Applied Data Science Capstone "Public Wifi in Seoul"

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Introduction

- accessibility of Wifi network is becoming one of the top priorities in our life
- For travelers, accessibility of Free Wifi (a public Wifi without any charge to user) can be also an important part of visiting another country
- So, I researched geographic distribution of Free Wifi spots in overall Seoul and arranged basic differences between each district

Data

- downloaded CSV file named “Geographical data of public Wifi spot in Seoul” (URL: https://data.seoul.go.kr/dataList/OA-1218/S/1/datasetView.do)
- The downloaded file contains district name, location type in which public Wifi is located, coordinate of public Wifi Stations based on longitude and latitude and the ID given to each Wifi station
- Because the data is written Korean and it is not readable in non “UTF-8” code page, I translated all contents to English and deleted unnecessary data (“address in detail”) not used for analysis

	District	Type	Built by	Longitude	Latitude	ID
0	Gangnam-gu	Public facility	District	127.041003	37.508291	WF121001
1	Gangnam-gu	Public facility	District	127.064250	37.493850	WF121002
2	Gangnam-gu	Public facility	District	127.064250	37.493850	WF121003
3	Gangnam-gu	Public facility	District	127.064250	37.493850	WF121004
4	Gangnam-gu	Public facility	District	127.064250	37.493850	WF121005

oll output; double click to hide

Methodology

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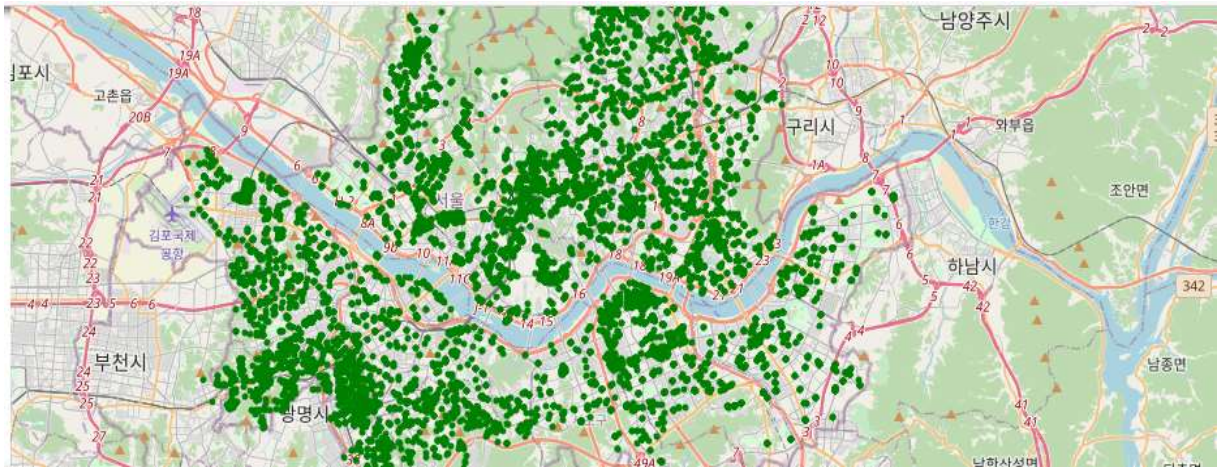
oll output; double click to hide

Methodology

- I used geographic data from Geopy and mapped each location of public Wifi station based on its longitude and latitude. (as green dot). After that, I figured out the number of public Wifi station for each district in Seoul

Result

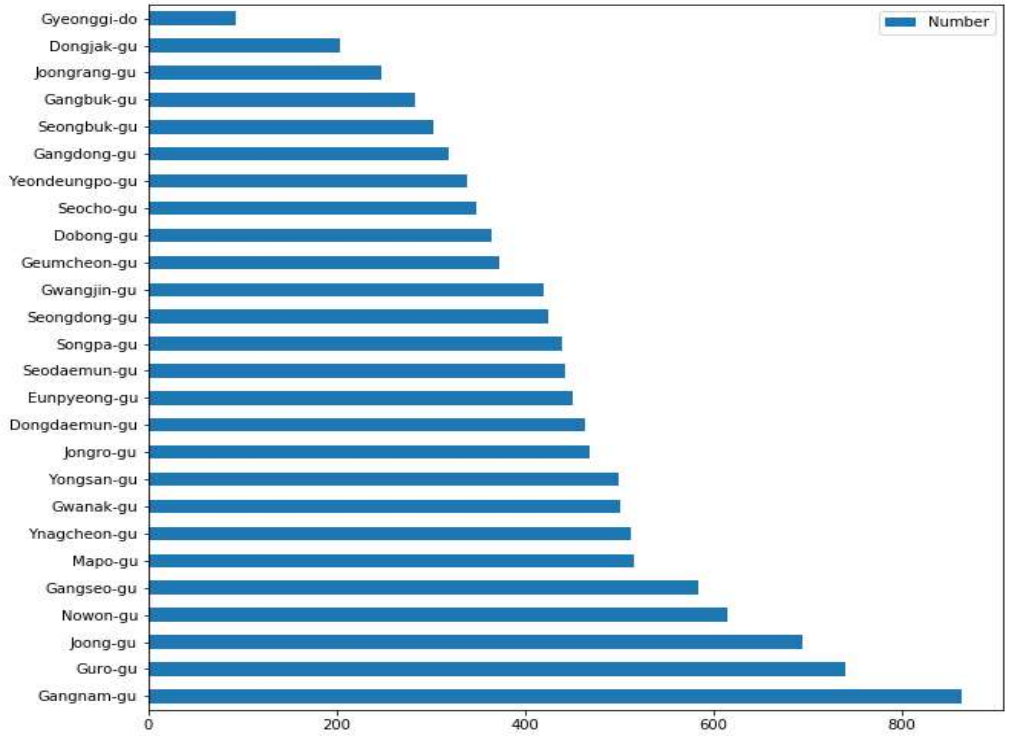
- As the geographic data shown, there was gap in the distribution of Wifi based on the part in Seoul



Result

- To figure out how much there is difference in the number of public Wifi, I figured a horizontal graph. As the graph shown
- the Gangnam-Gu area has the most number of public Wifi. “Guro-gu” and “Joong-gu” in which most of IT-, Financial companies are located are on the high rank in number of public Wifi.
- Comapring to them, residential area like “Joongrang-gu” or “Dongjak-gu” has smaller number of public Wifi spots

Result


Number
Gyeonggi-do
Dongjak-gu
Joongrang-gu
Gangbuk-gu
Seongbuk-gu
Gangdong-gu
Yeondeungpo-gu
Seocho-gu
Dobong-gu
Geumcheon-gu
Gwangjin-gu
Seongdong-gu
Songpa-gu
Seodaemun-gu
Eunpyeong-gu
Dongdaemun-gu
Jongro-gu
Yongsan-gu
Gwanak-gu
Ynagcheon-gu
Mapo-gu
Gangseo-gu
Nowon-gu
Joong-gu
Guro-gu
Gangnam-gu
0
200
400
600
800

Discussion

- This research showed that the type of district has affected on the number of “public Wifi”. Also, the research showed that the district which is boomed with business people are mostly convenient in using public Wifi
- However, as a limitation, we need to have further study to see the correlation between the number and type of company in each district and the number of public Wifi.

Link

Notebook (in Github)
https://github.com/seo307/datascience_capstone/blob/master/wk4_seoul_wifi_distribution.ipynb

Data (Distribution of public Wifi in Seoul)

https://data.seoul.go.kr/dataList/OA-1218/S/1/datasetView.do