MTA Traffic Analysis for Esport Team Cheetah

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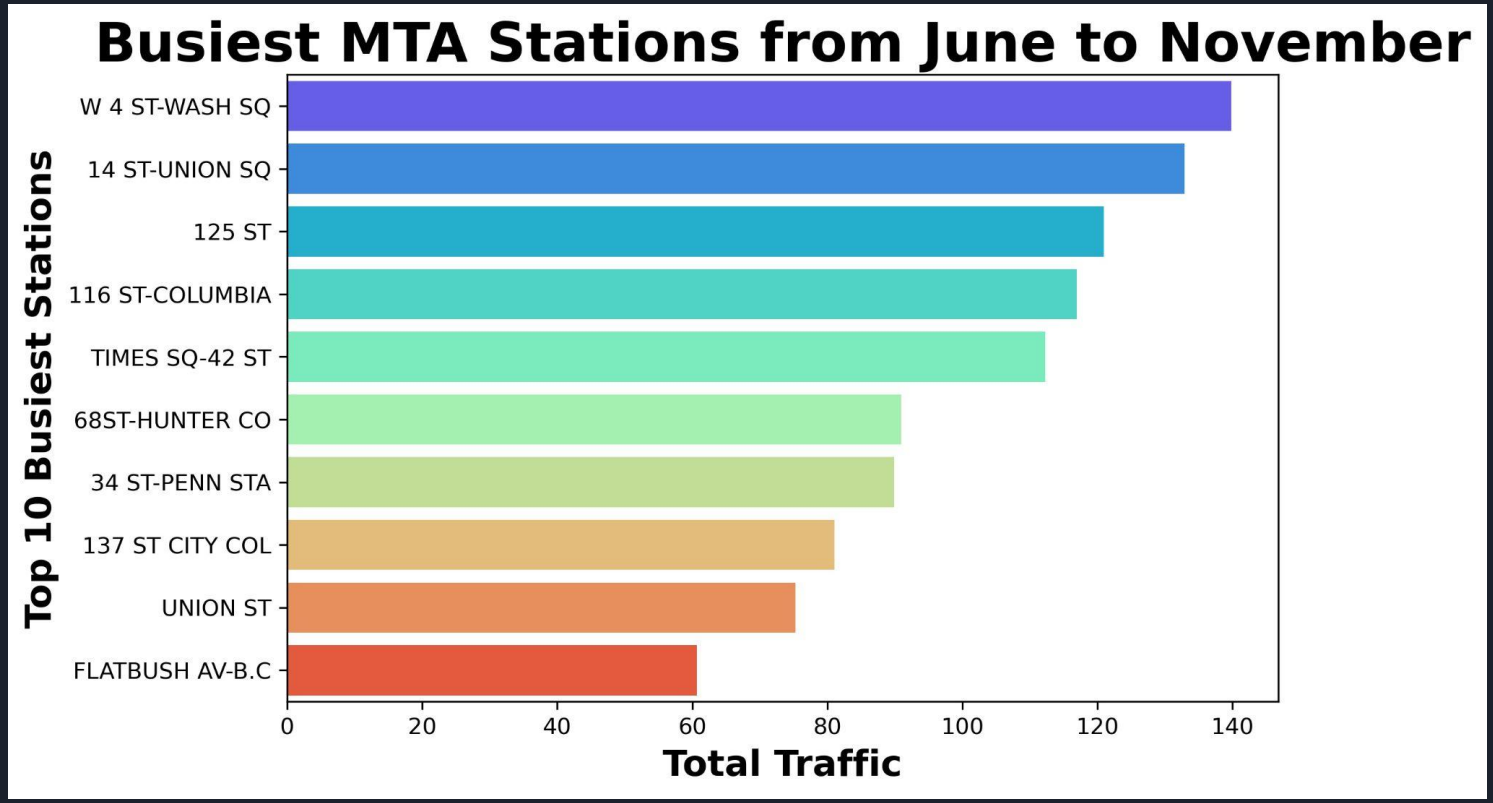
Introduction

- Esports team Cheetah is holding a gaming event in March and hopes to invite as many interested gamers, working professionals, and students as possible.
- Cheetah team intends to place electronics advertisements at specific NYC subway stations to promote their event to gamers, working professionals, students, and anyone else interested
- **Agenda:** analyze MTA subway data on traffic flow to optimize placement and time of the advertisement to maximize awareness to target demographics: gamers, working professionals, and students

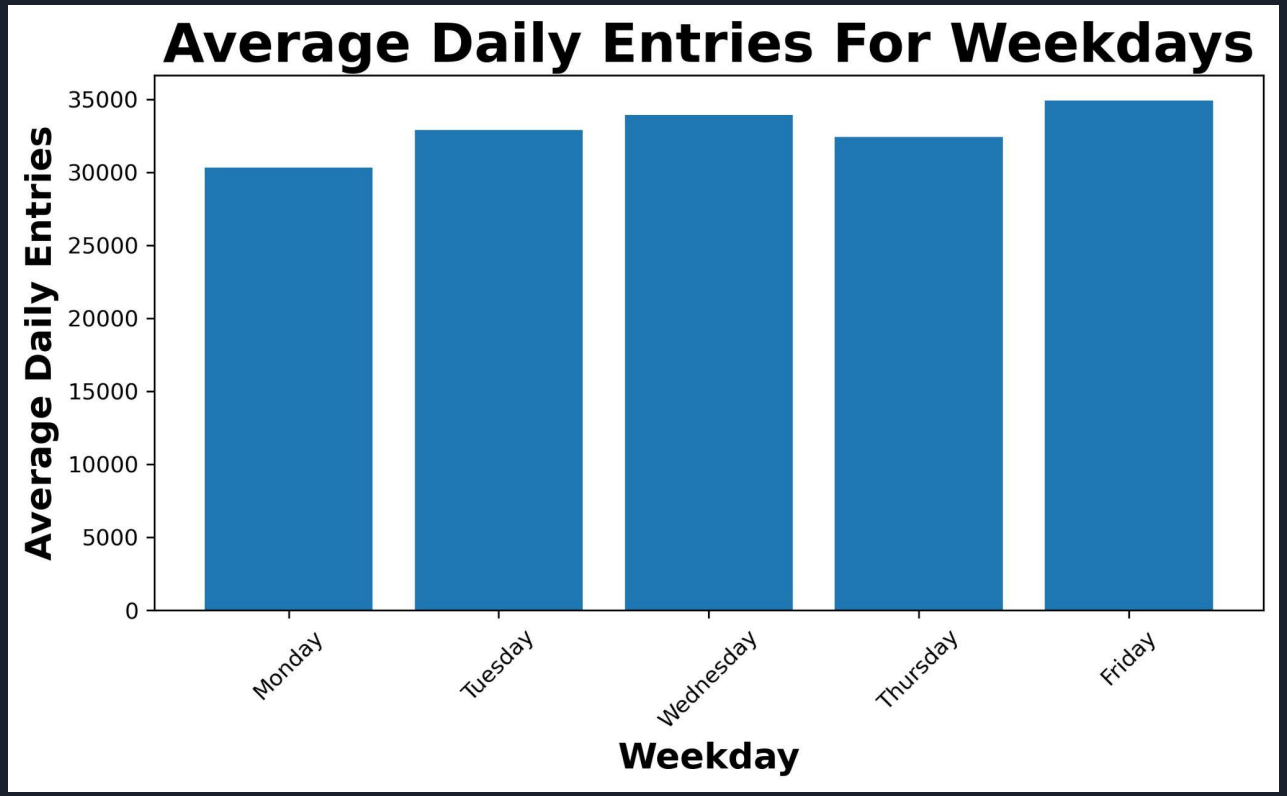
Methodology

- Data
  - MTA Turnstiles Data (MTA)
  - Additional Data: Colleges and Universities near NYC subway stations, OpenStreetMap
- Tools:
  - Python, Pandas, Numpy, SQLAlchemy
  - Matplotlib, Seaborn, geopandas/geoplot, folium
  - Github

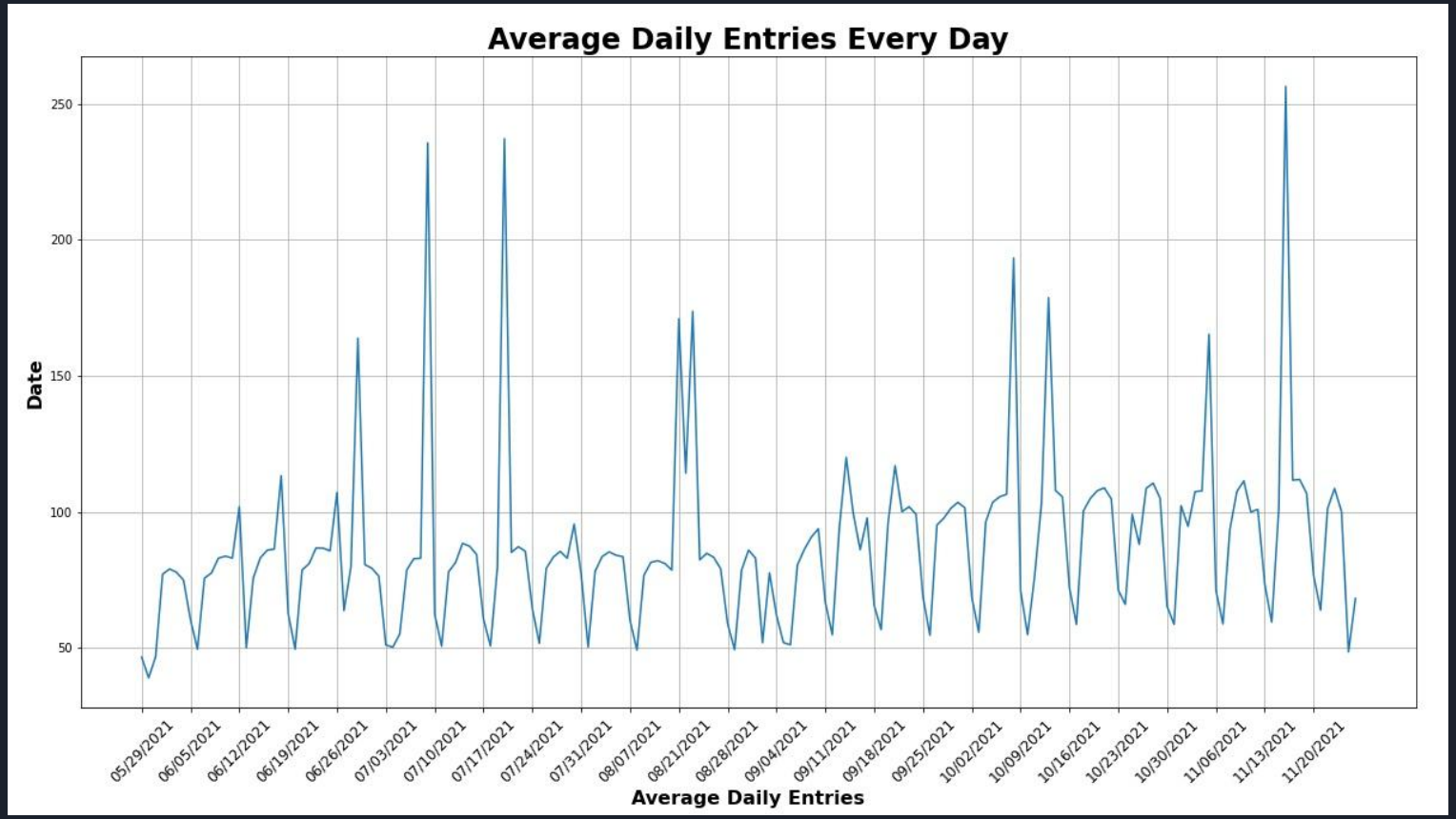
Top 10 Busiest Stations near target demographics



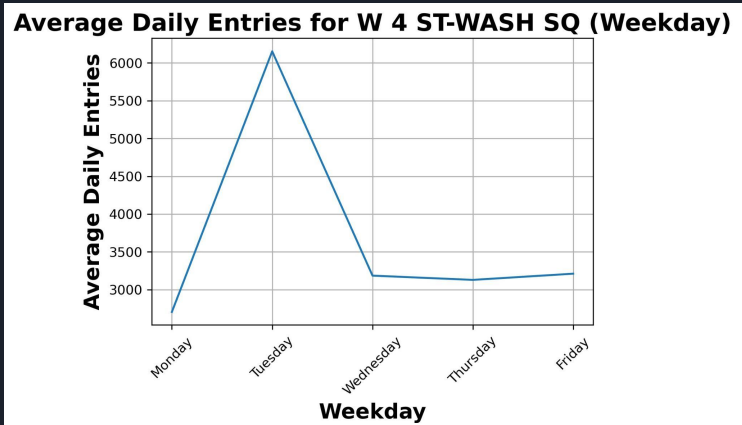
Average Daily Entries of Weekdays

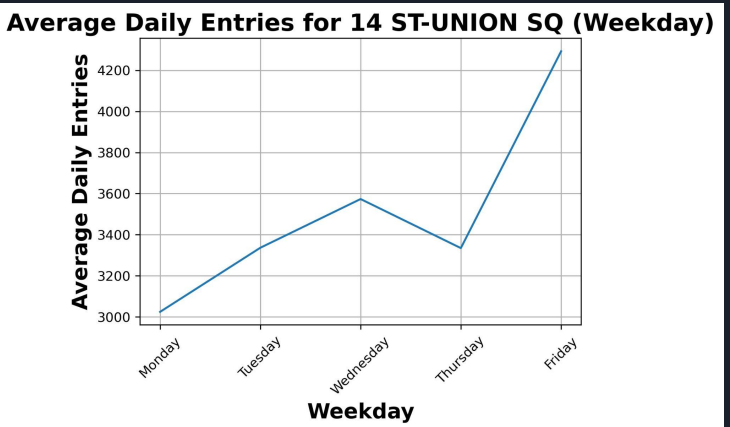


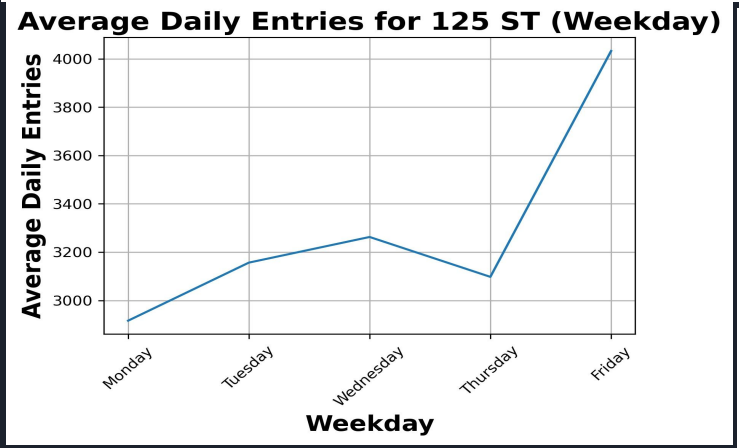
Average Daily Entries for Every Day

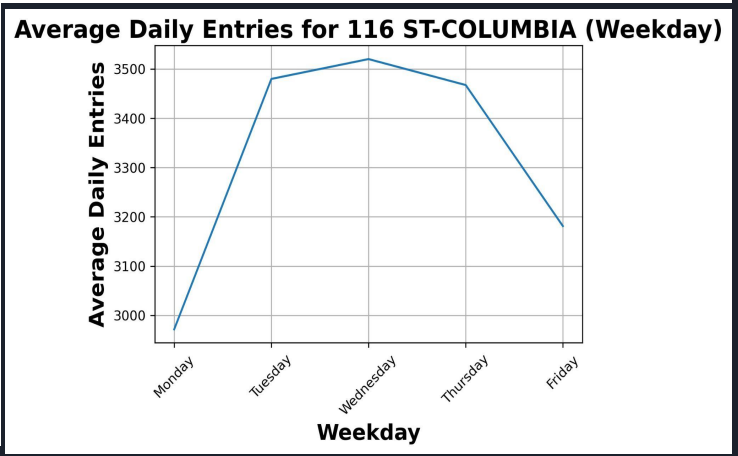


Average Daily Entries for Top 5 Stations









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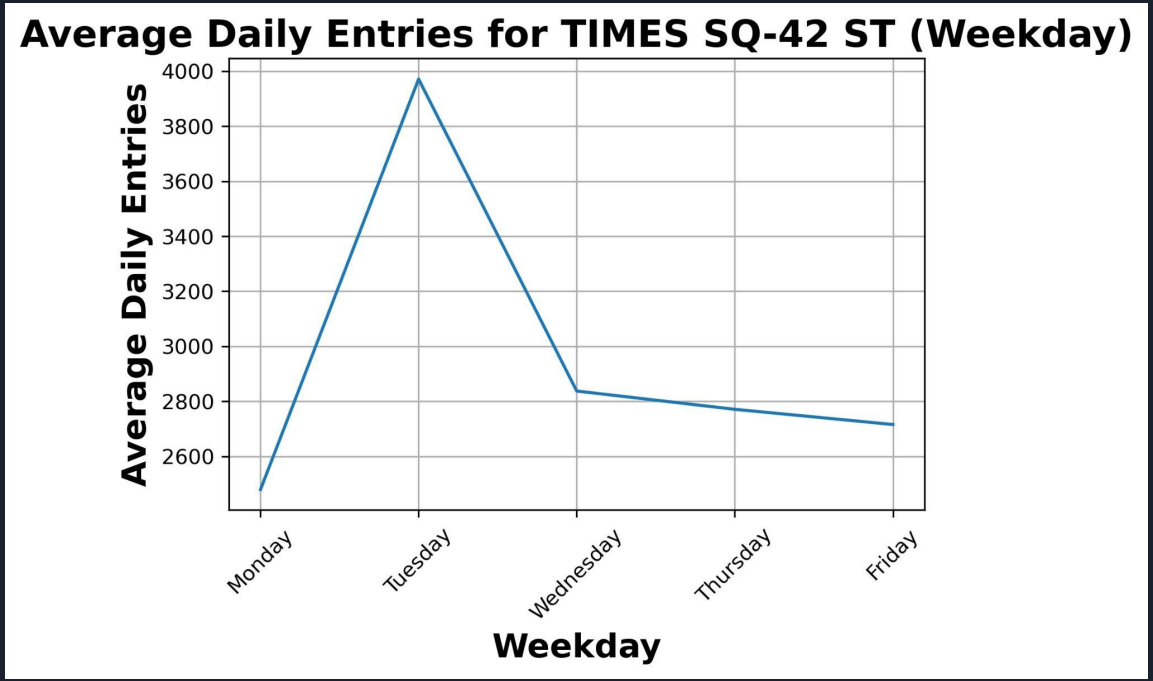
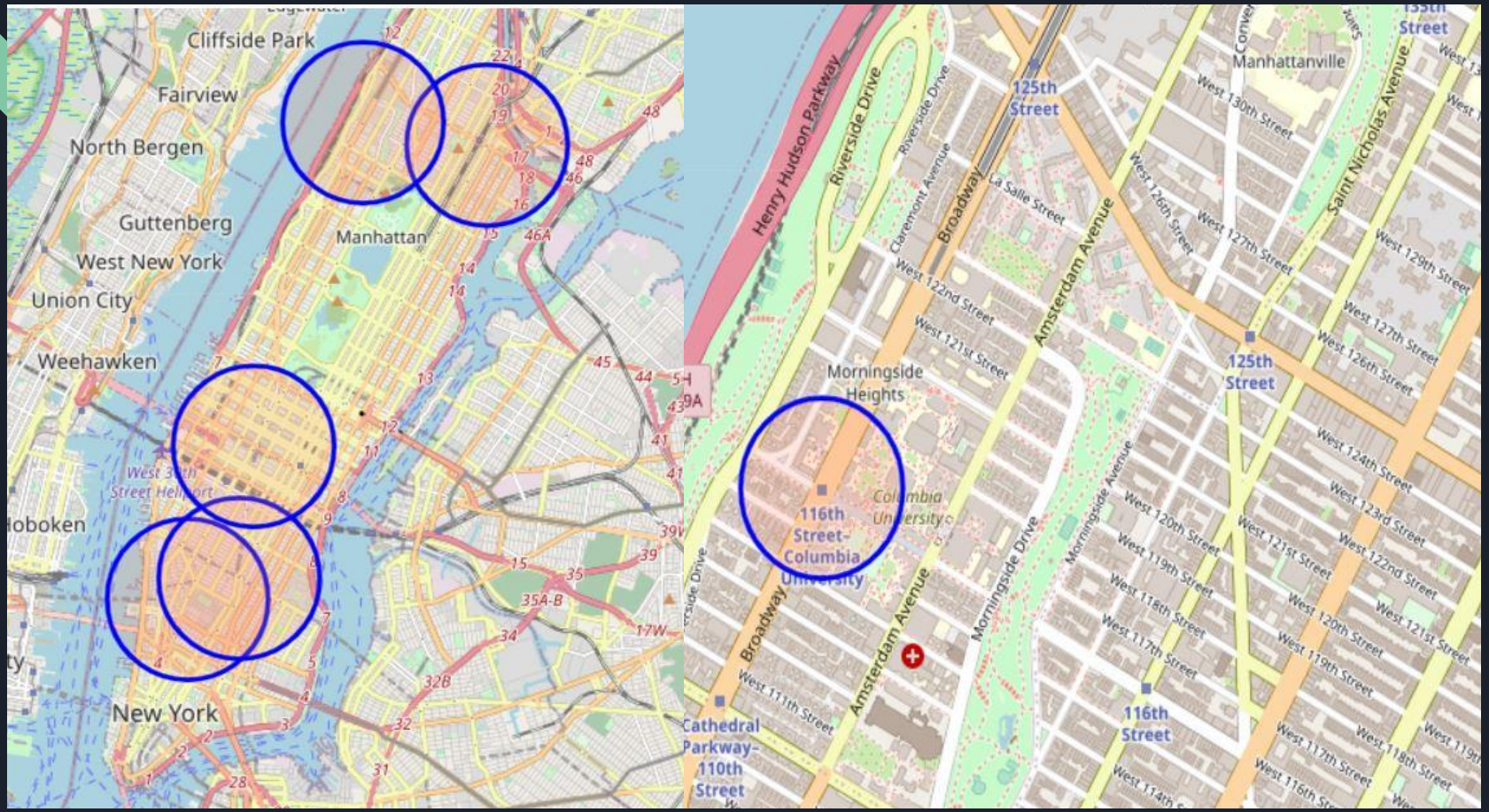


Geographical Map of Top Stations



Conclusion

- Top stations close to universities and working professionals
- Put electronic advertisements in these stations:
  - W 4 ST -WASH SQ
  - 14 ST-UNION SQ
  - 125 ST
  - 116 ST-COLUMBIA
  - TIMES SQ-42 ST
- During Mondays, Tuesdays, and Fridays

Future Work

- Plotting location of tech companies and universities
- Proximity of stations and tech companies and universities
- Weekend commutes vs Weekday commutes
- Compare top stations and possible demographic targets as well as number of tech companies and universities located near the station

Appendix

- Time period: June to November
- Data cleaning: Fixing some outliers that do not present normal daily traffic behavior within a week (weekdays specific)
- Reason for selecting the stations:
  - Proximity to working professionals and universities
  - Outliers-tourism

Thank you