**1. Introduction**

"L.A. is a constellation of microclimates and microcosms, a library with dozens of special collections," [wrote Meghan Daum](https://www.latimes.com/opinion/op-ed/la-oe-daum-los-angeles-smell-goeltzenleuchter-sant-20140703-column.html). " Lying on the Southern California Basin, Los Angeles is the biggest and one of the most popular cities on the west coast of the United States. It is the entertainment capital of the world, a cultural mecca having numerous world-class museums and a paradise of sunshine. From tourist spots like the Universal Studio to those job opportunities presented in various industry, Los Angeles is the place to be.

LA is a rich city and the food culture here puts all of it on display. Thanks to the unique natural environment, the golden sunshine, and multicultural demographic, LA has become one of the best places for you to eat in the country. No matter it’s middle east hummus, Mexican birria tacos, or Chinese dim sum, LA had anything and everything for you. The culinary possibility here is only beyond your imagination.

With the flourish of the food industry, it might be a good choice to open up a new restaurant in the LA area. If you have thought about it and are interested in it, this project is the right thing for you. This project is the final delivery of the IBM Data Science Professional Certificate, and its objective is to find out the best potential neighborhood to open up a new restaurant in LA. In this article, I will go through the introduction, methodology, analysis, results, and conclusion section by section, and the detailed code and report can be found at the end of this article.

**2. Data Preparation**

The following data will be necessary for this project and the reason for each one will be explained later:

* List of all neighbourhoods in LA and their coordinates —

<https://usc.data.socrata.com/Los-Angeles/Los-Angeles-Neighborhoods/xegr-9bnh>

* Venue information(restaurant and their category, coordinates within each neighborhood) — Foursquare APIs
* Population, population density, population growth, median rent, median household income — <https://www.niche.com/>
* LA crime data — <https://www.areavibes.com/los+angeles-ca/crime/>