

Segmentation and Clustering of Chandigarh City

Battle of the Neighborhoods

A.BACKGROUND & Problem Statement OF THE CITY UNDER ANALYSIS

► Chandigarh is a city and a union territory in India that serves as the capital of the two neighbouring states of Punjab and Haryana. The city is unique as it is not a part of either of the two states but is governed directly by the Union Government, which administers all such territories in the country.

► Problem Statement:

The People moving into Chandigarh would better insights of what to expect from the City in terms of quality of life and what Neighborhoods they could choose to live in

Target Audience: Any body who is looking to relocate to the City Beautiful



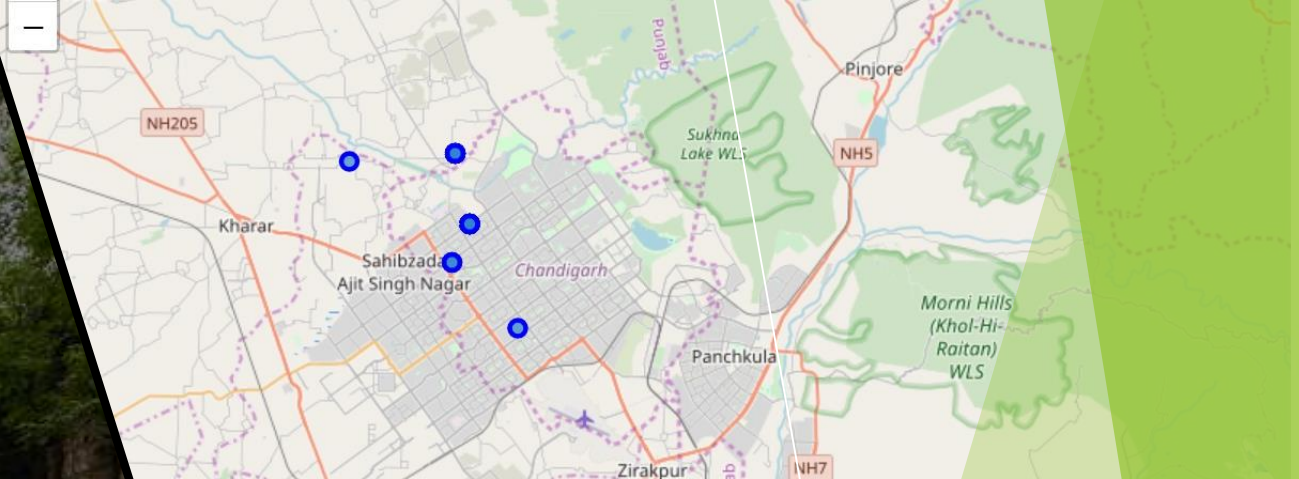
Data acquisition and cleaning



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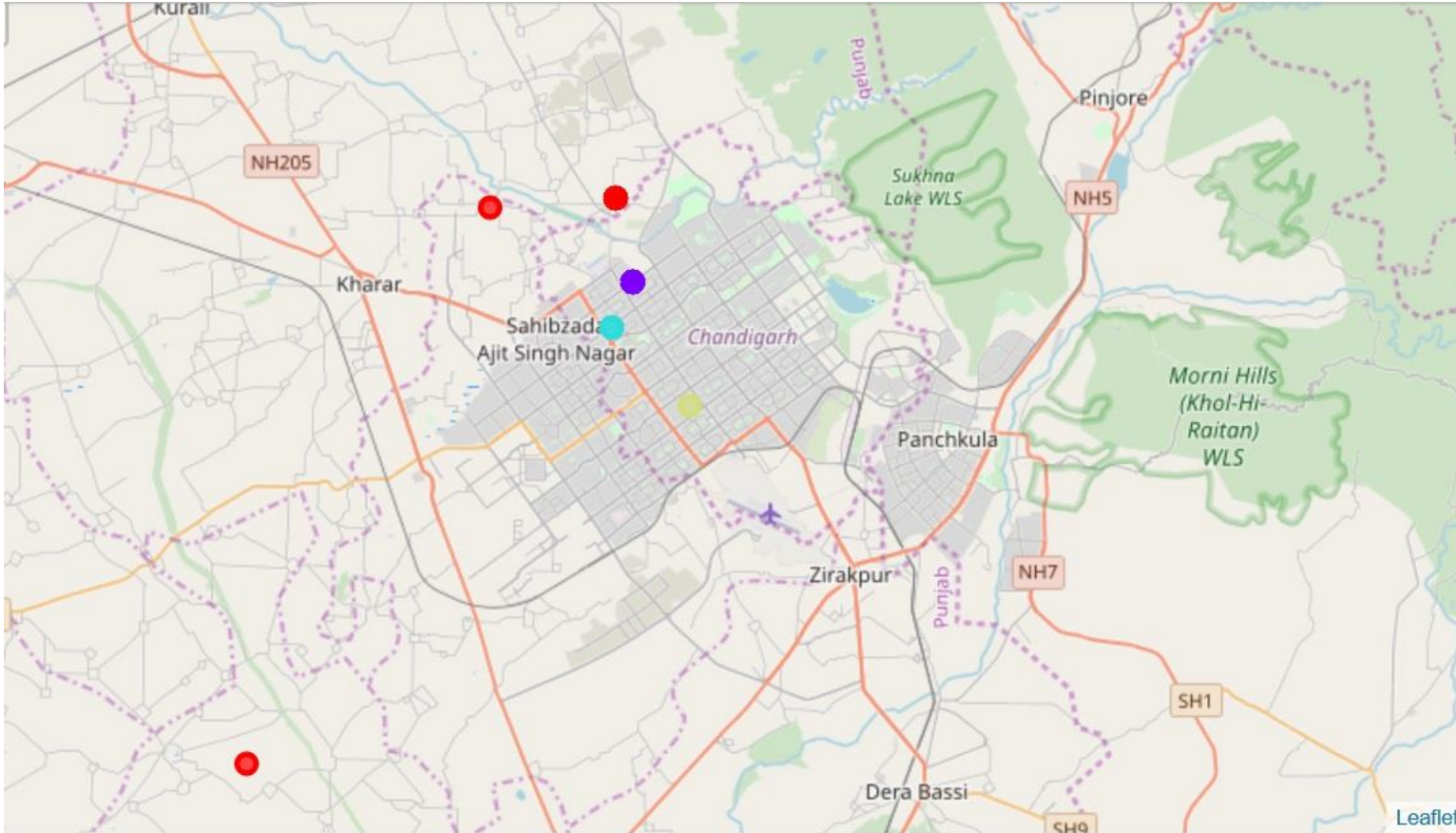
- ▶ 'pageocode' has been used for getting the 'GPS coordinates', 'region name' and municipality name from postal codes
- ▶ The City Consists of 28 Regions and 12 column types
- ▶ The Data had to be cleansed for non available fields and a sub Dataframe was created to get most relevant columns for analysis
- ▶ Unique Neighborhoods were superimposed on the Chandigarh map

Explore Neighbourhoods & Venues in Chandigarh



[51]:											
	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Aerodrome, Behlana	Sandwich Place	Pizza Place	Gym	Arcade	Pharmacy	Miscellaneous Shop	Market	Electronics Store	Café	Airport Service
1	Airforce Highground	Sandwich Place	Pizza Place	Gym	Arcade	Pharmacy	Miscellaneous Shop	Market	Electronics Store	Café	Airport Service
	Burail, Sector 47 Chandigarh, Sector 44 (Chand...	Pizza Place	Pharmacy	Market	Airport Service	Sandwich Place	Miscellaneous Shop	Gym	Electronics Store	Café	Arcade
	Chandigarh G.P.O.	Electronics Store	Sandwich Place	Pizza Place	Pharmacy	Miscellaneous Shop	Market	Gym	Café	Arcade	Airport Service
	Daria, Mhc Manimajra, Manimajra, Chandigarh	Sandwich Place	Pizza Place	Gym	Arcade	Pharmacy	Miscellaneous Shop	Market	Electronics Store	Café	Airport Service
	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue		Venue Latitude	Venue Longitude	Category			
	(Chandigarh), New Chandigarh,...	30.7465	76.7417	Subway		30.746311	76.743513	Sandwich Place			
	(Chandigarh), New Sectt Chandigarh,...	30.7465	76.7417	Books And Brew		30.744771	76.743924	Arcade			
	Court (Chandigarh), New Sectt Chandigarh,...	30.7465	76.7417	Domino's Pizza		30.744813	76.745485	Pizza Place			
	High Court (Chandigarh), New Sectt Chandigarh,...	30.7465	76.7417	Oceanic Gym		30.748260	76.736969	Gym			
	Ram Darbar, Hallomajra, Ind Area Chandigarh	30.7465	76.7417	Subway		30.746311	76.743513	Sandwich Place			
5	Ram Darbar, Hallomajra, Ind Area Chandigarh	30.7465	76.7417	Books And		30.744771	76.743924	Arcade			

Clustering of Neighbourhoods using K-Squares Method (Unsupervised Machine Learning)



Key: Yellow- Cluster3, Red :Cluster0, Sky Blue: Cluster2 , Violet: Cluster1

Analysis of Clusters

1: Cluster0 - is primarily areas on the outer skirts of Chandigarh with minimal metropolitan facilities except for Sector 10 and Sector 12 (Having Punjab Engineering College). The outer skirts have manufacturing units. There are about 15 medium to large industries including two in the public sector. In addition, Chandigarh has over 2,500 units registered under small-scale sector. The important industries are paper manufacturing, basic metals and alloys, and machinery. Other industries are relating to food products, sanitary ware, auto parts, machine tools, pharmaceuticals, and electrical appliances.

2: Cluster1- Contains

- Four major trade promotion organisations have their offices in Chandigarh.
- Chandigarh IT Park (also known as Rajiv Gandhi Chandigarh Technology Park)
- There are numerous educational institutions in Chandigarh.
- These range from privately and publicly operated schools to colleges and the Panjab University.
- Other Institutions are Post Graduate Institute of Medical Education and Research (PGIMER), Government Medical College and Hospital, Punjab Engineering College Deemed University, Government College for Men, Government College for Women, DAV College, MCM DAV College for Women, Goswami Ganesh Dutta Sanatan Dharma College Sector-32, Government Homeopathic College, Ayurvedic College, Government Polytechnical College, Government Home Science College, Dr. Ambedkar Institute of Hotel management, Khalsa College Sec- 26, National Institute of Technical Teachers Training and Research (NITTTR) Sec-26, Government College of Commerce and Business Administration (GCCBA) Sec-50 etc.
- According to Chandigarh administration's department of education, there are a total of 115 government schools in Chandigarh

3. Cluster 3 & Cluster 2 have a mix of Government offices and schools



Electronics Store
Sandwich Place
Pizza Place
Pharmacy
Misc Shops

**Primarily
Non Metro Crowd**

Sandwich Place
Pizza Place
GYMN
Arcade
Pharmacy
Misc Shops

**Young College
/IT Sector
Population that is
Fond of fast food
And also health
Conscious fond of
Gymns**

Misc Shops
Café
ATM

Mixed Population

Recommendations

- ▶ The quality of living in the City is very high. With good living facilities and good mix of Shopping facilities/ Educational institutes/ Gym facilities with well spread network of quick bite joints catering to the young college population...Cluster1
- ▶ Also a very good city for retired population with well spread network of hospitals/ Parks and pharmacies.
- ▶ This report offers a comprehensive view of Chandigarh City giving a fairly good insights of what People moving into the City could expect

