

## A. Introduction

### A.1. Description & Discussion of the Background

Seattle is a seaport city on the west coast of the United States, and is the largest city in Washington State. With 2 big tech companies (Amazon and Microsoft) headquartered in the area, together with a continuously growing number of tech companies increasing their footprint in the city, Seattle is becoming one of the fastest growing tech hubs in the United States <sup>[1]</sup><sup>[2]</sup>. With its lower cost of living than the San Francisco Bay Area <sup>[3]</sup> and its low to no income tax <sup>[4]</sup>, it is becoming a more and more attractive city for software developers to further pursue their career.

One of the first things to consider when moving to a new city is to find a comfortable environment to settle in. When searching for a place to live, several important factors to consider include safety, convenience, affordability, etc. For example, a neighborhood with low crime rates, good schools, plenty of recreational venues (e.g. parks), and convenient access to public transport is generally considered a desirable district to live in.

However, the desirable qualities of a neighborhood can also be subjective. For instance, young professionals may prefer a more vibrant and diverse neighborhood with lots of entertainment venues, whereas those with families may prefer a quiet neighborhood with a good school district. Hence, maps and information charts showing the distributions of various types of venues and crime data can be helpful for determining the best suitable neighborhood to settle in based on individual criteria.

This information will be very useful for those who are new to the area looking to settle down, as well as for those who are considering making a big move to Seattle.

### A.2. Data Description

The following data have been collected and will be used for further analysis:

- A list of neighborhoods in Seattle obtained from Wikipedia <sup>[5]</sup>
  - This data will be used for identifying the individual neighborhood in Seattle in order to further explore the details of each neighborhood. A map of Seattle superimposed with the different neighborhoods together with their corresponding venue category and density information will be useful for identifying desirable districts to live in.

- The latest crime data published by the Seattle Police Department <sup>[6]</sup>
  - This data will be used to create a choropleth map of crime rates in Seattle, showing the intensity and categories of crimes in each neighborhood. This information will be useful for determining the safety level of the various neighborhoods in Seattle.
- List of venue information in each Seattle neighborhood obtained by using Foursquare API <sup>[7]</sup>
  - This data will be used to find the most common venues for each neighborhood to classify neighborhoods with distinct characteristics, which will be useful for highlighting the particular neighborhoods that are best suited according to personal preferences.

## References

[1] *Seattle, The Fastest Growing Tech Hub*,  
<<https://www.mobiledveloper.net/blog/seattle-fastest-growing-tech-hub>>

[2] *Report: Seattle Leads Nation as Fastest Growing Tech Hub*,  
<<https://www.lightercapital.com/blog/report-seattle-leads-nation-as-fastest-growing-tech-hub/>>

[3] *2020 Cost of Living Calculator: Seattle, Washington vs San Francisco, California*,  
<<https://www.bestplaces.net/cost-of-living/seattle-wa/san-francisco-ca/115000>>

[4] *Washington state Supreme Court denies Seattle's bid for income tax on wealthy households*, The Seattle Times,  
<<https://www.seattletimes.com/seattle-news/politics/washington-state-supreme-court-denies-seattles-bid-for-income-tax-on-wealthy-households/>>

[5] *List of neighborhoods in Seattle*, Wikipedia,  
<[https://en.wikipedia.org/wiki/List\\_of\\_neighborhoods\\_in\\_Seattle](https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Seattle)>

[6] *Crime Dashboard*, Seattle Police Department,  
<<https://www.seattle.gov/police/information-and-data/public-data-sets>>

[7] Foursquare API for Developers, <<https://developer.foursquare.com/>>