

Capstone Introduction/Business Problem:

Washington DC, is one of the most well-known cities in the world. Not just because it is the Country capital of The United States but also due to it being a very touristic location with a wide variety of attractions. There are numerous government buildings, historic monuments, museums, parks and also the national zoo with the panda bears. Smithsonian museums are some of the most well know museums around.

Suppose a person is on a visit to Washington DC and would like to visit some of the major attractions, with the person's interest mainly in the field of arts/science and science museums in particular. All these attractions require considerable time for exploration. This capstone project aims at exploring the various attractions within the arts/science field, and selecting a few of the top-rated museums for visit recommendation based on user rating. Food places are also recommended based on user ratings as well.

Capstone Data from Foursquare API:

Foursquare API is used to explore the area and also obtain the venues belonging to field of arts. Exploratory analysis is done to obtain the number of attractions in each category in the field of arts. This will be depicted by a suitable chart. The top 4 science museums based on user rating would be marked on the map using the folium library. Initial co-ordinates of the person would be the Union Station, Washington DC. Only 4 museums are chosen due to the fact that it could be done in one day. (Personally, I have spent an entire day just at the National Air and Space Museum, and for me it would take a lot more time to explore other museums)

Foursquare API data is also used to discover restaurants/food trucks near the venues of interest. And finally, one restaurant is suggested for a good end of day dinner, considering user ratings. For food place recommendation, the average location of the person, depending on the location of the 4 recommended museums will be used.

Any venues, be it a tourist attraction or food place, is excluded if no user rating is returned by Foursquare API.

Data Set:

1. Foursquare API with search/explore options and using "arts" in the section option is used to obtain the venues and categories related to the field of art
<https://api.foursquare.com/v2/venues/explore?>
2. Exploratory analysis is done in form of [Horizontal bar charts](#) for the categories found in the field of art
3. Locations of the venues (related to both museums and food places) and person is mapped using Geolocator package and Folium maps.
4. Foursquare API with venue IDs are used to obtain venue user ratings and for recommendations.
https://api.foursquare.com/v2/venues/venue_ID