# COURSERA CAPSTONE PROJECT

## Finding the best place to open a Cafe in Bengaluru

### INTRODUCTION

Bengaluru (also called Bangalore) is the capital city of  Karnataka, India. The center of India's high-tech industry, the city is also known for its parks and nightlife. Bengaluru has a lot of coffee fans and also high property rates, thus it becomes difficult for someone wanting to open a cafe to decide the optimal location.

The idea is to use the foursquare API and find the most popular coffee areas in the city and then look at their property rates to decide which would be the best place to open a cafe.This project would be very useful for someone wanting to open a new cafe or a coffee related business in Bengaluru.

### DATA

1. I will be using the Foursquare Place API to make requests and generate a pandas dataframe.
2. I will be performing web scraping here to obtain a property rates pandas dataframe.

### METHODOLOGY

- I first used the Foursquare API to find cafes in Bengaluru, I found 100 of them and stored them in a dataframe. Not all cafes had pincodes so I had to maually enter the coordinates in Google Maps and copy down the pincodes.
- I wanted to judge the popularity of coffee in an area based on the checkins but unfortunately, Foursquare is not very thorough in Bengaluru and thus I had to use **Likes** as a parameter for popularity instead.
- I used the total number of likes in an area to measure the popularity of coffee in that area.
- To find the property rates in Bengaluru, I performed web scraping on makaan.com ( a little too intensive ) and saved the area name and average price rate in another dataframe but this again had no **pincode**.
- To find the pincodes through area names, I used the **Indian Postal API** , which is free to use and removed those rows for which I could not find a pincode.
- Finally I merged the two dataframes, to obtain a dataframe with Pincode, Likes and Average Property Price.
- I then divided the Likes by the Average Price to come up with the **Average Profit Metric**, this was a very crude method, I assumed that factors like coffee price, distance etcetera did not effect the result but it was the best I could do with the given restrictions.

### RESULTS

The top 5 areas to open a cafe in Bengaluru , according to my naive method are:-

1. Mahadevapura
2. Domlur
3. J.P. Nagar
4. Basavanagudi
5. Koramangala

## DISCUSSION

- Based on the results, the above 5 areas might be the best places to open a cafe, given that the number of people who are interested in coffee is high and the property rates are relatively low.

## CONCLUSION

- I know that this is a very unreliable method, but given that it is my first Data Science Project, I am quite proud of it. I was able to use most of the skills like Python, SQL, Web Scraping, Visualization and Analysis which I learned over the course of this IBM Certification.
- Given a choice I would not have used the Foursquare API and preferred to use sentiment analysis on twitter to find the popular coffee areas as twitter is much more popular in India, maybe I would extend this project later on.
- This was a very good start though and I am very much eager to do more exciting and complex projects.