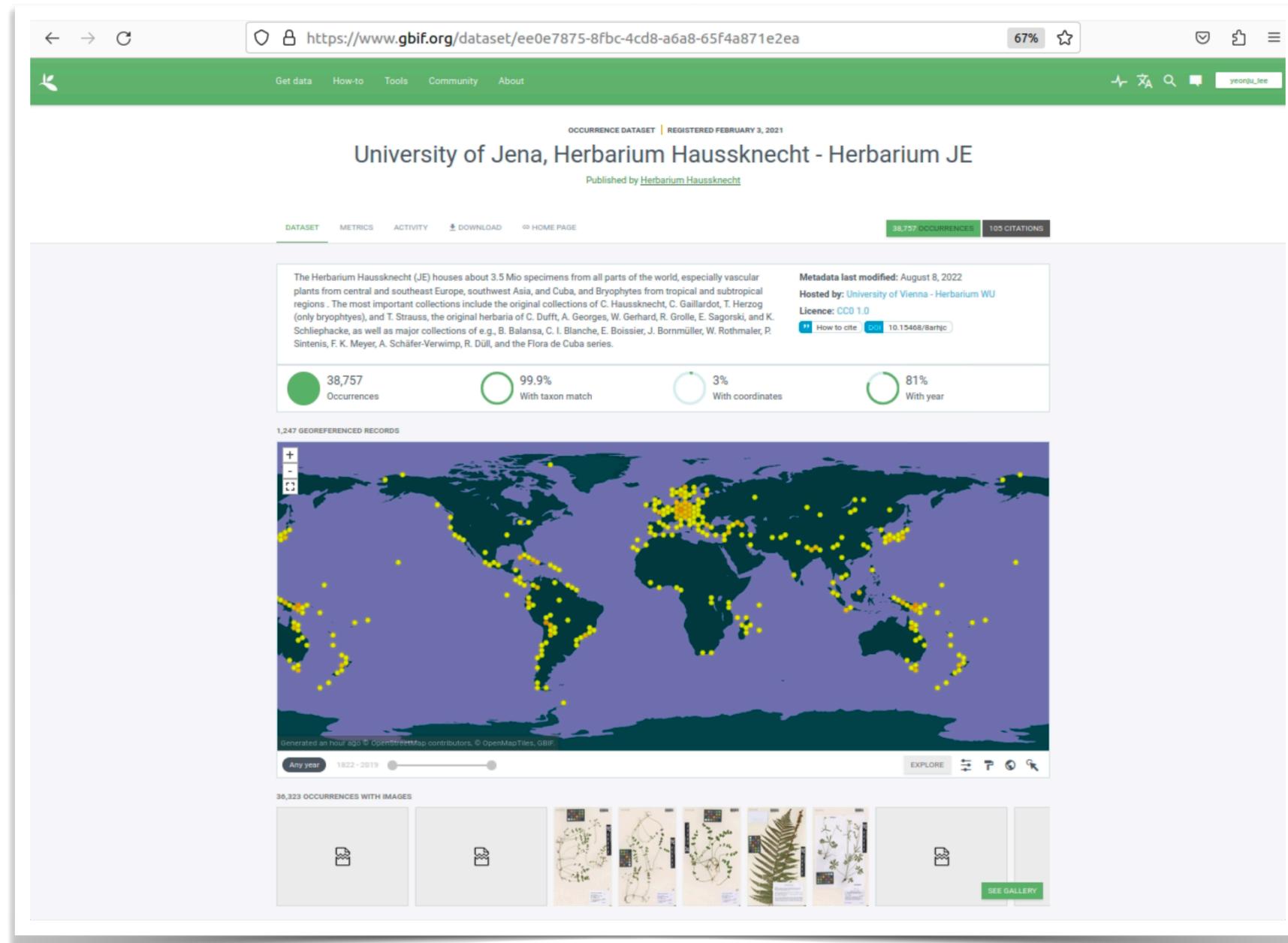


데이터셋 관련

Haussknecht Herbarium 다운 (30k)

- **Herbarium:** 보존된 식물 표본의 모임 (=식물표본집)
- 저번 시간에 다룬 논문의 데이터셋은 **Herbarium**으로 일반적인 식물 사진과는 차이가 존재
- 논문의 데이터셋이 찾음 (<https://www.gbif.org/>) -> 다운받은 결과, csv파일 1개



<https://www.gbif.org/>

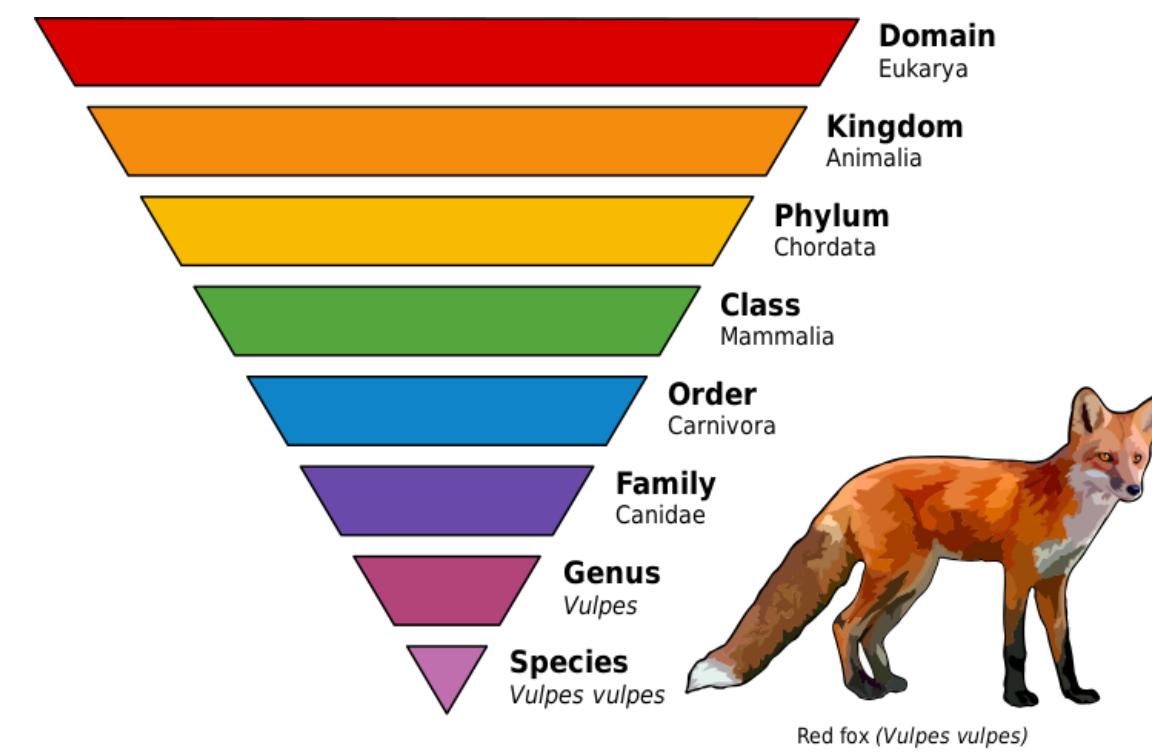
Haussknecht Herbarium

총 50개의 column (gbifID 포함)

- kingdom ~ species: 종속과목강문계

그외에도 date, country 등 다양한 정보가 있음

gbifID	datasetKey	occurrenceID	kingdom	phylum	class	order	family	genus	species
3417438302	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea		Plantae	Tracheophyta	Magnoliopsida	Asterales	Asteraceae	Hieracium	Hieracium lachenalii
3417438301	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea		Plantae	Tracheophyta	Magnoliopsida	Asterales	Asteraceae	Hieracium	Hieracium lachenalii
3414279302	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008834	Plantae	Bryophyta	Bryopsida	Leucodontales	Neckeraceae	Neckera	Neckera intermedia
3414279301	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008835	Plantae	Bryophyta	Bryopsida	Bryales	Roellophyaceae	Roellobryon	Roellobryon roellii
3409209318	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008836	Plantae	Bryophyta	Bryopsida	Bryales	Mniaceae	Mnium	Mnium marginatum
3409209317	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008867	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Cephaloziellaceae	Protolophozia	Protolophozia elongata
3409209316	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008861	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Lophoziaeae	Lophozia	Lophozia savicziae
3409209315	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008871	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Scapaniaceae	Pseudotritomaria	Pseudotritomaria heterophylla
3409209314	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008860	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Lophoziaeae	Lophozia	Lophozia savicziae
3409209313	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008866	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Cephaloziellaceae	Protolophozia	Protolophozia elongata
3409209312	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008864	Plantae	Marchantiophyta	Marchantiopsida	Marchantiales	Aythoniaceae	Plagiochasma	Plagiochasma appendiculatum
3409209311	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008865	Plantae	Marchantiophyta	Marchantiopsida	Marchantiales	Aythoniaceae	Plagiochasma	Plagiochasma appendiculatum
3409209310	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008862	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Lophoziaeae	Lophozia	Lophozia savicziae
3409209309	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008869	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Cephaloziellaceae	Protolophozia	Protolophozia herzogiana
3409209308	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008868	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Cephaloziellaceae	Protolophozia	Protolophozia herzogiana
3409209307	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008859	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Lophoziaeae	Lophozia	Lophozia savicziae
3409209306	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008840	Plantae	Bryophyta	Bryopsida	Bryales	Mniaceae	Mnium	Mnium marginatum
3409209305	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008838	Plantae	Bryophyta	Bryopsida	Bryales	Mniaceae	Mnium	Mnium marginatum
3409209304	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008837	Plantae	Bryophyta	Bryopsida	Bryales	Mniaceae	Mnium	Mnium marginatum
3409209303	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008839	Plantae	Bryophyta	Bryopsida	Bryales	Mniaceae	Mnium	Mnium marginatum
3409209302	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008863	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Lophoziaeae	Lophoziopsis	Lophoziopsis jurensis
3409209301	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE04008870	Plantae	Marchantiophyta	Jungermanniopsida	Jungermanniales	Cephaloziellaceae	Protolophozia	Protolophozia herzogiana
3403694346	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE00034432	Plantae	Tracheophyta	Magnoliopsida	Asterales	Asteraceae	Baccharis	Baccharis macraei
3403694345	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE00034709	Plantae	Tracheophyta	Magnoliopsida	Asterales	Asteraceae		
3403694344	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE00034717	Plantae	Tracheophyta	Magnoliopsida	Asterales	Asteraceae		
3403694343	ee0e7875-8fbc-4cd8-a6a8-65f4a871e2ea	https://je.jacq.org/JE00034713	Plantae	Tracheophyta	Magnoliopsida	Asterales	Asteraceae		



Haussknecht Herbarium

추가 조사 필요

- Image는 어떻게 얻는가?
- bounding box - annotation 있는지 확인

대체 데이터셋 (?)

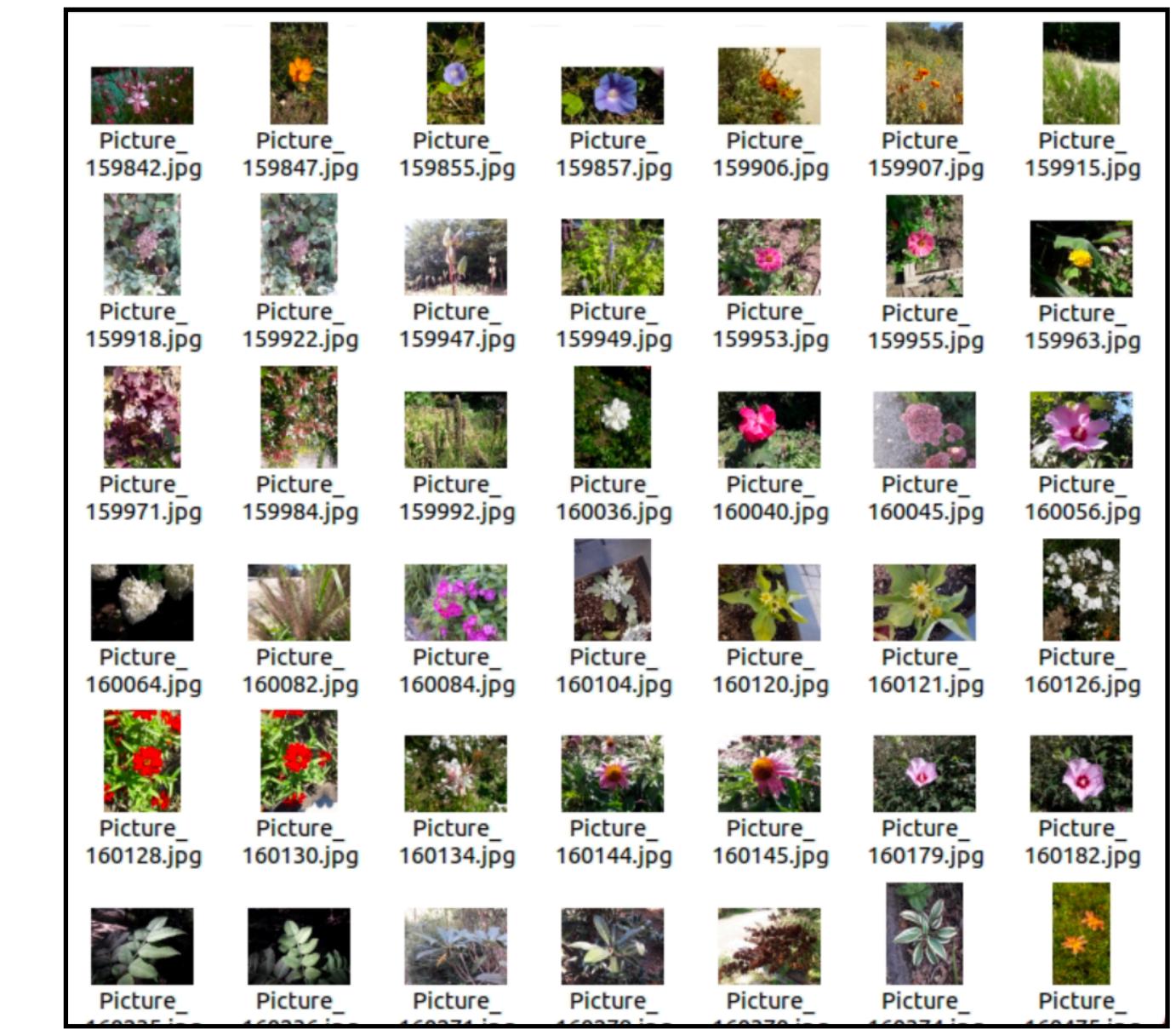
서울특별시_식물 동정 학습데이터 (AI VISION dataset)

- 문제점1: Herbarium 아님
- 문제점2: object classification은 불가. only bbox regression 가능

The screenshot shows a web page from the Seoul Special Self-Governance Agency's data portal. The URL is <https://www.data.go.kr/data/15081992/fileData.do?recommendDataYn=Y>. The page title is '서울특별시_식물 동정 학습데이터'. It displays a table of file details for the dataset, including columns for file name, size, type, and download link. A sample file entry is shown:

파일데이터명	서울특별시_식물 동정 학습데이터_20201231
분류체계	환경 - 자연
관리부서명	비데이터담당관
보유근거	수시 (1회성 데이터)
업데이트 주기	매체유형
획득자	JPG
데이터 관계	2021-08-23
등록일	제공 형태
제공 형태	URL
설명	기관 자체에서 다운로드 제공 데이터(URL 기재)
기타 유의사항	다양한 각도로 촬영된 식물 이미지에 대한 Bounding Box(구역표시) 수령 후 자료 선별하였습니다.
비품부과유무	서울시 관할 공원 지역에서 직접 촬영하였습니다.
이용허락범위	식물관련 학습콘텐츠 개발에 활용할 수 있습니다.

<https://www.data.go.kr>



image

```

1 <annotation>
2   <folder>20200921 ŽččöÂµ</folder>
3   <filename>Picture_159842.jpg</filename>
4   <path>C:\Users\infoboss\Downloads\20200921 ŽččöÂµ\Picture_159842.jpg</path>
5   <source>
6     <database>Unknown</database>
7   </source>
8   <size>
9     <width>4160</width>
10    <height>2340</height>
11    <depth>3</depth>
12  </size>
13  <segmented>0</segmented>
14  <object>
15    <name>flower</name>
16    <pose>Unspecified</pose>
17    <truncated>0</truncated>
18    <difficult>0</difficult>
19    <bndbox>
20      <xmin>1318</xmin>
21      <ymin>906</ymin>
22      <xmax>2439</xmax>
23      <ymax>2118</ymax>
24    </bndbox>
25  </object>
26 </annotation>

```

각 image의 xml 파일

서버컴 세팅 진행상황

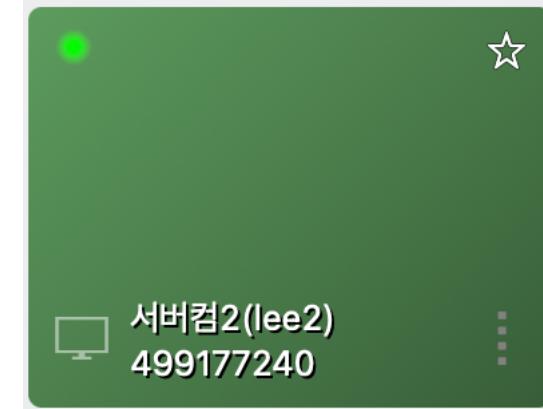
서버컴 (RTX 3080) - SSH 설정 X

```
(base) lee@lee-System-Product-Name:~$ nvcc -V
nvcc: NVIDIA (R) Cuda compiler driver
Copyright (c) 2005-2022 NVIDIA Corporation
Built on Wed_Jun_8_16:49:14_PDT_2022
Cuda compilation tools, release 11.7, V11.7.99
Build cuda_11.7.r11.7/compiler.31442593_0
```

```
(ai) lee@lee-System-Product-Name:~$ nvidia-smi
Mon Feb 27 16:09:35 2023
+-----+
| NVIDIA-SMI 515.86.01    Driver Version: 515.86.01    CUDA Version: 11.7      |
| Persistence-M| Bus-Id     Disp.A | Volatile Uncorr. ECC | | |
| GPU Name      Persistence-M| Bus-Id     Disp.A | Volatile Uncorr. ECC |
| Fan Temp Perf Pwr:Usage/Cap| Memory-Usage | GPU-Util Compute M. |
|                 |             |             |             | MIG M. |
+-----+
| 0  NVIDIA GeForce ... On | 00000000:65:00.0 On | N/A |
| 0% 42C   P8   36W / 420W | 514MiB / 24576MiB | 5% Default |
|                           |                         | N/A |
+-----+
+-----+
| Processes:                               |
| GPU  GI CI PID  Type  Process name        GPU Memory |
| ID   ID   ID   ID   ID   Usage          |
|-----|
| 0   N/A N/A 1701 G   /usr/lib/xorg/Xorg    198MiB |
| 0   N/A N/A 1982 G   /usr/bin/gnome-shell    33MiB |
| 0   N/A N/A 2168269 G  ...6/usr/lib/firefox/firefox 278MiB |
+-----+
```

```
(ai) lee@lee-System-Product-Name:~$ python
Python 3.9.16 (main, Jan 11 2023, 16:05:54)
[GCC 11.2.0] :: Anaconda, Inc. on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> import torch
>>> torch.cuda.is_available()
True
>>> torch.cuda.current_device()
0
>>> torch.cuda.device(0)
<torch.cuda.device object at 0x7f2918f4e100>
>>> torch.cuda.device_count()
1
>>> torch.cuda.get_device_name(0)
'NVIDIA GeForce RTX 3090'
>>> torch.__version__
'1.13.1+cu117'
```

- pswd: same computer
- VPN: (Start IP) 172.18.0.0
(subnet) 255.255.255.252
- Local Port: 7070



• nvidia, cuda 설치

(nvidia=515 cuda=11.7)

• anaconda 설치

가상환경 생성 (python=3.9, torch=1.13.1)

• Anydesk 설치

(세팅 변경: 승인 없이 비번으로 바로 연결)