

# Coursera Capstone

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Opening a New Shopping Mall in South  
Africa, Johannesburg

# Business Problem

- Location of the shopping mall is one of the most important decisions that will determine whether the mall will be a success or a failure
- Objective: To analyse and select the best locations in the city of Johannesburg, South Africa to open a new shopping mall
- This project is timely as the city is currently suffering from oversupply of shopping malls
- Business question :
  - In the city of Johannesburg, South Africa, if a property developer is looking to open a new shopping mall, where would you recommend that they open it?

# Data

- Data required
  - List of neighbourhoods in Kuala Lumpur
  - Latitude and longitude coordinates of the neighbourhoods
  - Venue data, particularly data related to shopping malls
- Sources of data
  - Wikipedia page for neighbourhoods
  - Geocoder package for latitude and longitude coordinates
  - Foursquare API for venue data

# Methodology

- Web scraping Wikipedia page for neighbourhoods list
- Get latitude and longitude coordinates using Geocoder
- Use Foursquare API to get venue data
- Group data by neighbourhood and taking the mean of the frequency of occurrence of each venue category
- Filter venue category by Shopping Mall
- Perform clustering on the data by using k-means clustering
- Visualize the clusters in a map using Folium

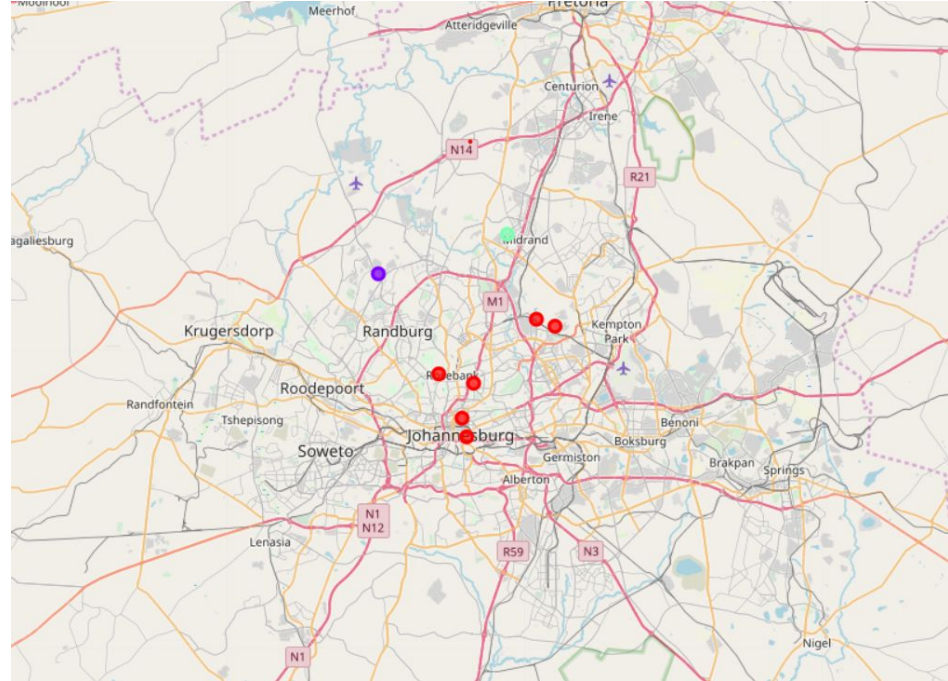
# Results

Categorized the neighbourhoods into 3 clusters :

Cluster 0: Neighbourhoods with moderate number of shopping malls

Cluster 1: Neighbourhoods with low number to no existence of shopping malls

Cluster 2: Neighbourhoods with high concentration of shopping malls



# Discussion

Most of the shopping malls are concentrated in the central area of the city

- Highest number in cluster 2 and moderate number in cluster 0
- Cluster 1 has very low number to no shopping mall in the neighbourhoods
- Oversupply of shopping malls mostly happened in the central area of the city, with the suburb area still have very few shopping malls

# Conclusion

Answer to business question: The neighbourhoods in cluster 1 are the most preferred locations to open a new shopping mall

- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new shopping mall

Thank you