Applied Data Science with Python

Capstone Project

Istanbul helps Cairo Find a New Go Kart Location

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Introduction

Problem Statement

Cairo is a big city that is very rich in terms of population density, infrastructure, historical and cultural sites and number of universities. Such characteristics of a city makes it attractive for investors, but due to the age of the city, almost all business ideas and projects can be found around the city, which makes the odds of having an edge very low. Indeed the odds may be low, only if we are talking about conventional business ideas. Egypt is a developing country, and most of the conventional business ideas around the world are quite new for Egypt, which opens the door to more ideas, that may not be new to the world, but new for Egypt.

The problem with these projects is that they need data and effective market research, which Egypt lacks at the moment, but the situation is improving nevertheless.

One of these ideas is a Go Kart track in Cairo, it's nothing new to the city, but it's not explored as there are 3-4 tracks for the whole city! My job is to choose a location/s for a new track in Cairo based on the venues around the location. I will need to find a city that's similar to Cairo with already established Go Kart tracks, and try to use the data from this city and apply it to Cairo. I chose Istanbul because it's very similar to Cairo both in density and infrastructure with a good number of tracks +25.

Data

The data for this project will be divided into two parts: Cairo and Istanbul.

Cairo Data:

- Neighborhoods/regions. This data could be found using the :Second-level Administrative Divisions of the Egypt from Spatial Data Repository of NYU. The data is obtained as a Geojson file, it was parsed to only include the data for the Great Cairo region (Cairo+Giza). Because how crowded and old the city is, a clear and nice boundaries between the regions can't be modeled easily, so for some some work was done to get fix the location of the region and the final data is stored in an csv file.
- Venues found around the city's regions utilizing Foursquare API in a similar way to what we did during the course with NY and Toronto.

Istanbul Data :

- Go Kart tracks around the city, this data was obtained using the Foursquare API that matched with Google Maps.
- Venues around the tracks again using the Foursquare API just like Cairo.