Introduction:

1. **A description of the problem and a discussion of the background**.
   Dehradun is a place which is located in beautiful hills of uttarakhand , the place is also a hub for colleges, offices , universities etc due to which there is also a demand for food. This food demand can be cater with the restaurants and hotels. As there are lots of food corners and restaurants, my aim is to find a suitable location to open my own restaurant.

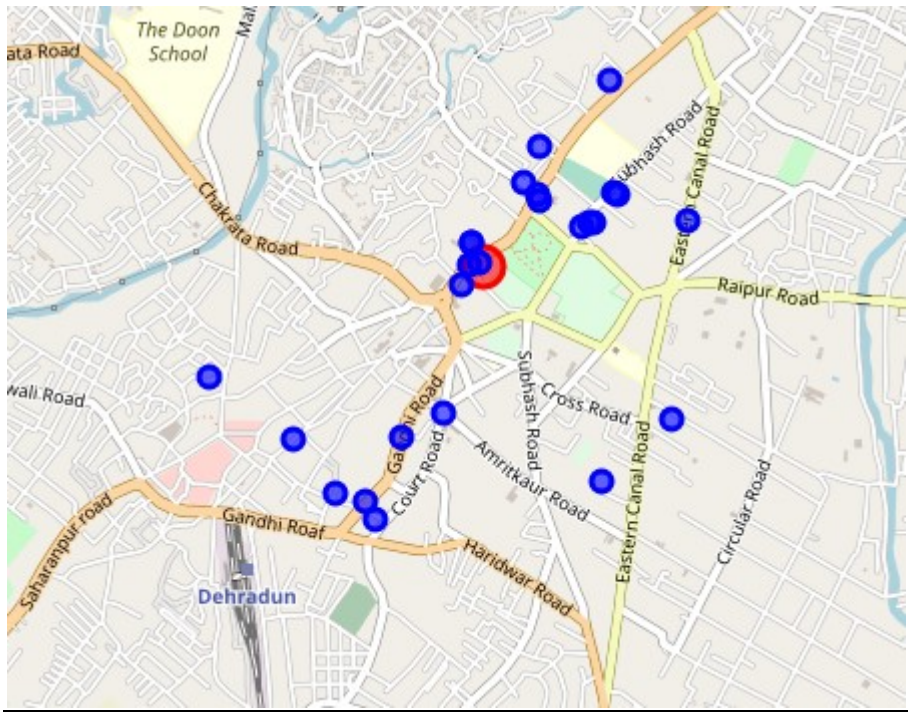
2. **A description of the data and how it will be used to solve the problem**
   I have used the data completely from the foursquare and explore the areas and venues, i then use the locations such as school , colleges , offices , universities ,cinema etc as these places are full of crowd , i then locate a suitable location through machine learning for opening a new restaurant.

Procedure with results:

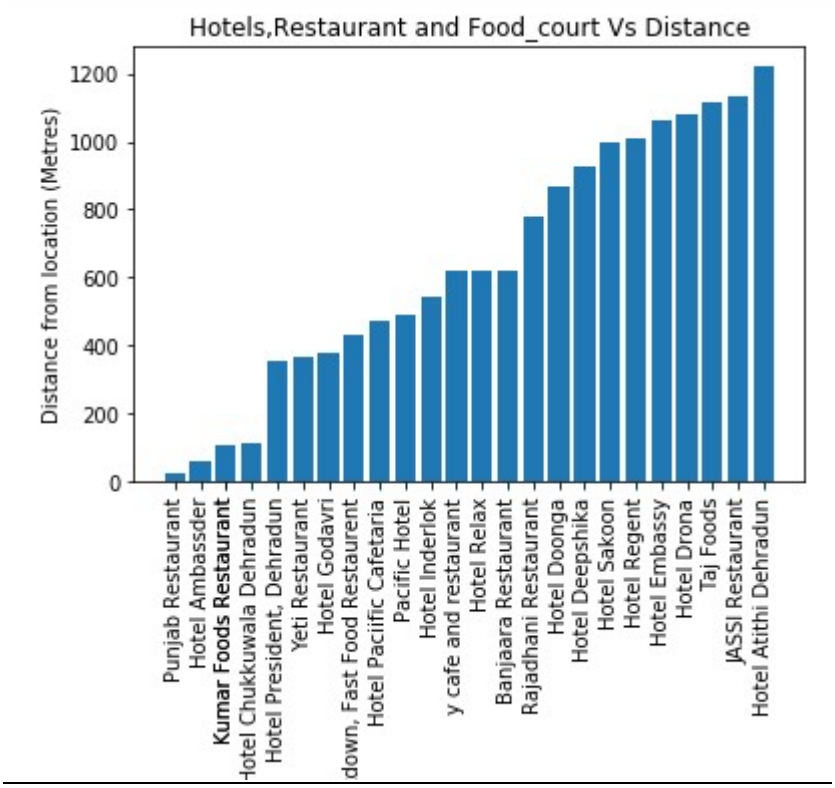
1. **Search the number of food related places near the location:**

```
There are 15 hotels at Dehradun
There are 7 restaurant at Dehradun
There are 3 food_court at Dehradun
There are 25 restaurants,hotels and food_court at Dehradun
```

2. **Show the places in the map alongwith core location:**



3. **Distance of the places form the core location:**



4. **Search for other food venues/places:**

```
Out[14]: 0                        The Buffet
         1    Ellora Bakers And Confectioners
         2                       Black Pepper
         3                       Kumar Sweets
         4                      Paltan Bazaar
         5                    Baskin-Robbins
         6                         McDonald's
         7                    Barista Lavazza
         8                             Subway
         9                    cafe coffee day
         Name: name, dtype: object
```

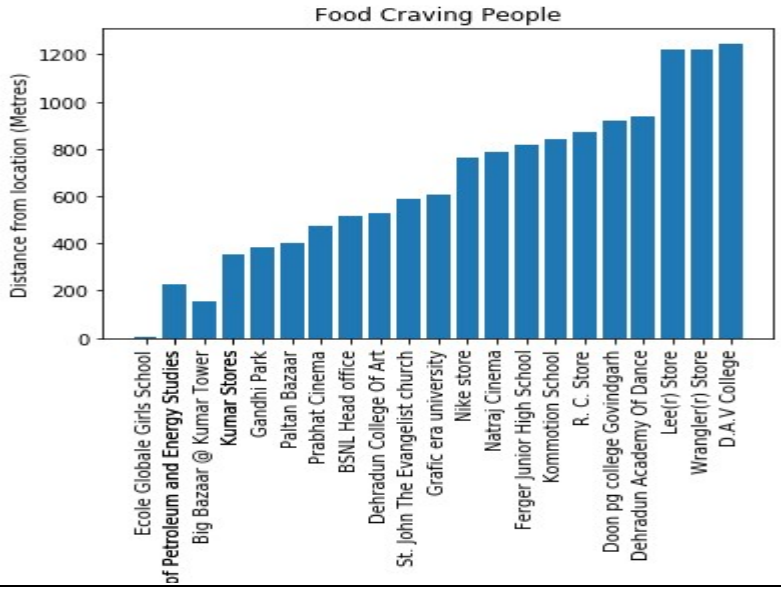
5. **Query search related to the populated places after dropping the unwanted query:**

```
There are 23 venues in Dehradun
```

t[17]:

	name	categories	distance	id
0	St. John The Evangelist church	Church	591	508773d1e4b096443c1fe2e1
1	Gandhi Park	Park	383	51d0db64498e1c66f1e44036
2	Big Bazaar @ Kumar Tower	Department Store	155	543230cd498e491cf00a2181
3	Paltan Bazaar	Flea Market	404	4ef8512d8231c111572a8e05
4	Kumar Stores	Convenience Store	351	4e7c2f6429c2e440a8b7fcb6
5	University of Petroleum and Energy Studies	College Engineering Building	121	55388a0d498e339377d62345
6	University of Petroleum and Energy Studies	College Engineering Building	229	55388a56498e96e74609cbe9
7	Grafic era university	College Engineering Building	605	5281c65611d24b9fced28689
8	Ecole Globale Girls School	Student Center	7	5cb59ee13abcaf002cd8317c
9	Ferger Junior High School	Middle School	817	5c0cd080a0215b002c56fabb
10	Kommotion School	Dance Studio	842	54e6f846498e41036f1f6186
11	Dehradun College Of Art	College Arts Building	528	5de74eb16e2efe0008d4f99a
12	Doon pg college Govindgarh	College Academic Building	918	4e56879452b12ddfc1e256a7

1. **Distance of Populated venue/ places after dropping the unwanted query:**



6. **Use the k-clustering algorithm :**

	name	Church	Clothing Store	College Academic Building	College Arts Building	College Engineering Building	Convenience Store	Dance Studio	Department Store	Flea Market	Indie Movie Theater	Middle School	Movie Theater	Office	Park
0	St. John The Evangelist church	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1	Gandhi Park	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	Big Bazaar @ Kumar Tower	0	0	0	0	0	0	0	1	0	0	0	0	0	0
3	Paltan Bazaar	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4	Kumar Stores	0	0	0	0	0	1	0	0	0	0	0	0	0	0

7. **Final location and map to open new restaurant to target food craving crowd:**

```
Final location (Green Dot in our below given map) of ourRestaurant:30.32717340574716,78.04479388316341
```