NYC Parking Ticket Issuance Pattern Detection

Maria Mahbub (CS 690)
Tasmia Rahman (CS 594)

THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

One slide - One concept

1 picture is better than 100 words

Motivation

- Problem:
  - When are tickets most likely to be issued? Any seasonality?
  - What are the most common years and types of cars to be ticketed?
- Relevancy:
  - Analyzing the pattern of ticket violation focusing the time of issuance and type of issued car can give us insight on the impacts of these features.
  - A prediction model can be useful to warn the drivers to avoid getting tickets issues
- Overarching project goal:
  - An accurate prediction model
  - A clustering that can be evaluated for proper interpretation

Contributions

Police Officer issues ticket for illegally parked cars

Quantitative Data

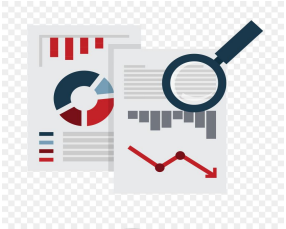
NYC OpenData

Data collected and provided by Department of Finance

Data Source

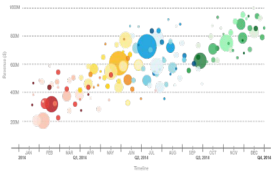
Data with incomplete or missing attributes are cleaned

Data Preprocessing



Analyze data features and perform algorithmic analysis

Exploratory Data Analysis



Communicate the findings using plots and interactive visualizations

Data Visualization

Background and Related Work

- A work has been carried out on finding a pattern of parking ticket violations focusing on understanding the relationship between the locations and type of violations
- Another paper analyzed the factors that affect truck parking violation frequency in urban areas
- There is also a study on downtown parking model integrating traffic congestion and on-street parking
- There is another study on cultural norms and legal enforcement in controlling corruption by analyzing the parking behavior of United Nations officials in Manhattan

Methodology

- Two or three slides with the overview of the methodology you applied in your project
  - What tools do you use? Do you write a new tool?
  - What algorithms do you use? Do you write new algorithms?
  - How do you use the tools / algorithms? What is the solution workflow?

Results

- Three or four slides with the results of your projects
  - Start from the environment you use to run your tests, i.e., on what system(s) do you run your test? What is the setting of the system?
  - Describe the test execution, e.g., how many times do you repeat the tests? What is the input data for each test?
  - List the metrics of success, e.g., what do you measure? Why? What is the metrics range? The higher the better? The lower the better?
  - Present relevant results in diagrams. For each diagram, list the main observations and takeaway for the reader

Lessons Learned and Future Work

- This is a conclusion slide with lessons learned and future work; each item is one or two bullet points / sentences
  - Describe what is the project about and the key methodology you use
  - Describe one or two key numerical results and their significance
  - Describe the next step(s) of the project, i.e., what you would do if you have more time

Revision of your Slides

- Go back to Slide 2 and review each one of your slides
  - Can you replace any text part with one or more figures?
  - Can you simplify / reduce any sentences?
  - Are there clear connections between consecutive slides?

NEVER end your presentation with a slide with “Thank you"