# IBM Applied Data Science Capstone

*Food Trucks – Opening a New Business in Austin, Texas*

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January 2021

# Introduction

Austin is currently one of the fastest growing cities by population in the United States. Due to the combination of blue-collar and high-tech jobs, Austin's population is growing by roughly 3.5% each year[1]. With this growth, we can see that Austin is becoming more diverse not only in its population but in its style of living; a multicultural, but a multi-faceted style. Aside from being one of the fastest growing cities in the United States, Austin prides itself in being one of the largest food truck cities in the country (some even consider it the food truck capital of the country). As Austin continues to grow, we can expect more food trucks to enter the market, but the question is where should they park their truck?

## Business Problem

The purpose of this analysis is to determine where should a new food truck in the city of Austin, Texas park itself. I will be using clustering and other data science techniques to create a visual suggestion of where the food truck should go in order to reduce competition.

# Data

## The data that is needed is the following:

- List of neighborhoods in Austin
- Latitude and longitude of the neighborhoods
- Food truck data

## In order to obtain this data, we must use the following sources:

- Wikipedia page outlining all neighborhoods within Austin (https://en.wikipedia.org/wiki/List_of_Austin_neighborhoods)
- Beautifulsoup and Geocoder packages
- Foursquare API

[1] https://www.macrotrends.net/cities/22926/austin/population

## Data Methodology

Using the Wikipedia page, we are able to get a list of all neighborhoods within Austin. Beautifulsoup will allow us to scrape the page for the necessary information. As of now, the webpage isn't perfect so we will need to ignore certain tables that are repetitive, while only looking at the information in the bullet points. Once we get the unique names of the neighborhoods, we will use the Geocoder package to get the coordinates of each neighborhood.

Once we have the coordinates of each neighborhood, we can use the FourSquare API to get food data in each of the neighborhoods. We will need to clean the data and ensure that we're only looking at the Food Truck category, and if possible what type of food truck (Asian, Hispanic, Pizza, etc). Once we have that information, we can cluster the results to then visualize it on a Folium map to help us visually understand where we would like to open a food truck.