

Coursera Capstone
IBM Applied Data Science Capstone

Opening a New Gym / Fitness Center in Moscow, Russia

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Introduction

Many people lead a healthy lifestyle and that's why it's important to keep fit for them. And I'm among them.

Most of the visitors are adult people and they prefer a comfortable place for trainings with good conditions where they can relax or exercise after the end of the working day or on holiday.

So the location of the fitness center is one of the most important decisions that will determine whether the gym will be a success or a failure.

I chose Moscow, the city where I live, so I could use my first-hand experience.

Business Problem

Of course, as with any business decision, opening a new fitness center requires serious consideration and is a lot more complicated than it seems.

The objective of this capstone project is to analyze and select the best locations in the city of Moscow, Russia to open a Fitness Center. Using data science methodology and machine learning techniques like clustering, this project aims to provide solutions to answer the business question: in the city of Moscow, Russia, if a property developer is looking to open a new Fitness Center, where would you recommend that they open it?

Target Audience of this project

This project is particularly useful to property developers and investors looking to open or invest in the new fitness center in the capital city of Russia i.e. Moscow.

Data

To solve the problem, we will need the following data:

- List of neighborhoods in Moscow. This defines the scope of this project which is confined to the city of Moscow.
- Latitude and longitude coordinates of those neighborhoods. This is required in order to plot the map and also to get the venue data.
- Venue data, particularly data related to fitness centers. We will use this data to perform clustering on the neighborhoods.

Sources of data and methods to extract them

Geojson file which contains a list of neighborhoods in Moscow (with a total of 146 districts) and their coordinates.

We will use Foursquare API to get the venue data for those neighborhoods. Foursquare has one of the largest databases of 105+ million places and is used by over 125,000 developers.

Foursquare API will provide many categories of the venue data; we are particularly interested in the Gym/Fitness Center category in order to help us to solve the business problem put forward.

This is a project that will make use of many data science skills: working with API (Foursquare), data cleaning, data wrangling, to machine learning (K-means clustering) and map visualization (Folium).