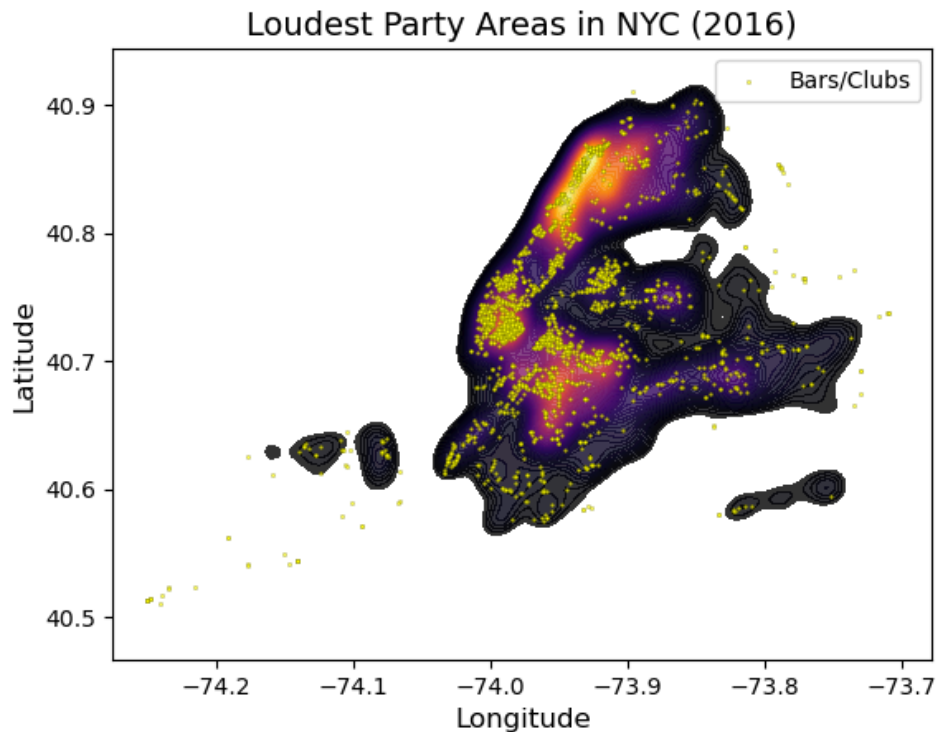


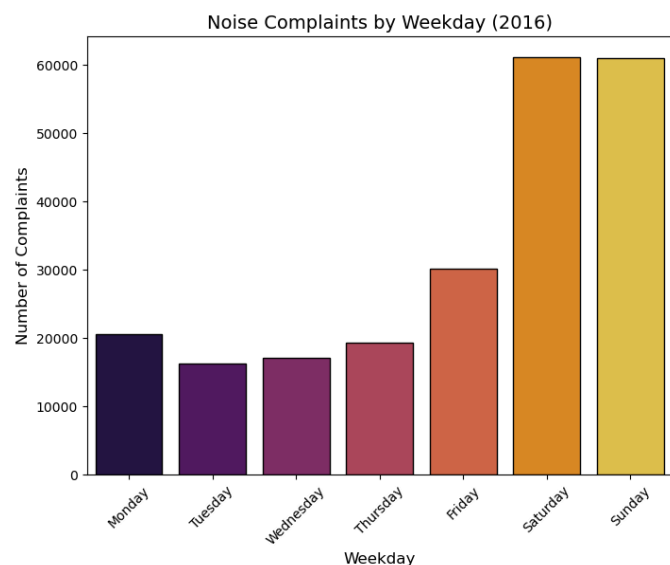
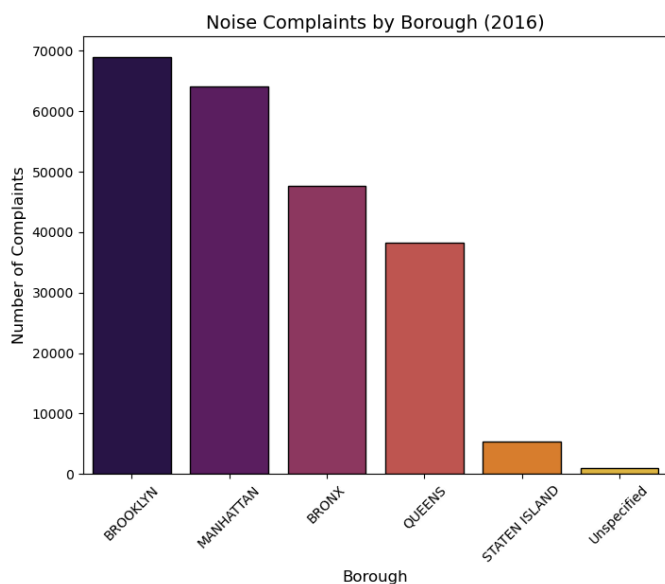
# 2016: Loudest Parties in New York City

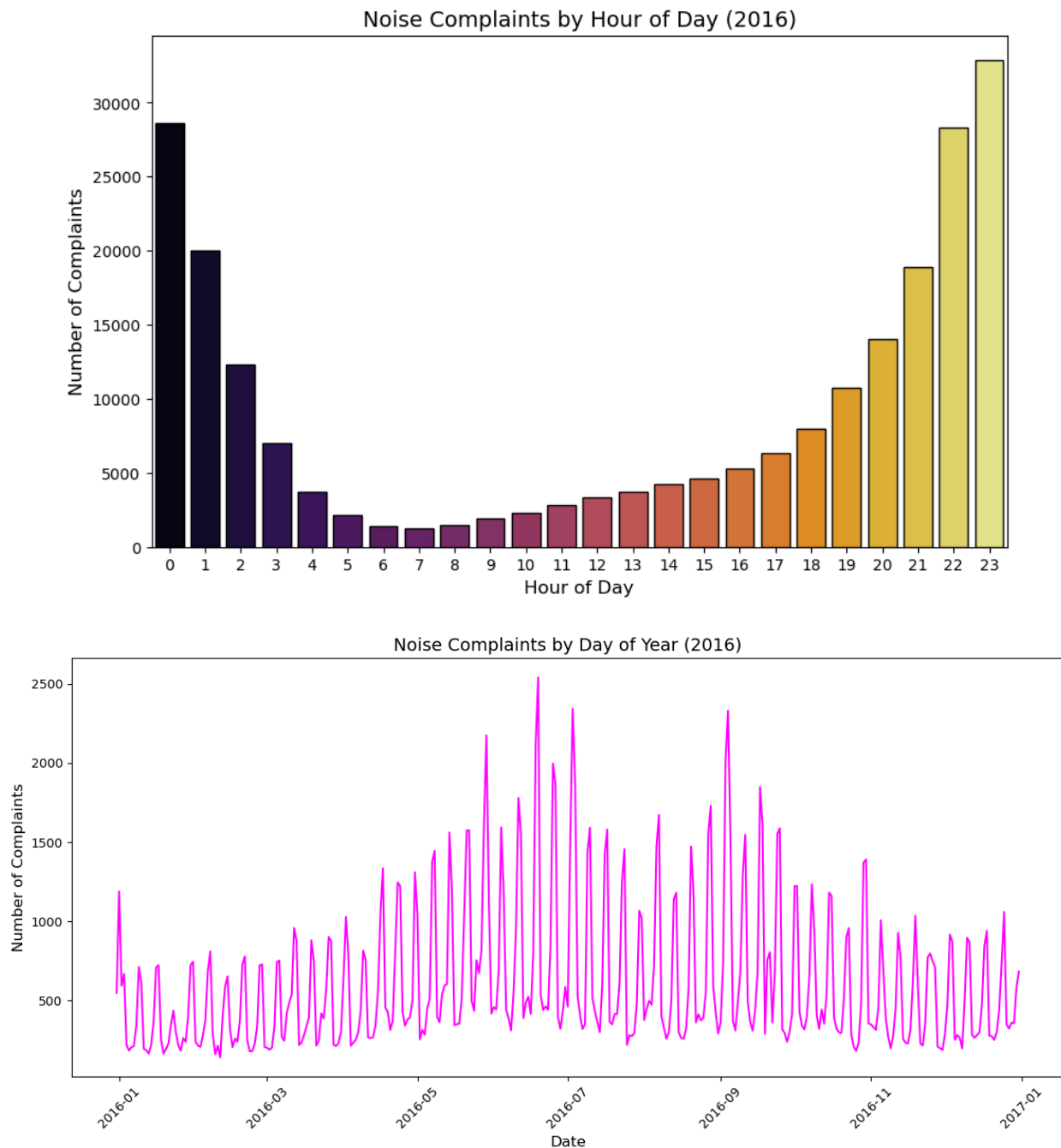
The visual below displays the loudest party areas in New York City based on 2016 noise complaints. Bar and club locations are overlaid to analyze their correlation with high-noise regions.



## Legend

- **Inferno Heatmap:** Represents density of noise complaints, with bright orange/yellow indicating higher concentration of calls.
- **Yellow Dots:** Represent the locations of bars and clubs across the NYC area.





## Findings

- There is a clear correlation between nightlife locations and high-noise complaint areas, suggesting that these businesses significantly contribute to noise complaint incidents.
- Based on the heatmap, noise complaints are highly concentrated in certain parts of the city, indicating hotspot areas either for nightlife or other loud events.
- Because some of the hotspots lack significant nightlife businesses, this may indicate there are other noisy events occurring, such as residential parties, crime, or large outdoor gatherings or events.

- In the noise complaints by borough graph, Brooklyn has the most amount of calls, followed by Manhattan. Despite Manhattan having a larger number of bars and clubs, Brooklyn's more residential demographic may explain the higher amount of noise complaints.
- When comparing noise complaints by day of the week, it's no surprise that Saturday and Sunday see the highest number of complaints. Tuesday and Wednesday see the lowest amount of complaints.
- In the noise complaints by hour of day, we see a high amount of complaints between 12:00 am and 1:00 am, followed by rising complaints between 9:00 pm and 11:00 pm. Between those hours, the number of complaints is less, as the daytime hours are less likely to be as loud and disruptive.
- Finally, in noise complaints by day of the year, we see seasonal trends in when the most noise complaints are. The summer months between May and July see the highest consistent number of complaints, with a dip in August followed by a rise in September. The winter months see the lowest level of complaints, save for what appears to be Halloween night and New Year's Eve/Day in January.

## Data and Methods

- Data was sourced from Kaggle - 2016 Parties in New York. That data was compiled from all noise complaints that were received by the city police with complaint type "Loud music/Party" in 2016. The data contains the time of the call, time of the police response, coordinates, and part of the city.
- Link: <https://www.kaggle.com/datasets/somesnm/partynyc?resource=download>
- For data processing, noise complaint timestamps were converted to datetime variables to extract weekdays, hours, and dates.
- As for the visualization techniques, a kernel density estimate heatmap highlights call complaint density overlaid with scatter points to indicate bar and club locations.. Bar plots and line charts use the inferno color scheme to display aggregated counts by borough, weekday, time of day, and day of the year.

## Significance

This project reveals a clear environmental pattern of noise complaints in NYC, closely related to nightlife hub areas in Manhattan and Brooklyn, specifically. The weekday, hourly, and seasonal analyses emphasize that weekends, late evenings, and summer months drive the highest complaint volumes, which aligns with the fact that the nicer summer months and longer evenings lend to more going out amongst communities. These findings can offer actionable insights for urban planners and policymakers to propose noise mitigation efforts, figure out how to best optimize resource deployment in terms of sending responders to noise complaint calls, and promote data-driven strategies to enhance community well-being in New York City - in a city of millions, looking back to the data can be a useful tool in digesting so much information and discovering clear patterns.

## Links:

GitHub Repo: <https://github.com/ljablunovsky/INFSCI-2415-NYC>