

Capstone Project - The Battle of Neighborhoods (Week 1)

Best Neighborhood for retirement in South Florida

Introduction/Business Problem:

South Florida, with its year-round warm weather, beaches, golf courses and flat geography, is an attractive option for retirement. First, the weather, older people hate cold and they want to spend their retirement days in a warm and sunny place. And the Sunshine State is the perfect place for this. Florida is also cheaper and has no income tax. This is a major factor for senior citizens living on restricted income. There are more seniors moving to Florida than in some other parts of the USA. Florida is a very popular travel destination. And many people who come to live in South Florida are the ones who have been visiting it for many years. And they already know all the pros and cons of living in Florida.

The objective of this project is to help someone who is unfamiliar with South Florida decide where to move to. Crime rate is the first factor to look at, since crime is prevalent in some communities. The program filters all the cities of Florida, to just the cities in South Florida counties, and then it uses crime statistics from FBI to mark the cities as green, yellow, orange and red, green being the safest cities. Next, since moving to a beach city is more desirable for most retirees, the program selects the safe-beach cities.

Finally, the project uses Foursquare location data and regional clustering of venue information to determine what might be the 'best' neighborhood out of the safe cities for retirement.

Through this project, we will find the most suitable location in South Florida for retirement.

Data:

The data that will be required will come from multiple sources which will provide the list of cities in Florida, neighborhoods in these cities (via Wikipedia), the Geographical location of the neighborhoods (via GeoPy Geocoder package) and Venue data (via Foursquare). The Venue data will help find which neighborhood is best suitable for retirement.

- List of all the Florida Cities by counties is available at:
<https://dos.myflorida.com/library-archives/research/florida-information/government/local-resources/citycounty-list/counties/>

This Division manages the State Library and Archives, supports public libraries, directs records management services, and is the designated information resource provider for the state of Florida.

- Crime Data for all Florida cities is available at FBI Website. The FBI collects these data through the Uniform Crime Reporting (UCR) Program. The table provides the volume of violent crime as reported by city and town law enforcement agencies. The link for Florida is: https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/table-8/table-8-state-pieces/table_8_offenses_known_to_law_enforcement_florida_by_city_2015.xls.
- List of best beach cities, as of June 2020, is available from <https://wallethub.com/edu/best-beach-towns-to-live-in/36567/>

- Venue Data using Foursquare

The places by Foursquare API is a database of more than 105 million places worldwide and is going to be consulted for this project. To explore the cities, we will use the Venue Recommendation which returns a list of recommended venues near a certain location. In order to make the query in the Foursquare API we need the coordinates given in Latitude and Longitude for a given Neighborhood. So, the first thing we need to do is to get coordinates for each Neighborhood in each of the cities.

To get the coordinates given Neighborhood we use Geopy geocoder. Geopy makes it easy for Python developers to locate the coordinates of addresses, cities, countries, and landmarks across the globe using third-party geocoders and other data sources. The Geopy geocoder documentation can be found in the following link: <https://geopy.readthedocs.io/en/stable/>