BATTLE OF TEXAS: BEST CITY FOR YOUNG ADULTS

IBM DATA SCIENCE CERTIFICATE CAPSTONE PROJECT REPORT

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OVERVIEW

- THE OBJECTIVE OF THIS PROJECT IS TO DETERMINE THE BEST CITY THAT PROVIDES CONVENIENCES FOR YOUNG ADULTS IN TEXAS. THE MAJOR CITIES BEING CONSIDERED ARE AUSTIN, DALLAS, HOUSTON AND SAN ANTONIO.

- THE CRITERIA TO BE CONSIDERED ARE VENUES FOR;
  - RESTAURANTS
  - ACTIVITIES LIKE YOGA, PARKS AND OTHER OUTDOOR ACTIVITIES.

DATA SOURCES

TX_City	Latitude	Longitude
Austin	30.26715	-97.743057
Downtown Houston	29.75187	-95.327438
Downtown Dallas	32.77667	-96.796989
Downtown San Antonio	29.42412	-98.493629

- THE TABLE FOR GEOGRAPHICAL COORDINATES FROM THE CENTER OF THE CITIES WERE USED

- DATA FOR THE VENUES WERE OBTAINED FROM FOURSQUARE

  - A DISTANCE RANGE OF 3.1 MILES (5 KM) WAS USED TO DETERMINE ACCESSIBILITY TO THESE VENUES

  - 100 VENUES WERE CAPTURED PER NEIGHBORHOOD
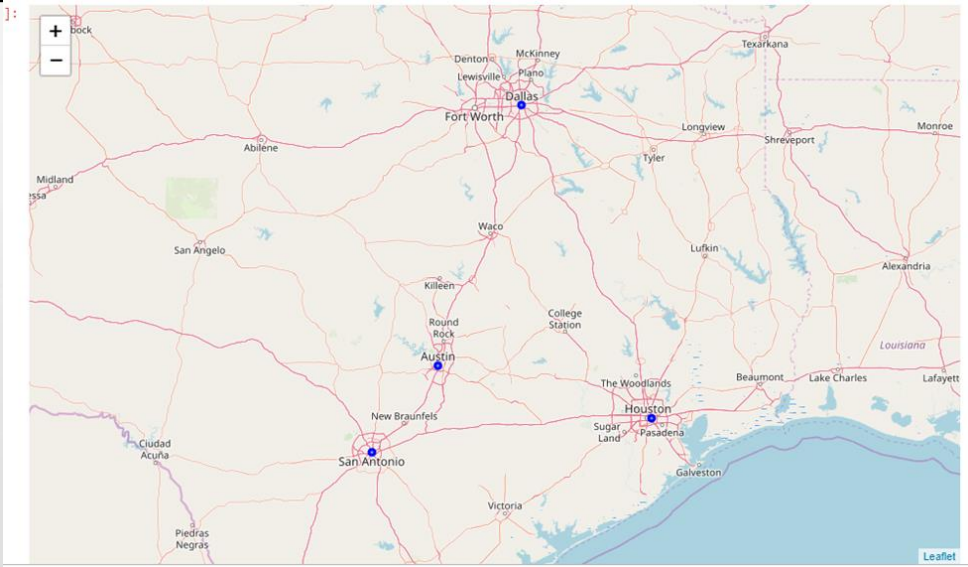
DATA WRANGLING & REDUCTION

- THE VENUE AND THEIR COORDINATES WERE OBTAINED AND APPENDED TO THE CITY DATA SET

- VENUE CATEGORIES THAT WERE NOT RELEVANT TO EVERYDAY LIVING WERE ELIMINATED ROM THE DATA SET. AN EXAMPLE IS HOTELS.

```
nbh_venues=nbh_venues[nbh_venues['Venue Category'] !='Hotel'] #look through column to remove hotels
nbh_venues.head()
```

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category	Venue Type
0	Austin	30.267153	-97.743057	JuiceLand	30.266037	-97.742623	Juice Bar	Juice Bar
1	Austin	30.267153	-97.743057	The Roosevelt Room	30.267842	-97.746242	Bar	Bar
2	Austin	30.267153	-97.743057	Houndstooth Coffee	30.266194	-97.743025	Coffee Shop	Coffee Shop
3	Austin	30.267153	-97.743057	Eddie V's Prime Seafood	30.266339	-97.740504	Seafood Restaurant	Seafood Restaurant
4	Austin	30.267153	-97.743057	Alamo Drafthouse Cinema	30.267460	-97.739550	Movie Theater	Movie Theater

RESULTS

- 2 GROUPS OF DATA WERE CONSIDERED THESE ARE;
  - <u>AVAILABILITY</u>: VENUE CATEGORY COUNT WITH DATA
  - <u>POPULARITY</u>: FREQUENCY OF VISIT TO THESE

- FOR PROPER DATA ANALYSIS
  - FOR AVAILABILITY, THE DATA WAS ANALYZED FOR 3 AND 4 OR MORE VENUES
  - FOR POPULARITY THE FREQUENCY OF VISITS DATA WAS CAPTURED FROM FOURSQUARE

- BOTH DATASET EXCLUDED HOTELS AND WERE PRESENTED IN PIVOT TABLE AND PLOTS

AVAILABILITY: 4 OR MORE VENUES

- DATA FOR 4 OR MORE ANALYZED FOR UNIQUE

- SOME OF THE INSIGHTS ARE AS FOLLOWS;

  - FOOD TRUCKS AND YOGA STUDIOS IN AUSTIN

  - STEAKHOUSE IN DALLAS

  - BEER GARDEN AND MUSIC VENUE IN HOUSTON AND

  - THEATER IS SAN ANTONIO
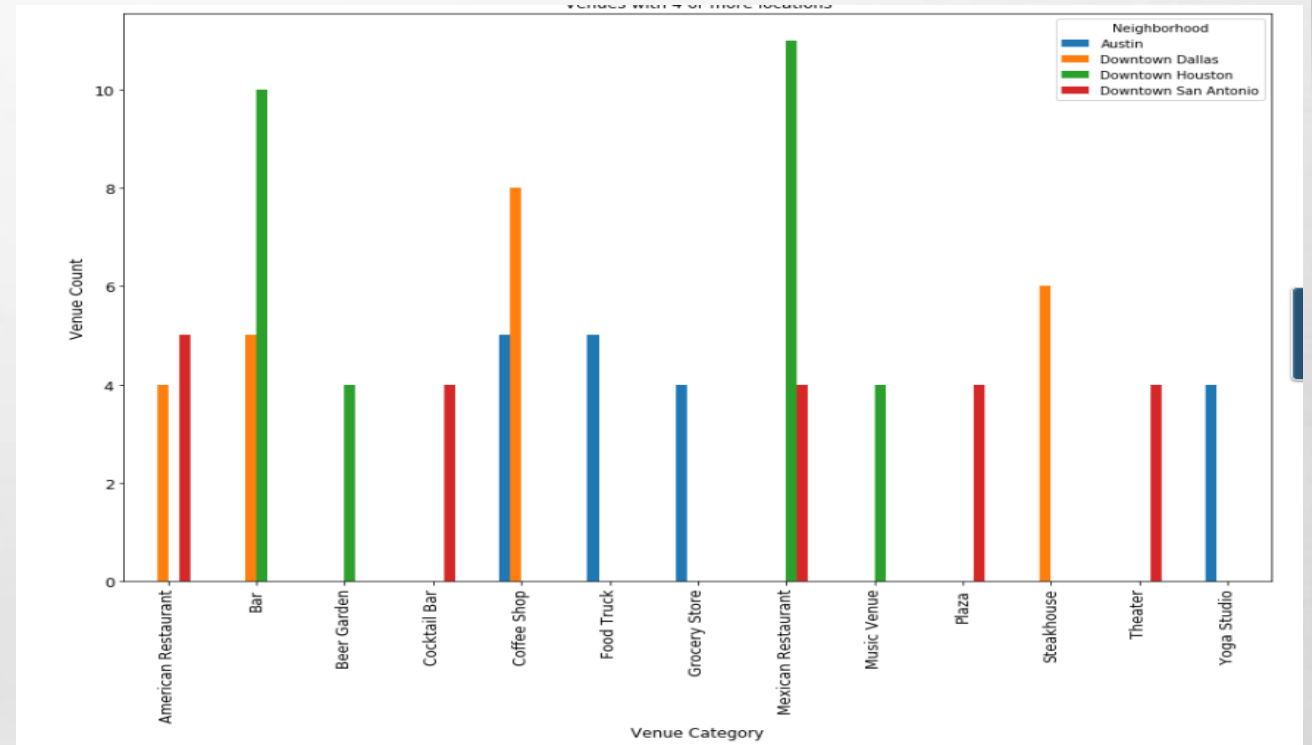
AVAILABILITY: 3 OR MORE VENUES

- DATA FOR 3 OR MORE ANALYZED FOR UNIQUE

- SOME OF THE INSIGHTS ARE AS FOLLOWS;
  - HOUSTON SEEM TO HAVE ADDED MORE UNIQUE VENUES WHICH INCLUDES BASEBALL STADIUM, ITALIAN RESTAURANT, AMERICAN AND VIETNAMESE RESTAURANT.
  - AUSTIN ADDED ICE CREAM SHOP, SEAFOOD RESTAURANT AND GROCERY STORE
  - DALLAS ADDED A PARK AS UNIQUE VENUE. I
  - NTERESTINGLY, NO VENUE SHARED COMMONALITY BETWEEN ALL NEIGHBORHOODS EXCEPT WE LUMP COCKTAIL BAR AND BAR INTO THE SAME CATEGORY

Venues with 3 or more locations
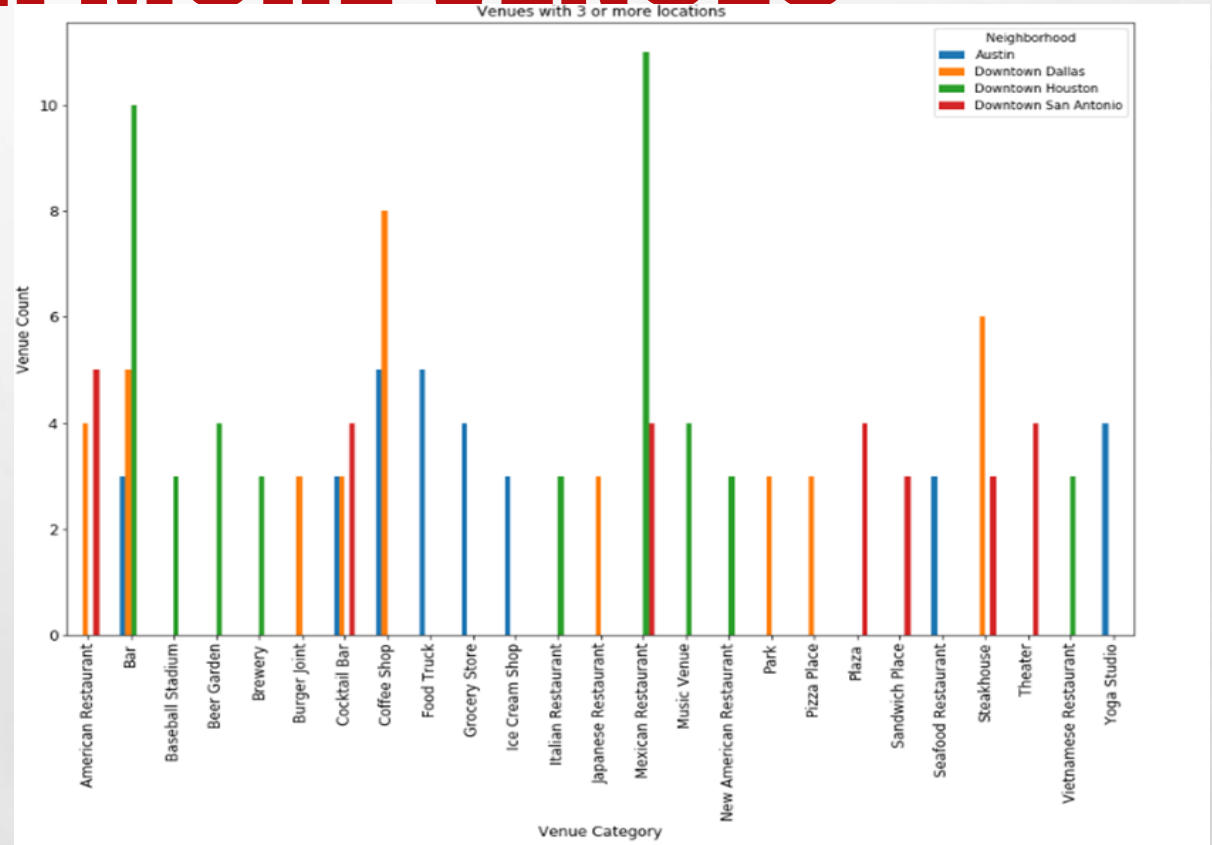
Neighborhood	Austin	Downtown Dallas	Downtown Houston	Downtown San Antonio
1st Most Common Venue	Food Truck	Coffee Shop	Mexican Restaurant	American Restaurant
2nd Most Common Venue	Coffee Shop	Steakhouse	Bar	Theater
3rd Most Common Venue	Yoga Studio	Bar	Beer Garden	Plaza
4th Most Common Venue	Grocery Store	American Restaurant	Music Venue	Mexican Restaurant
5th Most Common Venue	Cocktail Bar	Park	Vietnamese Restaurant	Cocktail Bar
6th Most Common Venue	Ice Cream Shop	Japanese Restaurant	Brewery	Sandwich Place
7th Most Common Venue	Seafood Restaurant	Pizza Place	New American Restaurant	Steakhouse
8th Most Common Venue	Bar	Burger Joint	Baseball Stadium	Museum
9th Most Common Venue	Capitol Building	Cocktail Bar	Italian Restaurant	Restaurant
10th Most Common Venue	Burger Joint	Southern / Soul Food Restaurant	Beer Bar	Seafood Restaurant

CONCLUDING REMARKS

- THE ANALYSIS PROVIDES ADEQUATE INSIGHT FOR ANT YOUNG ADULTS BASED ON THEIR PREFERENCES LOOKING AT BOTH NUMBER OF VENUES AVAILABLE AND THE POPULARITY OF THESE VENUES.

- BOTH DATA PERSPECTIVES CORROBORATE EACH OTHER WITH RETURNING VERY SIMILAR RESULTS.

- THE SIMILARITY OF BOTH RESULTS PROVIDES A BASIS FOR ANY YOUNG ADULT TO LOOK AT THE RESULTS AND GET VERY GOOD INSIGHT ON THEIR PREFERRED DOWNTOWN NEIGHBORHOOD IN THE GREAT STATE OF TEXAS, USA.