Venue options in the Safest and Most Dangerous Neighborhoods of Atlanta
Week 1

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1. Introduction

In Atlanta, criminality has been a significant concern to the population for the past decades[1]. Atlanta is considered only safer than 2% of all cities and towns in the United States, and the chances of a person become a victim of "violent or property crime" in this area is one to 17[2]. This information opens to discuss the need to evaluate the crime rate more recursively. Fortunately, data have become accessible as well as methods for visualization and analysis. One use for a crime rate analysis would be to provide a reliable report to society and stakeholders. For example, locals and tourists visiting dangerous neighborhoods are more likely to get somehow assaulted. Sometimes, tourists only visit venues in certain places for not being aware of other options. Identifying venues in safer areas could give either locals and tourists more alternatives to consider and avoid unsafe places. Besides that, this could also benefit non-well-known businesses by making them get more publicized.

1.1. Problem

Considering how safety affects people's lives, it is essential to understand and to identify the crime rate tendencies and what areas are more critical about this topic. This project aims to describe the crime profile in the last ten years (2009-2019) and offer alternative venue options in less dangerous places in Atlanta, GA.

1.2. Target Public

The key point of this project is to provide alternative venues for both locals and tourists visiting Atlanta. Locals could better understand the safety of their city, and tourists could use these results to plan trips, be aware of risky areas, and maybe include places that they wouldn't know of without this kind of guide.

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[1] https://en.wikipedia.org/wiki/Crime_in_Atlanta
[2] https://www.neighborhoodscout.com/ga/atlanta/crime#description

2. Data collection

To examine crime rates in Atlanta, I used a CSV file from the Atlanta Police Department website[3]. The original dataset had 19 columns and contained information about all the crime occurrences from 2009 to 2019, including date and time of crime occurrence, date and time of police report, the location the crimes occurred, type of crime, each neighborhood's coordinates, and so on. With this data, I expected to get a perspective about the safest and most dangerous areas, explore the crime rate tendency in the last ten years, and search for specific patterns in crime occurrences.

A GeoJSON file was downloaded from the Atlanta Department of City Planning[4] and used to visualize the relationship between crime rates and neighborhoods, using a choropleth map. The file had information about different administrative divisions, such as counties, cities and quadrants. Since I was only interested in the neighborhoods, I selected a file's part, referring to them.

Finally, I used the Foursquare API to get the venues in each of the safest and most dangerous neighborhoods.

[3] https://www.atlantapd.org/i-want-to/crime-data-downloads
[4] https://dpcd-coaplangis.opendata.arcgis.com/datasets/neighborhoods