

APPLIED DATA SCIENCE CAPSTONE

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BACKGROUND

- Using data to solve a business problem is one of the things which makes data science useful.
- Deciding the location of a new business venture is one of the crucial decisions which can have critical consequences for the future of a business.
- However, the factors which affect the suitability of a location for a new business venture vary and as businesses have unique requirements to ensure success.

PROBLEM

- Core problem is use of data science tools to find 3 candidate locations for setting up a fine dining restaurant in delhi.
- Factors which may lead to higher footfall such as number of high quality fine dining restaurants in the locality, other landmarks bazaars, museums, art galleries, shopping centers, parking lots etc.
- These factors need to be identified and explored to make a suitable model which may solve this problem.

DATA SOURCES

- censusindia.gov.in
- Foursquare
- Google Maps

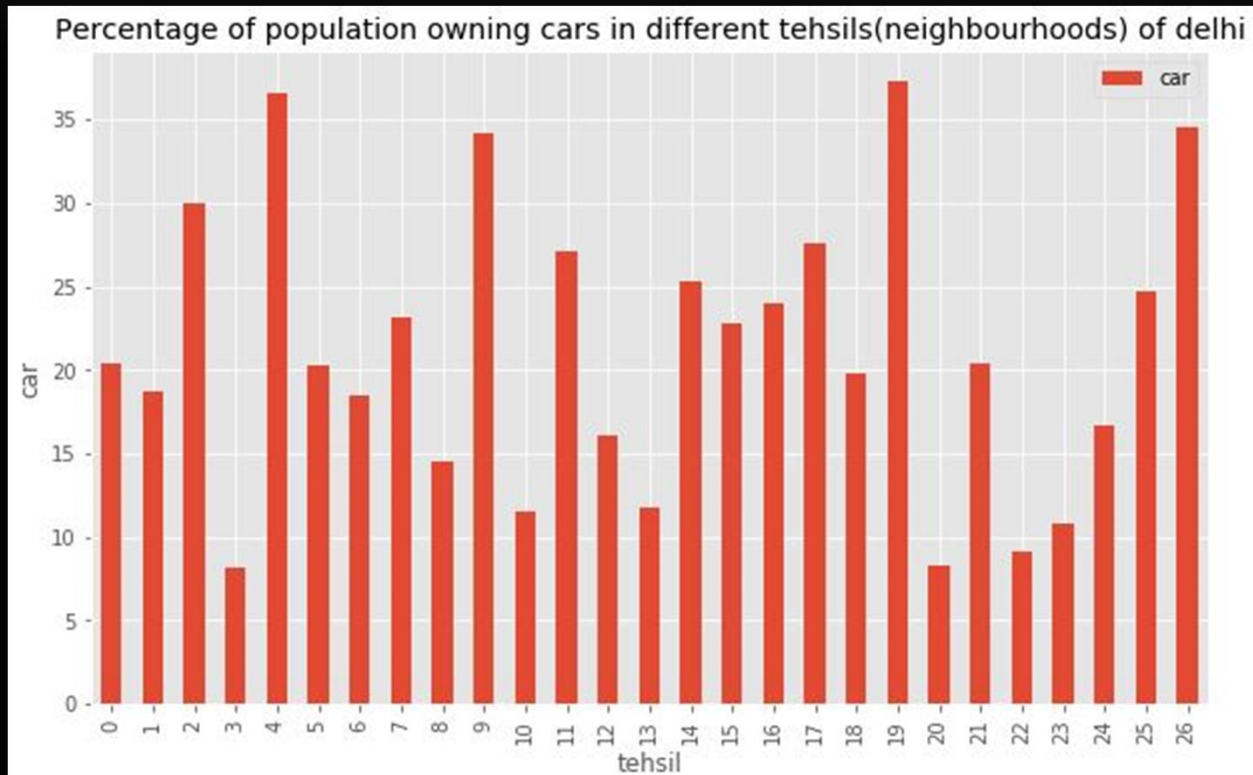
RESOURCES

- IBM Cloud: Watson Studio
- Github
- Overleaf

DATA ANALYSIS

	tehsil	car	latitude	longitude
0	Rajouri Garden	37.241176	28.642152	77.116060
1	Defence Colony	36.568000	28.571791	77.232010
2	Vivek Vihar	34.555556	28.669164	77.312267
3	Karol Bagh	34.187500	28.652998	77.189023
4	Connaught Place	30.000000	28.631383	77.219792
5	Preet Vihar	27.551613	28.641441	77.295259
6	Model Town	27.073333	28.702714	77.193991
7	Pahar Ganj	25.330000	28.639852	77.213031
8	Vasant Vihar	24.756667	28.560691	77.160791
9	Patel Nagar	23.971429	28.465564	77.039294
10	Hauz Khas	23.185246	28.544256	77.206707
11	Parliament Street	22.783333	28.617188	77.207808
12	Chanakya Puri	20.400000	28.613896	77.207592
13	Saraswati Vihar	20.376389	28.477224	77.083276
14	Delhi Cantonment	20.225000	28.593833	77.134979

DATA ANALYSIS



DATA ANALYSIS

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In [22]: delhi_venues.head()
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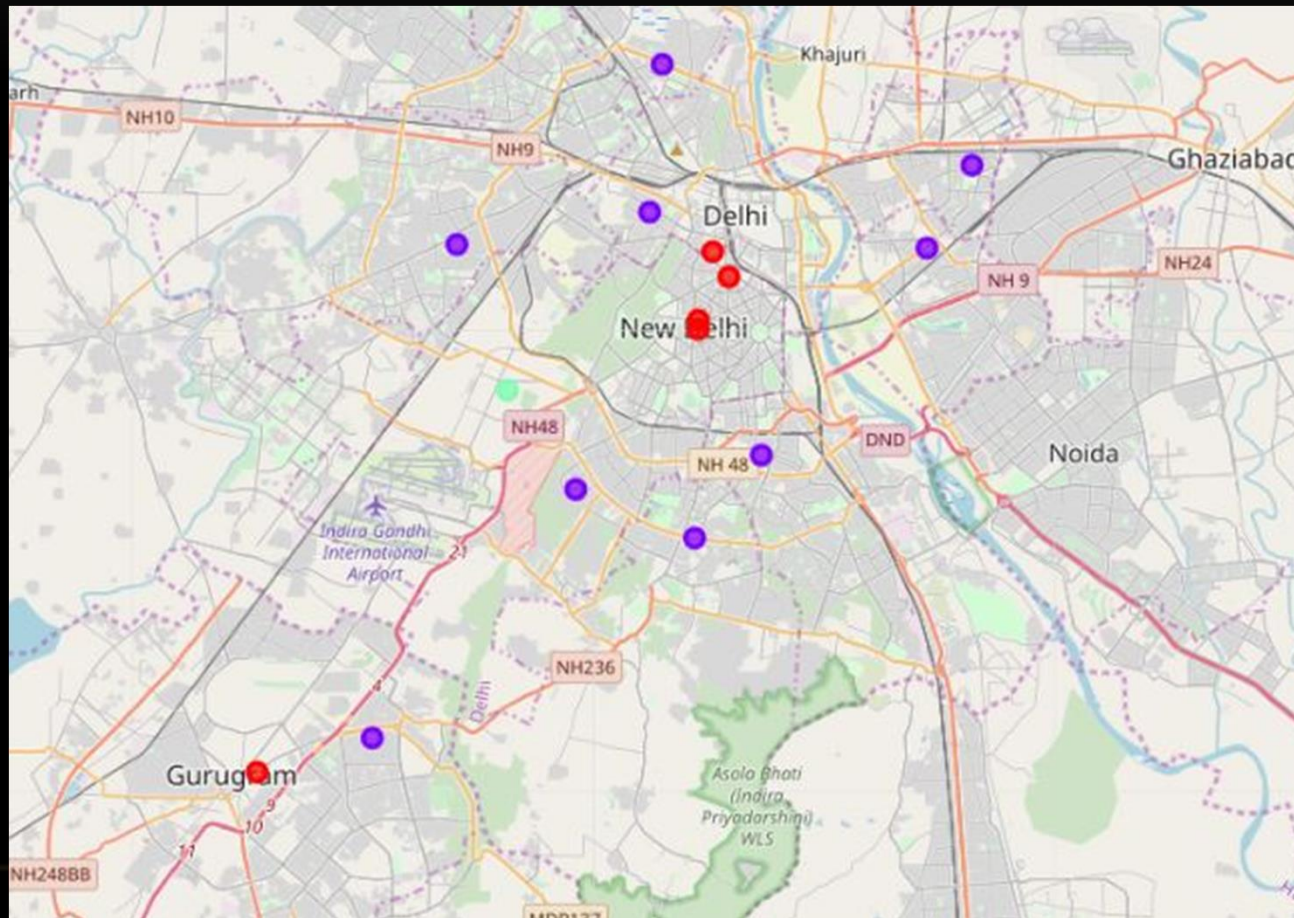
Out[22]:

	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Rajouri Garden	28.642152	77.11606	Main Market Rajouri Garden	28.645729	77.121261	Market
1	Rajouri Garden	28.642152	77.11606	Pirates of The Grill	28.644371	77.111674	BBQ Joint
2	Rajouri Garden	28.642152	77.11606	Anjlika Pastry Shop	28.642521	77.123294	Bakery
3	Rajouri Garden	28.642152	77.11606	Zara ज़ारा	28.642468	77.106536	Clothing Store
4	Rajouri Garden	28.642152	77.11606	PVR Cinemas	28.642439	77.106500	Multiplex

DATA ANALYSIS

	tehsil	car	latitude	longitude	Cluster Labels	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	Rajouri Garden	37.241176	28.642152	77.116080	1	Fast Food Restaurant	Café	Indian Restaurant	Restaurant	Shopping Mall	Multiplex	Hotel	BBQ Joint	Coffee Shop	Donut Shop
1	Defence Colony	36.568000	28.571791	77.232010	1	Indian Restaurant	Market	Fast Food Restaurant	Sandwich Place	Italian Restaurant	Pizza Place	Coffee Shop	Café	Chinese Restaurant	Donut Shop
2	Vivek Vihar	34.555556	28.669164	77.312267	0	Shop & Service	BBQ Joint	Light Rail Station	Pool	Pizza Place	Italian Restaurant	Indian Restaurant	Hotel	Athletics & Sports	Asian Restaurant
3	Karol Bagh	34.187500	28.652998	77.189023	1	Indian Restaurant	Fast Food Restaurant	Snack Place	Coffee Shop	Food & Drink Shop	Hotel	Café	Burrito Place	Light Rail Station	Pizza Place
4	Connaught Place	30.000000	28.631383	77.219792	0	Indian Restaurant	Café	Hotel	Bar	Lounge	Coffee Shop	Chinese Restaurant	Italian Restaurant	Bakery	Fast Food Restaurant
5	Preet Vihar	27.551613	28.641441	77.295259	1	Pizza Place	Dessert Shop	Arcade	Indian Restaurant	Café	South Indian Restaurant	Convenience Store	Hotel	Fast Food Restaurant	Plaza
6	Model Town	27.073333	28.702714	77.193991	1	Coffee Shop	Café	Fast Food Restaurant	Indian Restaurant	Pizza Place	Convenience Store	Frozen Yogurt Shop	Food Truck	Donut Shop	Light Rail Station
7	Pahar Ganj	25.330000	28.639852	77.213031	0	Indian Restaurant	Hotel	Café	Bar	Fast Food Restaurant	Lounge	Pub	Coffee Shop	Chinese Restaurant	Bakery
8	Vasant Vihar	24.756667	28.560691	77.160791	1	Café	Pizza Place	Chinese Restaurant	Coffee Shop	Fast Food Restaurant	Restaurant	Indian Restaurant	Furniture / Home Store	Nightlife Spot	Playground
9	Patel Nagar	23.971429	28.465564	77.039294	0	Hotel	Indian Restaurant	Department Store	Chinese Restaurant	Market	Restaurant	Lounge	Café	Pool	Clothing Store
10	Hauz Khas	23.185246	28.544256	77.206707	1	Coffee Shop	Café	Indian Restaurant	Asian Restaurant	Pizza Place	Market	Bar	Donut Shop	Hotel	Chinese Restaurant
11	Parliament Street	22.783333	28.617188	77.207808	0	Hotel	Indian Restaurant	Asian Restaurant	Restaurant	Italian Restaurant	Historic Site	Coffee Shop	Park	Chinese Restaurant	Lounge
12	Chanakya Puri	20.400000	28.613896	77.207592	0	History Museum	Hotel	Indian Restaurant	Restaurant	Historic Site	Smoke Shop	Chinese Restaurant	Cocktail Bar	Lounge	Park
13	Saraswati Vihar	20.376389	28.477224	77.083276	1	Indian Restaurant	Café	Fast Food Restaurant	Coffee Shop	Shopping Mall	Pizza Place	Department Store	Bakery	American Restaurant	Multiplex
14	Delhi Cantonment	20.225000	28.593833	77.134979	2	Historic Site	Shopping Mall	Cafeteria	Café	Coffee Shop	Plaza	Convenience Store	Flea Market	Fast Food Restaurant	Fried Chicken Joint

DATA ANALYSIS



RESULT/CONCLUSION

- Three neighbourhoods in Delhi for establishing a fine dining restaurant
- **Connaught Place**
- **Pahar Ganj**
- **Defence Colony**