

1. Introduction

1.1 Background

Recife is the capital of the state of Pernambuco, located in northeastern Brazil, fourth-largest urban agglomeration in Brazil. It is a tourist-oriented city with several beaches and historical sites, but it is also an important industrial area of Brazil and an important national medical center. It has a population of approximately 1,645,727 inhabitants, living in 94 neighborhoods, according to information from IBGE - Brazilian Institute of Geography and Statistics.

Like so many developing cities, Recife live a scenario of social inequality and concentration of income, located in one of the poorest and worst distributions of income in the country.

As the healthcare industry and medical care as important to this city and bearing in mind that there is much inequality between neighborhoods i think it would be an important object of analysis for a data science project.

1.2 Problem

Recife holds the title of the second largest medical center in Brazil, behind only the city of São Paulo and being the largest center in the northeast. There are currently 14,000 doctors and 2,000 health units, generating approximately 70,000 direct jobs, according to information from SINDHOPE.

In this context, we began to analyze neighborhoods in places where there is a greater concentration of medical services and mapped the most needy areas. We decide to Indentificate areas of interest of new medical services based in neighbourhods profile of necessities.

1.3 Interest

This mapping would be of interest to new investors in the medical industry, to local government that can improve its services to its citizens and ultimately to medical service users who can better understand the availability of the service profile across city regions.

2. Data Description

To consider the problem we can list the data as below:

- I found the list of Neighbourhoods of Recife in SIDRA - IBGE (Sistema IBGE de Recuperação Automática).
- I used Foursquare API to get the most common venues related to medical services of given Neighbourhood of Recife.
- I used geopy library to get the latitude and longitude values and eventually Google Map, 'Search Nearby' option to get the center coordinates. of the each Neighbourhood.