TLC) by technology providers authorized under the Taxicab & Livery Passenger Enhancement Programs (TPEP/LPEP).
  - *https://nyc-tlc.s3.amazonaws.com/trip+data/yellow_tripdata_2019-12.csv*
  - *https://nyc-tlc.s3.amazonaws.com/trip+data/green_tripdata_2019-12.csv*
- **Taxi Zones:** Official zones that correspond with pick-up and drop-off locations of taxi trips.
  - *https://data.cityofnewyork.us/api/geospatial/d3c5-ddgc?method=export&format=GeoJSON*

Data Sources

- **Centroids of Neighborhoods:** We calculated those centroids by QGIS, an Open Source Geographic Information System
- **Foursquare API:** It will provide venues information (restricted to restaurant) for each neighborhood. We will use the Foursquare API to explore neighborhoods in New York City.

*Please note in this analysis the situation due to Covid-19 has not been considered

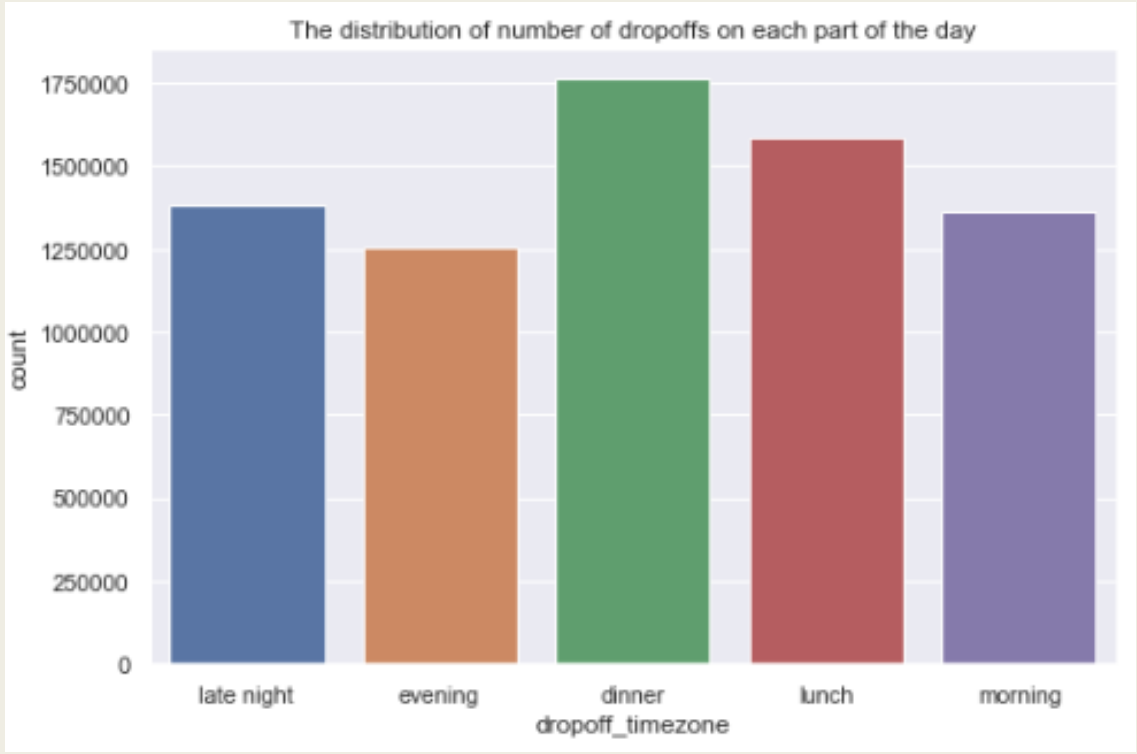
HOW?

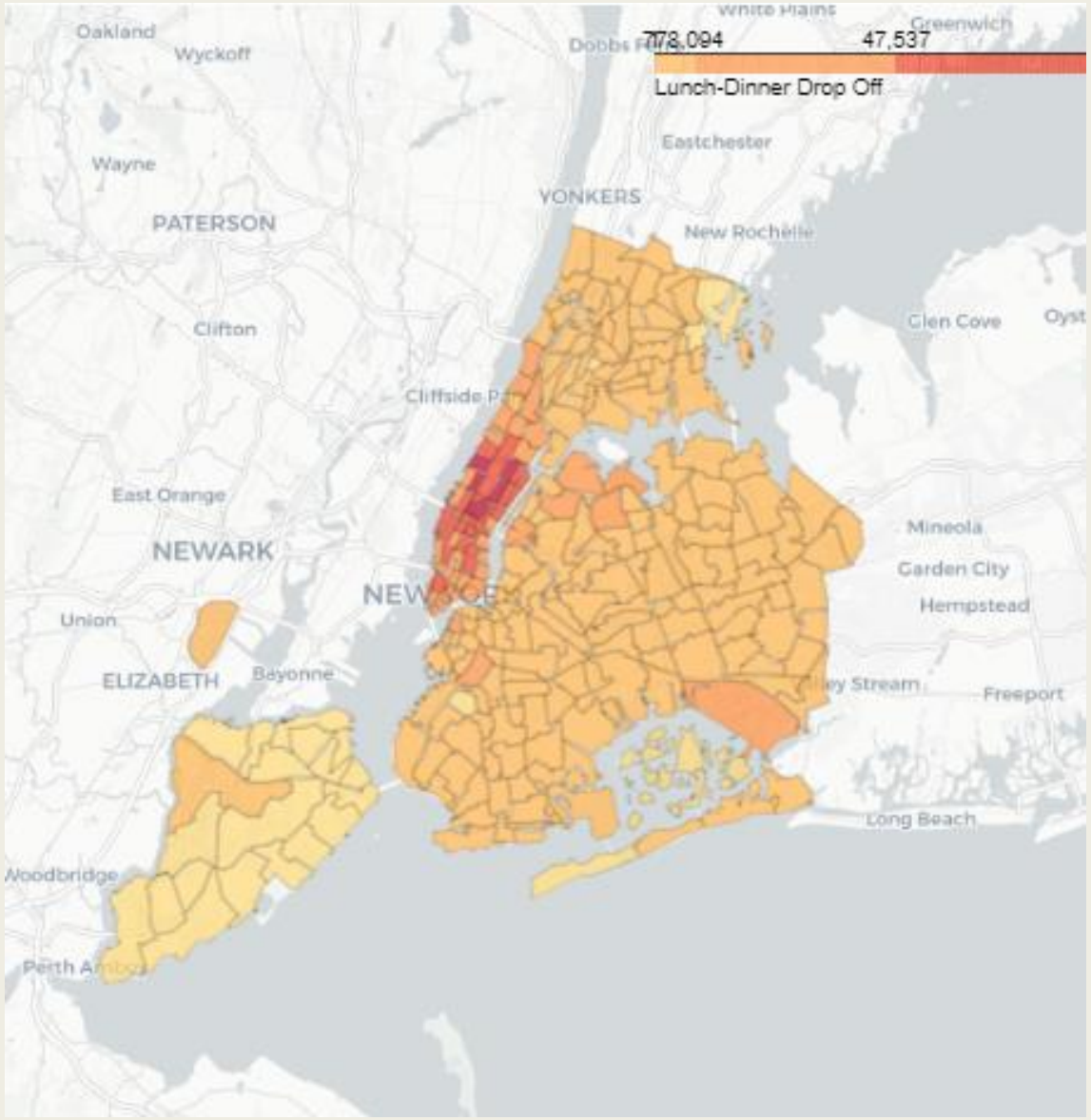
The Methodology

Analyzing the drop-off distribution

- Week day:
  - *Sunday 1051923*
  - *Monday 1095333*
  - *Tuesday 1159240*
  - *Wednesday 943676*
  - *Thursday 1045000*
  - *Friday 1061179*
  - *Saturday 990593*

- Each part of the day:

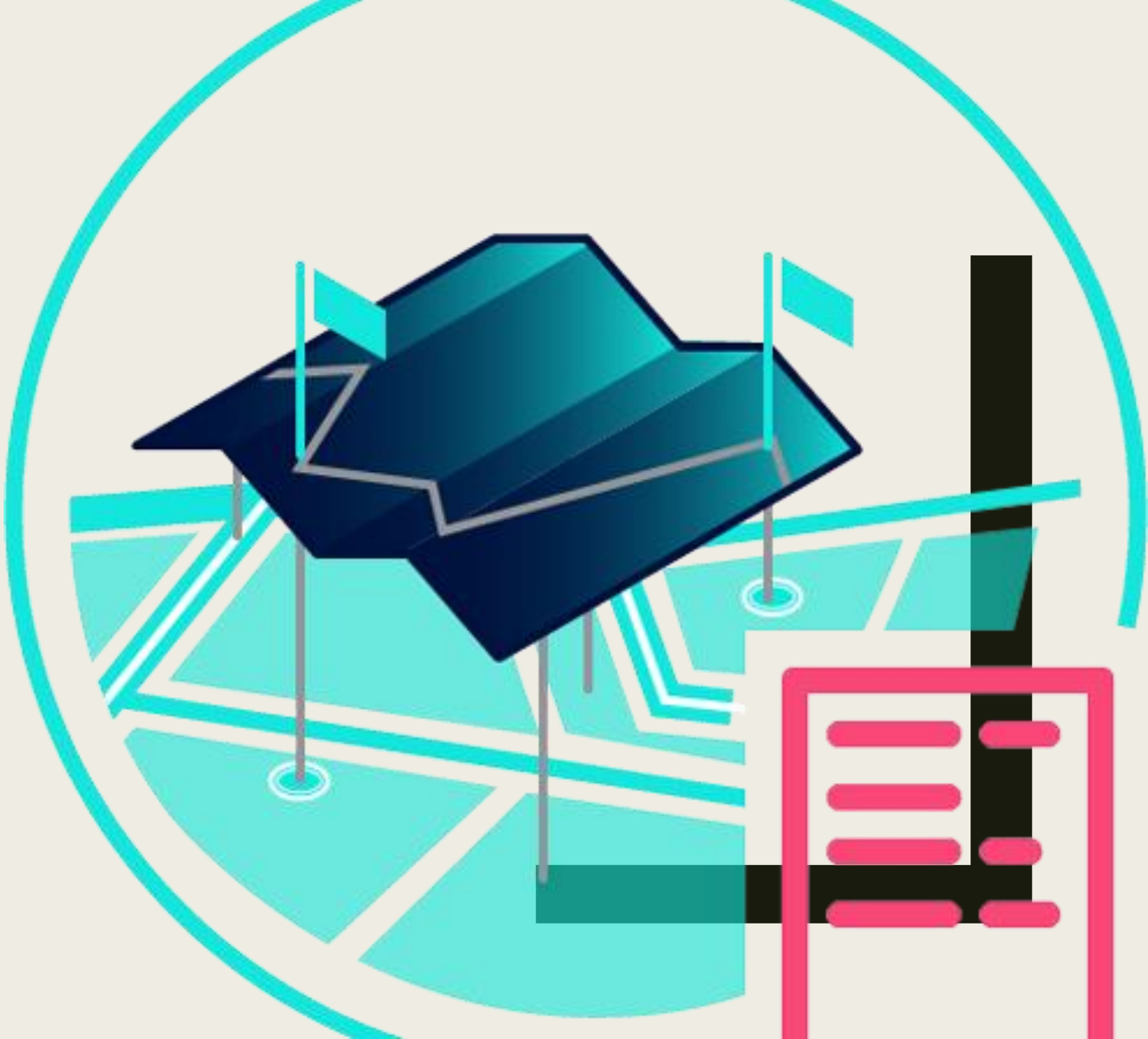




The density of drop off during lunch or dinner time

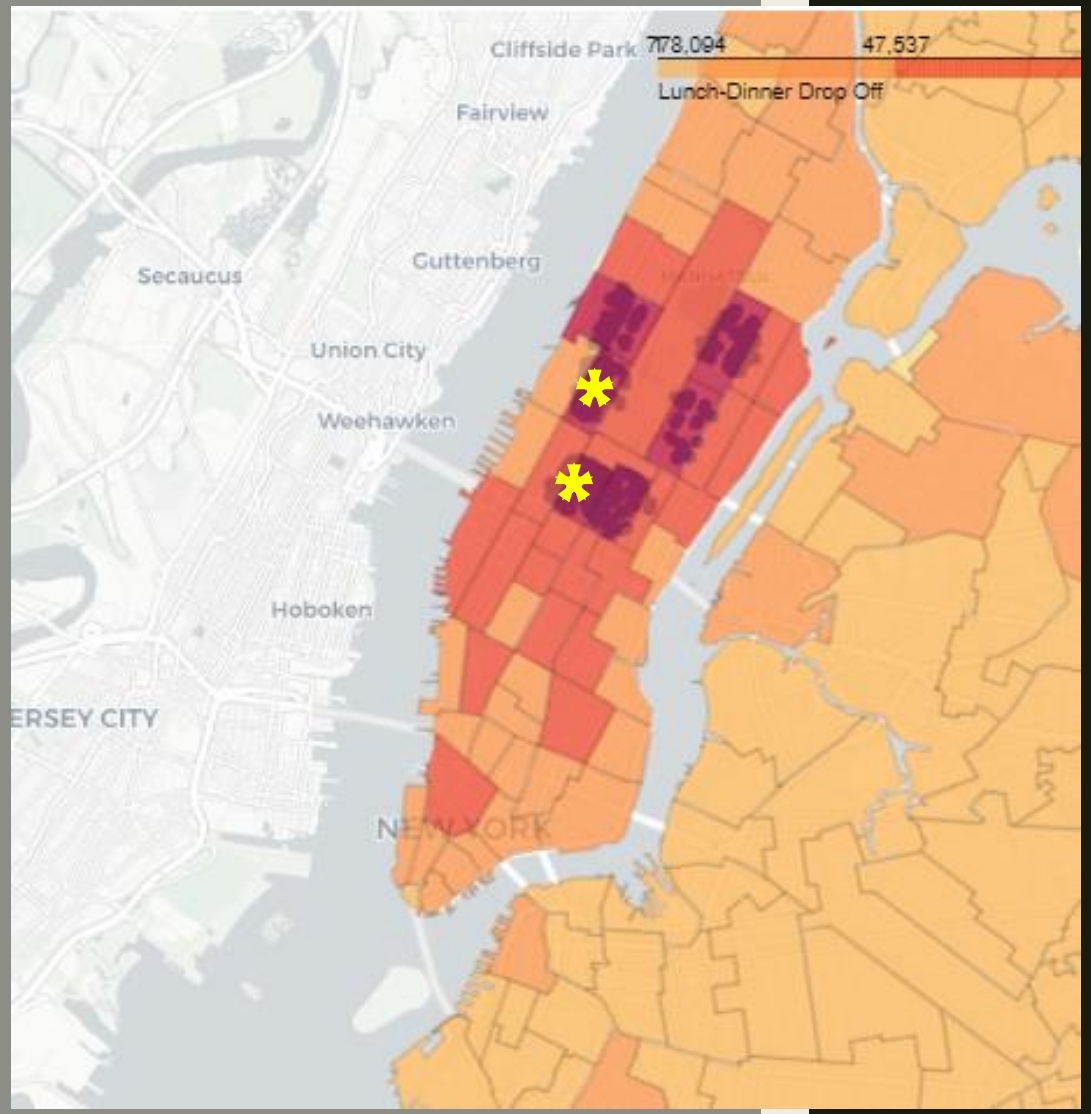
The darker the higher the density.

SEARCHING RESTAURANTS WITH FOURSQUARE API



WHERE?

The Final Result



The Best Locations

Acording the taxi drop-off and the restaurants density, we obtain two locations:

- Times Sq/Theatre District
- Upper West Side South