RESTAURANTS INVESTMENT

III

IV IMPLEMENTATION PYTHON

V CONCLUSION

PLAN DE PRESENTATION

I 

OBJECTIFS

II 

COLLECT DATA FOR NYC,PARIS,AND TORON

III 

ANALYSIS AND EXTRACT USEFULL INFORMATIONS

IV 

RESULTS

V 

CONCLUSION

OBJECTIFS

The objectives are:

- Collect Data
- Clean and Tranform the collected data into usable data format
- Process to retieve usefull information
- Sujest the most suitable a restaurant investment base on the data alalisys process

DATA COLLECTION PROCESS

-Tools:

- Python

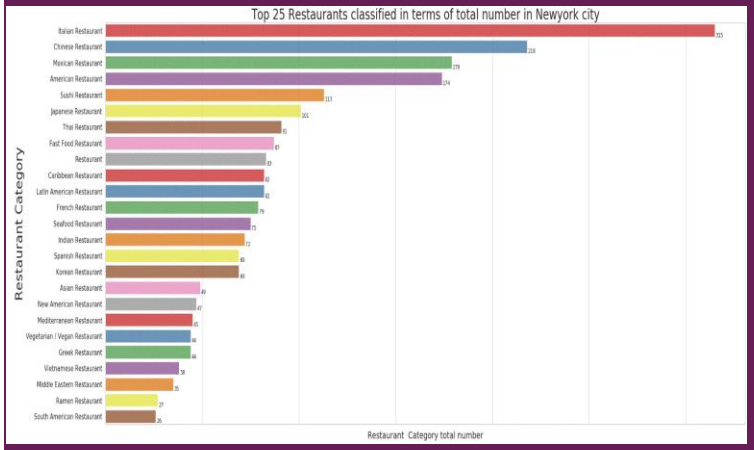
- EXCELL

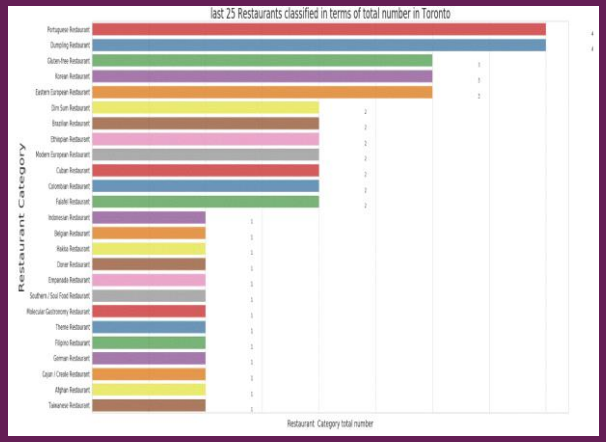
- Watson IBM

ANALYSIS AND EXTRACT USEFULL INFORMATIONS

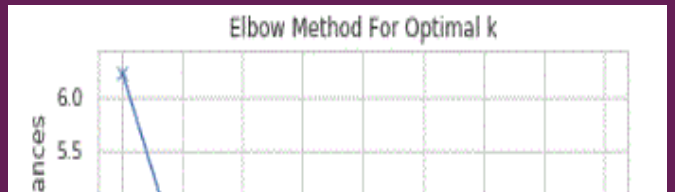
STATISTICS AND MACHINE LEARNING TOOOL TO EXPLORE DATA AND RETRIVE USEFUL INFORMATION ENABLING TO MAKE RIGHT INVESTMENT.

Statistic –Mean





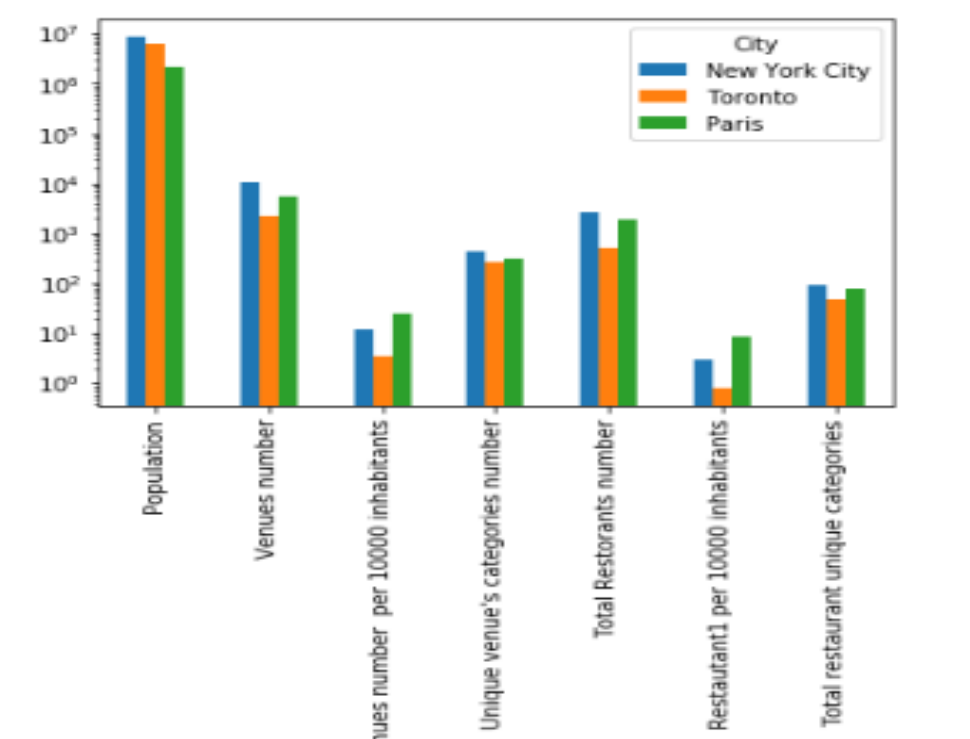
Machine Leaning :Clustring(Kmeans) clustring the neihborghoors base on the



RESULTS

Here are the over all result or the study:

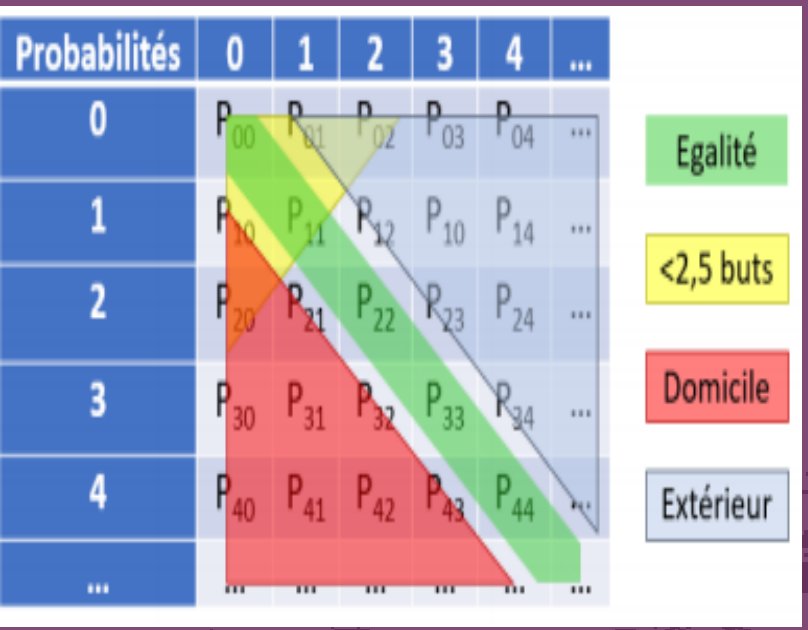
City	Population	Venues number	Venues number per 10000 inhabitants	Unique venue's categories number	Total Restorants number	Restautant1 per 10000 inhabitants	Total restaurant unique categories
NYC	8398748	10255	12,2	429	2580	3	92
Toronto	6196731	2213	3,57	276	503	0,8	48
Paris	2148271	5482	25	305	1866	8,5	79



IIICALCUL DES COEFICIENTS À PARTIR DES COTES:

III.1 Méthote analytique:

Probabilités	0	1	2	3	4	...
0	P_{00}	P_{01}	P_{02}	P_{03}	P_{04}	...
1	P_{10}	P_{11}	P_{12}	P_{10}	P_{14}	...
2	P_{20}	P_{21}	P_{22}	P_{23}	P_{24}	...
3	P_{30}	P_{31}	P_{32}	P_{33}	P_{34}	...
4	P_{40}	P_{41}	P_{42}	P_{43}	P_{44}	...
...	...	...	...	...	...	...



$$\begin{cases} & Rouge + Jaune : & \\ P_{10} + P_{20} & = & \mathbb{P}(Hgagne, Moinsde2.5buts) \\ & Bleue + Jaune : & \\ P_{01} + P_{02} & = & \mathbb{P}(Agagne, Moinsde2.5buts) \\ & Verte + Jaune : & \\ P_{11} + P_{00} & = & \mathbb{P}(egalite, Moinsde2.5buts) \end{cases}$$

$$\begin{aligned} P_{ij} &= \mathbb{P}(X_H = i, XA = j) \\ &= \mathbb{P}(X_H = i).\mathbb{P}(X_H = i) \\ &= exp(-\lambda_H).\frac{{\lambda_H}^i}{i!}.exp(-\lambda_A).\frac{{\lambda_A}^j}{j!} \\ &= exp(-\lambda_H - \lambda_A).\frac{{\lambda_H}^i}{i!}.\frac{{\lambda_A}^j}{j!} \end{aligned}$$

$$\begin{aligned} \mathbb{P}(Kgagne, Moinsde2.5buts) &= \mathbb{P}(Kgagne).\mathbb{P}(Moinsde2.5buts) \\ &= \frac{1}{365K * BbAv < 2.5} \end{aligned}$$

$$\begin{cases} exp(-\lambda_H - \lambda_A)(\lambda_A + \frac{\lambda_A^2}{2}) = \frac{1}{365A * BbAv < 2.5} \\ exp(-\lambda_H - \lambda_A)(\lambda_H + \frac{\lambda_H^2}{2}) = \frac{1}{365H * BbAv < 2.5} \end{cases}$$

IV.2 Conclusion

At the end of ours investigation,thanks to data we collected using data processing tools and IBM cloud,The totronto city being the less dense(0.8 restaurant for 10000 inhabitants) can be seen as the best place to invest if we tak into account only this criterion thus the restaurant demand compare to the city Paris ans newyork city heaving already lots of restaurants.

From the Toronto city analisys,there are 13 restaurant category with only 1 restaurant and 7 with only two to those category may be interesting in the sens they are few.Investing in the restaurant such as German Restaurant,Taiwanese Restaurant,Modern European restaurant may be a good investment.


THANKS