# Using Machine Learning to find out best restaurant to Lviv(Ukraine) (IBM Capstone Project)

## Introduction and Business Problem

**Introduction:** The city of Lviv, Ukraine is the largest city in western Ukraine and the seventh-largest city in the country overall, with a population of 724,241 as of 2020. Lviv is one of the main cultural centers of Ukraine. Mysterious and architecturally lovely, this Unesco-listed city is the country's least Soviet and exudes the same authentic Central European charm as Krakow once did. It's also a place where the candle of Ukrainian national identity burns brightest. Simply put Lviv is just one of the most beautiful and tourist city in Europe yet underrated. For people that are new to Lviv, due its geographic size, it can be daunting to figure out what restaurants are worth going to given the high number of restaurants and bars. For people who live or visit Lviv , how to know what are the best places to get delicious meal or drinks ?

**Business Problem:** For this project, I am going to create a simple guide to help users to choose which restaurant fit the best their needs based on Foursquare data: ***number of likes obtained by the restaurants on the Foursquare platform, restaurant's category and geographic location in Lviv***.

## Data Requirements and Methodology

### Data Requirements

For this project, I will be utilizing the Foursquare API to pull the below location data on restaurants in Lviv, Ukraine. I will use the ***count of likes*** each restaurant received as an indicator of the quality of the restaurant. Here are the data will retrieve from foursquare API relative to the city of Lviv.

- Venue Name
- Venue ID
- Venue Location
- Venue Category
- Count of Likes

## Data Acquisition Approach

To acquire the data mentioned above, I will need to do the following:

- Get lat and long coordinates for Lviv via Geocoder package
- Use Foursquare API to get a list of all venues in Lviv
- Get venue name, venue ID, location, category, and count of likes

## Methodology

*The approach I use in this project is to consider the* ***count of likes*** *the restaurant received on the Foursquare platform as an* ***indicator of quality*** *including (quality of food and service). So the higher number of likes a restaurant/bar got, the better is the quality of the restaurant. This is a very simplistic way of evaluating the quality of a restaurant but due to limited amount of calls we can make to the api(as we use the free account) we will not dig deeper into details to get more specific information (prices, ratings, reviews).*