Analyzing Houston Neighborhoods for Restaurant Business Opportunity

1. **Background**

   Houston is a well-known city in the US, located in the state of Texas. Houston is the most populous city in Texas and the fourth most populous city in the US and has around 637.4 square miles. The city of Houston contains 88 super neighborhoods. In addition to that, there are many formal and informal small regions. All these neighborhoods comprise of people from different socio-economic and ethnic backgrounds. Hence, the demographics of Houston is very diverse.

   Houston is an energy hub in the US, mainly known for oil and natural gas. Renewable energy sources or companies are growing in Houston as well. Also, there are many other big companies in Houston and many attraction centers such as Space Center, Houston Zoo, and Galveston beach, which attract many tourists. All of these make Houston an ideal place for the restaurant business.

2. **Problem Statement**

   Based on the above-stated facts, people are interested in opening a restaurant in Houston. But opening a restaurant business is not easy. It is crucial to have a proper understanding of the area and its surrounding before making any decision. Many factors help in the successful operation of a restaurant, such as the presence of some venues in the surrounding like business, apartments, theatre, attraction centers, etc. Also, knowing the number of nearby restaurants in the targeted area can help make a decision. This study is mainly helpful for people who want to open a restaurant business in Houston. The focus of this study is on:

i)   Finding neighborhoods that are suitable for opening a restaurant based on the presence of other venues.

ii)   Exploring the type of cuisine (restaurant) that has a high chance of getting success in those areas.

3. **Data Description and Source**

Next and the most important step is data collection. In order to work on the above stated problem, the following approach should be used.

- Obtain names of neighborhood in Houston using Wikipedia. (https://en.wikipedia.org/wiki/List_of_Houston_neighborhoods).

- Acquire latitude and longitude of neighborhood using GeoPy geocoding. Nominatim is the preferred GeoPy package for this project.

- Manually input latitude and longitude for neighborhoods for which GeoPy could not get the correct location.

- Next find out the most common venues in every neighborhood using Foursquare API.