Miami Neighborhoods Guide

Sicong Huang

1   Introduction

1.1   Background

Located on the southern tip of mainland Florida, Miami teems with diverse cultural experiences, artwork, nightlife, and beauty. Living in and exploring Miami can be a total blast if you're up for some adventure. However, finding the perfect home among roughly numerous Miami neighborhoods and municipalities can feel overwhelming, especially when there're so many factors to consider, such as locations, prices, local culture, etc. Thus a method is needed to extract all the information one need to make their decisions and visualize the results on a map with details. And that's where machine learning comes to play. By using unsupervised machine learning methods and clustering neighborhoods with similar features, this project can help you take a shortcut of find the best place to stay if you know what kind of features you're looking for, such as a quiet neighborhood with high walkability and casual life style, or a coast line apartment with a perfect viewing point and easy beach access. By showing those groups of neighborhoods on a live map with distinct colors for each cluster, you can see clearly where to look or what to look for your perfect stay in Miami.

1.2   Business Problem

The general goal of this project is to help people visualize and find the most suitable neighborhoods in Miami-dade county. The problem can be treated as 3 parts:

- Scrape relative information about neighborhoods in Miami, including names, locations, average rents, populations, etc.

- Develop a unsupervised machine learning method to cluster neighborhoods in Miami and explore their features in each cluster.

- Visualize the neighborhood clusters and their features on a interactive map.

1.3   Target Customers

This project should be interesting and helpful for new-comers who visits Miami for the first time, or for anyone who wants to have a general concept of how different neighborhoods are distributed in Miami-dade county, and what they are most popular with. It should also be intriguing for those who wants to develop an app that helps people find apartments, hotels and other places to stay in Miami area. This project can help you visualize the results and find popular features in your target neighborhoods.