

Opening a Fitness Centre, Nairobi Kenya.

Coursera Capstone

IBM Applied Data Science Capstone

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Business Problem

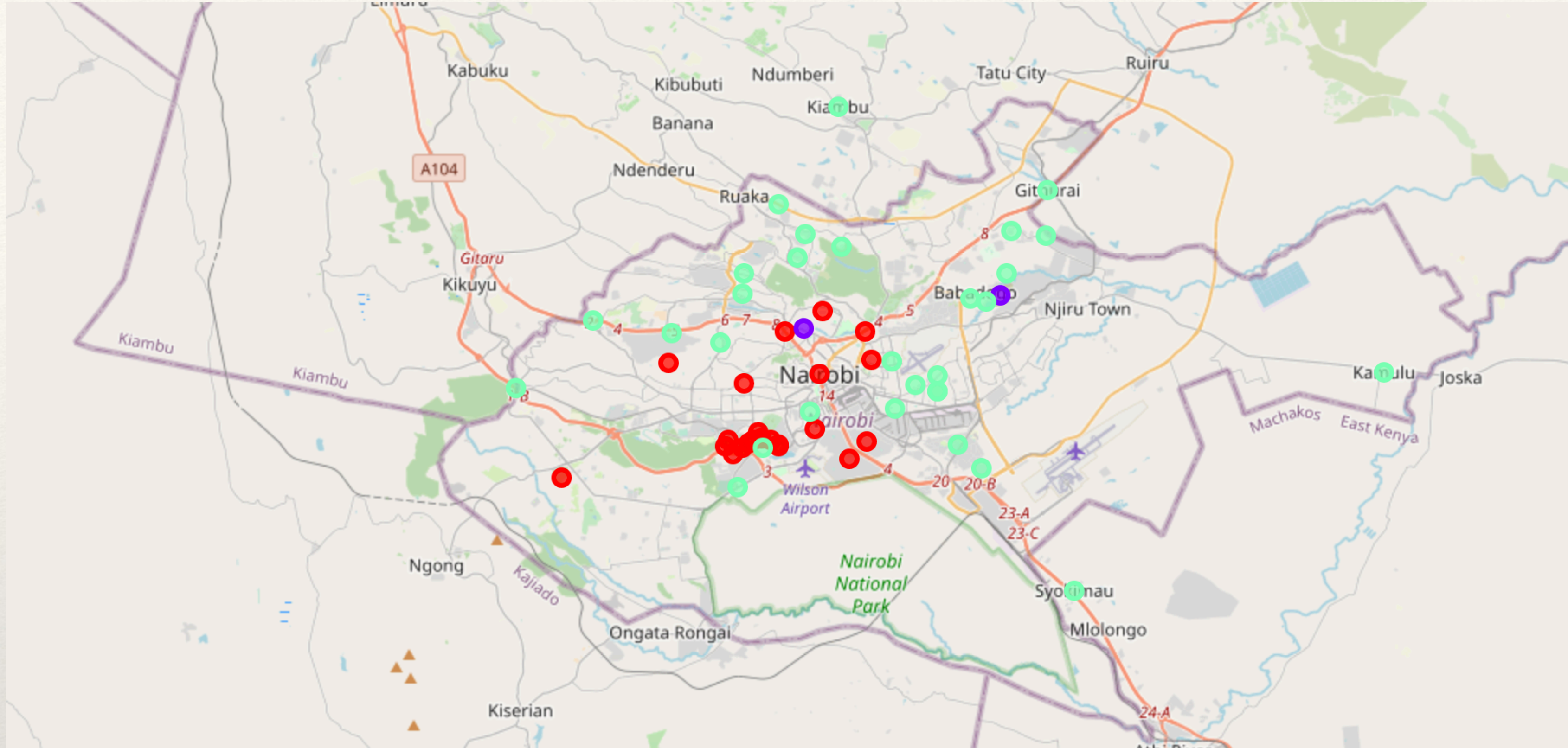
- ❖ The objective of this capstone project is to carry out an analysis and select the best possible locations to set up a fitness centre. This will be guided by the neighbourhood analysis and competitor presence.
- ❖ Using data science methodology and machine learning techniques, the project intends to answer the question: Where is the best possible location to open a sustainable fitness centre with the best chance of success?

Data

- ❖ The data required to solve the problem, includes the following:
- ❖ List of Suburbs in Nairobi, Kenya found at https://en.wikipedia.org/wiki/Category:Suburbs_of_Nairobi.
- ❖ Latitude and longitude coordinates of the suburbs to plot on a map and also to get the venue data.
- ❖ Venue data near the suburbs. This data will help in identifying competitors in a locality and access to nearby recreational facilities.

Methodology

- ❖ We shall make use of Python speciality packages (requests & beautifulsoup).
- ❖ The Python Geocoder package will be used in getting the latitude and longitude coordinates of the suburbs.
- ❖ The Foursquare API will get the venue data for the suburbs, utilising the location coordinates from above.
- ❖ Data science skills such as data manipulation, data cleaning, data wrangling & machine learning (K-means clustering).
- ❖ To visualise the data, we shall use a map visualisation tool (Folium).



Nairobi, Kenya Neighbourhoods Cluster

Cluster 0 (red) :
Neighbourhoods with moderate
number of gyms

Cluster 0 (purple) :
Neighbourhoods with a
relatively high concentration of
gyms.

Cluster 0 (light green) :
Neighbourhoods in the outskirts
of the city with low
concentration of gyms.

Results

3 Clusters

Observations

- ❖ Only two neighbourhoods have some level of Gym concentration (Cluster Label 1). The neighbourhoods around the central business district have some sparse concentration of Gyms (Cluster label 0). The neighbourhoods on the outskirts of the city seem not to have easy access to Gyms (Cluster Label 2).

Recommendations

- ❖ Cluster 2 present opportunities for a Gym setup. Based on further analysis about socio-economic profiles, an entrepreneur can project the rate of success of such a venture.
- ❖ Overall, it must be noted as well that the concentration of fitness centres is very low for the Capital city.

Thank You