

1. mini conda 설치

reference: chatgpt

```
sudo apt update
sudo apt install wget -y
```

```
dohun@dohun-AERO-5-KE:~$ sudo apt update
기존:1 http://kr.archive.ubuntu.com/ubuntu jammy InRelease
기존:2 http://kr.archive.ubuntu.com/ubuntu jammy-updates InRelease
기존:3 http://kr.archive.ubuntu.com/ubuntu jammy-backports InRelease
기존:4 https://packages.microsoft.com/repos/code stable InRelease
기존:5 https://dl.google.com/linux/chrome/deb stable InRelease
기존:6 http://security.ubuntu.com/ubuntu jammy-security InRelease
기존:7 http://packages.ros.org/ros2/ubuntu jammy InRelease
기존:8 https://ppa.launchpadcontent.net/graphics-drivers/ppa/ubuntu jammy InRelease
패키지 목록을 읽는 중입니다... 완료
의존성 트리를 만드는 중입니다... 완료
상태 정보를 읽는 중입니다... 완료
1 패키지를 업그레이드할 수 있습니다. 확인하려면 'apt list --upgradable'를 실행하십시오.
dohun@dohun-AERO-5-KE:~$ sudo apt install wget -y
패키지 목록을 읽는 중입니다... 완료
의존성 트리를 만드는 중입니다... 완료
상태 정보를 읽는 중입니다... 완료
패키지 wget는 이미 최신 버전입니다 (1.21.2-2ubuntu1.1).
다음 패키지가 자동으로 설치되었지만 더 이상 필요하지 않습니다:
  libxpat1:i386 libgbm1:i386 libode-dev libwpe-1.0-1 libwpebackend-fdo-1.0-1
  libx11-xcb1:i386 libxcb-dri3-0:i386 libxcb-present0:i386 libxcb-randr0:i386
  nvidia-firmware-550-550.120 nvidia-firmware-550-550.144.03
  nvidia-firmware-570-570.144 python3-rosdistro python3-rospkg
'sudo apt autoremove'를 이용하여 제거하십시오.
0개 업그레이드, 0개 새로 설치, 0개 제거 및 1개 업그레이드 안 함.
dohun@dohun-AERO-5-KE:~$
```

```
wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
```

```
dohun@dohun-AERO-5-KE:~$ wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
--2025-09-09 02:42:02-- https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
repo.anaconda.com (repo.anaconda.com) 해석 중... 104.16.32.241, 104.16.191.158, 2606:4700::6810:20f1, ...
다음으로 연결 중: repo.anaconda.com (repo.anaconda.com)|104.16.32.241|:443... 연결했습니다.
HTTP 요청을 보냈습니다. 응답 기다리는 중... 200 OK
길이: 162129736 (155M) [application/octet-stream]
저장 위치: 'Miniconda3-latest-Linux-x86_64.sh.1'

Miniconda3-latest-L 100%[=====>] 154.62M 11.2MB/s / 14s

2025-09-09 02:42:16 (11.1 MB/s) - 'Miniconda3-latest-Linux-x86_64.sh.1' 저장함 [162129736/162129736]
```

```
bash Miniconda3-latest-Linux-x86_64.sh
```

```
dohun@dohun-AERO-5-KE:~$ bash Miniconda3-latest-Linux-x86_64.sh

Welcome to Miniconda3 py313_25.5.1-0

In order to continue the installation process, please review the license
agreement.
Please, press ENTER to continue
>>> 
```

[Enter] 누름. 라이선스 내용이 나옴.

```
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--More--
```

3~5번 [Enter] 누름. “Do you accept the license terms?” 나오면 yes입력하고 [Enter].

```
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Do you accept the license terms? [yes|no]
>>> 
```

miniconda를 설치할 경로를 물어봄. 디폴트 경로를 원하면 [Enter]를 누르고, 다른 경로를 원하면 다른 경로를 입력하면 됨. (여기서는 다른 경로를 입력해서 진행함.)

```
Do you accept the license terms? [yes|no]
>>> yes

Miniconda3 will now be installed into this location:
/home/dohun/miniconda3

- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

[/home/dohun/miniconda3] >>> /home/dohun/folder/miniconda3
```

miniconda가 설치되면서 마지막에 .bashrc에 conda를 자동 등록할 것인지 물어봄. yes를 입력하고 [Enter].

```
Downloading and Extracting Packages:
Preparing transaction: done
Executing transaction: done
entry_point.py:256: DeprecationWarning: Python 3.14 will, by default, filter ext
racted tar archives and reject files or modify their metadata. Use the filter ar
gument to control this behavior.
Installation finished.
WARNING:
  You currently have a PYTHONPATH environment variable set. This may cause
  unexpected behavior when running the Python interpreter in Miniconda3.
  For best results, please verify that your PYTHONPATH only points to
  directories of packages that are compatible with the Python interpreter
  in Miniconda3: /home/dohun/folder/miniconda3
Do you wish to update your shell profile to automatically initialize conda?
This will activate conda on startup and change the command prompt when activated
.
If you'd prefer that conda's base environment not be activated on startup,
run the following command when conda is activated:

conda config --set auto_activate_base false

You can undo this by running `conda init --reverse $SHELL`? [yes|no]
[no] >>> yes
```

miniconda가 설치 완료.

```
You can undo this by running `conda init --reverse $SHELL`? [yes|no]
[no] >>> yes
no change      /home/dohun/folder/miniconda3/condabin/conda
no change      /home/dohun/folder/miniconda3/bin/conda
no change      /home/dohun/folder/miniconda3/bin/conda-env
no change      /home/dohun/folder/miniconda3/bin/activate
no change      /home/dohun/folder/miniconda3/bin/deactivate
no change      /home/dohun/folder/miniconda3/etc/profile.d/conda.sh
no change      /home/dohun/folder/miniconda3/etc/fish/conf.d/conda.fish
no change      /home/dohun/folder/miniconda3/shell/condabin/Conda.psm1
no change      /home/dohun/folder/miniconda3/shell/condabin/conda-hook.ps1
no change      /home/dohun/folder/miniconda3/lib/python3.13/site-packages/xontrib
/conda.xsh
no change      /home/dohun/folder/miniconda3/etc/profile.d/conda.csh
no change      /home/dohun/.bashrc
No action taken.
Thank you for installing Miniconda3!
dohun@dohun-AERO-5-KE:~$
```

새로운 터미널창을 열면 앞에 (base)라고 되는걸 볼 수 있음.

```
(base) dohun@dohun-AERO-5-KE:~$  
(base) dohun@dohun-AERO-5-KE:~$  
(base) dohun@dohun-AERO-5-KE:~$ □
```

2. LeRobot 설치

reference: <https://github.com/huggingface/lerobot/blob/main/README.md>

reference2: <https://huggingface.co/docs/lerobot/installation>

1) conda 가상환경 만들기

```
conda create -y -n lerobot python=3.10
conda activate lerobot
```

(base)가 (lerobot)으로 바뀐다.

```
(base) dohun@dohun-AERO-5-KE:~$ conda create -y -n lerobot python=3.10
2 channel Terms of Service accepted
Retrieving notices: done
Channels:
  - defaults
Platform: linux-64
Collecting package metadata (repodata.json): done
Solving environment: done

==> WARNING: A newer version of conda exists. <==
  current version: 25.5.1
  latest version: 25.7.0

Please update conda by running

  $ conda update -n base -c defaults conda

## Package Plan ##

environment location: /home/dohun/folder/miniconda3/envs/lerobot

added / updated specs:
  - python=3.10

The following packages will be downloaded:



| package                   | build           |         |
|---------------------------|-----------------|---------|
| ca-certificates-2025.7.15 | h06a4308_0      | 126 KB  |
| ncurses-6.5               | h7934f7d_0      | 1.1 MB  |
| openssl-3.0.17            | h5eee18b_0      | 5.2 MB  |
| pip-25.2                  | pyhc872135_0    | 1.2 MB  |
| python-3.10.18            | h1a3bd86_0      | 26.5 MB |
| readline-8.3              | hc2a1206_0      | 471 KB  |
| setuptools-78.1.1         | py310h06a4308_0 | 1.7 MB  |
| sqlite-3.50.2             | hb25bd0a_1      | 1.1 MB  |
| tk-8.6.15                 | h54e0aa7_0      | 3.4 MB  |
| wheel-0.45.1              | py310h06a4308_0 | 115 KB  |
| Total:                    |                 | 41.0 MB |



The following NEW packages will be INSTALLED:

_libgcc_mutex      pkgs/main/linux-64::_libgcc_mutex-0.1-main
_openmp_mutex      pkgs/main/linux-64::_openmp_mutex-5.1-1_gnu
bzip2              pkgs/main/linux-64::bzip2-1.0.8-h5eee18b_6

(base) dohun@dohun-AERO-5-KE:~$ conda activate lerobot
(lerobot) dohun@dohun-AERO-5-KE:~$
```

2) ffmpeg 설치

ffmpeg: 멀티미디어(영상, 오디오) 처리 라이브러리/툴킷

주의: **ffmpeg=7.1.1**으로 설치해야 **lerobot**에서 영상처리가 됨.

```
conda install ffmpeg=7.1.1 -c conda-forge
```

“Proceed ([y]/n)?”가 나오면 [Enter] 누름.

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ conda install ffmpeg=7.1.1 -c conda-forge
2 channel Terms of Service accepted
Channels:
 - conda-forge
 - defaults
Platform: linux-64
Collecting package metadata (repodata.json): done
Solving environment: done

==> WARNING: A newer version of conda exists. <==
  current version: 25.5.1
  latest version: 25.7.0

Please update conda by running

  $ conda update -n base -c defaults conda

## Package Plan ##

  environment location: /home/dohun/folder/miniconda3/envs/lerobot

  added / updated specs:
    - ffmpeg=7.1.1

The following NEW packages will be INSTALLED:

  alsa-lib           conda-forge/linux-64::alsa-lib-1.2.14-hb9d3cd8_0
  aom                conda-forge/linux-64::aom-3.9.1-hac33072_0
  attr              conda-forge/linux-64::attr-2.5.2-h39aace5_0
  cairo             conda-forge/linux-64::cairo-1.18.4-h3394656_0
  dav1d             conda-forge/linux-64::dav1d-1.2.1-hd590300_0
  dbus              conda-forge/linux-64::dbus-1.16.2-h3c4dab8_0
  ffmpeg            conda-forge/linux-64::ffmpeg-7.1.1-gpl_hd51cf9b_710
  font-ttf-dejavu-s~ conda-forge/noarch::font-ttf-dejavu-sans-mono-2.37-hab24e00_0
  font-ttf-inconsol~ conda-forge/noarch::font-ttf-inconsolata-3.000-h77eed37_0
  font-ttf-source-c~ conda-forge/noarch::font-ttf-source-code-pro-2.038-h77eed37_0
  font-ttf-ubuntu   conda-forge/noarch::font-ttf-ubuntu-0.83-h77eed37_3
  fontconfig        conda-forge/linux-64::fontconfig-2.15.0-h7e30c49_1
  fonts-conda-ecosy~ conda-forge/noarch::fonts-conda-ecosystem-1-0
  fonts-conda-forge conda-forge/noarch::fonts-conda-forge-1-0

The following packages will be UPDATED:

  libffi            pkgs/main::libffi-3.4.4-h6a678d5_1 --> conda-forge::libffi-3.4.6-h2dba641_1
  libgcc-ng         pkgs/main::libgcc-ng-11.2.0-h1234567_1 --> conda-forge::libgcc-ng-15.1.0-h69a702a_5
  libgomp           pkgs/main::libgomp-11.2.0-h1234567_1 --> conda-forge::libgomp-15.1.0-h767d61c_5
  libstdcxx-ng      pkgs/main::libstdcxx-ng-11.2.0-h12345~ --> conda-forge::libstdcxx-ng-15.1.0-h4852527_5
  libuuid           pkgs/main::libuuid-1.41.5-h5eee18b_0 --> conda-forge::libuuid-2.41.1-he9a06e4_0
  openssl           pkgs/main::openssl-3.0.17-h5eee18b_0 --> conda-forge::openssl-3.5.2-h26f9b46_0
  xz                pkgs/main::xz-5.6.4-h5eee18b_1 --> conda-forge::xz-5.8.1-hbcc6ac9_2

The following packages will be SUPERSEDED by a higher-priority channel:

  python            pkgs/main::python-3.10.18-h1a3bd86_0 --> conda-forge::python-3.10.18-hd6af730_0_cp
python

Proceed ([y]/n)? [y]

Downloading and Extracting Packages:

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
(lerobot) dohun@dohun-AERO-5-KE:~$
```

3) huggingface/lerobot 가져오기

```
cd ~/folder
git clone https://github.com/huggingface/lerobot.git
cd lerobot
```

```
(lerobot) dohun@dohun-AERO-5-KE:~$ cd ~/folder
(lerobot) dohun@dohun-AERO-5-KE:~/folder$ git clone https://github.com/huggingface/lerobot.git
'lerobot'에 복제합니다...
remote: Enumerating objects: 35842, done.
remote: Counting objects: 100% (414/414), done.
remote: Compressing objects: 100% (191/191), done.
remote: Total 35842 (delta 259), reused 308 (delta 204), pack-reused 35428 (from 2)
오브젝트를 받는 중: 100% (35842/35842), 167.84 MiB | 11.00 MiB/s, 완료.
델타를 알아내는 중: 100% (23250/23250), 완료.
(lerobot) dohun@dohun-AERO-5-KE:~/folder$ cd lerobot/
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$
```

4) lerobot 관련 라이브러리 설치하기

```
pip install -e .[all]
```

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip install -e .[all]
Obtaining file:///home/dohun/folder/lerobot
Installing build dependencies ... done
Checking if build backend supports build_editable ... done
Getting requirements to build editable ... -
```

아래 터미널 사진처럼 빨간글씨로 에러가 뜰 때가 있음. 다음 Error처리를 참고.

```
Stored in directory: /tmp/pip-ephem-wheel-cache-76fmyzwe/wheels/65/14/10/3ab7269fb28304fd21998f85a6c9fc1bfae196e106cae2ca2a
Successfully built lerobot
Installing collected packages: pytz, Ptyprocess, zipp, toml, six, pyquaternion,
pygments, psutil, pexpect, mpy-extensions, lxml, kiwisolver, iniconfig, idna, fonttools, decorator, cyclr, certifi, reachy2-sdk-api, importlib_metadata, reachy2_sdk, datasets, lerobot
ERROR: pip's dependency resolver does not currently take into account all the packages that are installed. This behaviour is the source of the following dependency conflicts.
nbconvert 7.16.5 requires beautifulsoup4, which is not installed.
Successfully installed certifi-2025.8.3 cyclr-0.12.1 datasets-3.6.0 decorator-5.2.1 fonttools-4.59.2 idna-3.10 importlib_metadata-8.7.0 iniconfig-2.1.0 kiwisolver-1.4.9 lerobot-0.3.4 lxml-6.0.1 mpy-extensions-1.1.0 pexpect-4.9.0 psutil-7.0.0 Ptyprocess-0.7.0 pygments-2.19.2 pyquaternion-0.9.9 pytz-2025.2 reachy2-sdk-api-1.0.20 reachy2_sdk-1.0.14 six-1.17.0 toml-0.10.2 zipp-3.23.0
```


5) Error는 Chat GPT 참고하여 관련된 라이브러리 설치

pip check 명령으로 필요한 라이브러리를 알수 있음.

pip check 명령 입력 후, 아래 사진에서 빨간색 밑줄처럼 “requires~~~”라고 되어있는 부분이 필요한 라이브러리.

여기서는 typeguard, webencodings, beautifulsoup4 라이브러리가 필요함.

(아래 사진에서 2번째 4번째 줄 둘다 webencodings 라이브러리가 필요하므로 총 3개의 라이브러리를 설치하면 됨)

```
pip check
```

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip check
generate-parameter-library-py 0.5.0 requires typeguard, which is not installed.
bleach 6.2.0 requires webencodings, which is not installed.
nbconvert 7.16.5 requires beautifulsoup4, which is not installed.
tinycss2 1.4.0 requires webencodings, which is not installed.
```

```
pip install typeguard webencodings beautifulsoup4
```

typeguard, webencodings, beautifulsoup4 라이브러리를 설치함.

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip install typeguard webencodings beautifulsoup4
Collecting typeguard
  Using cached typeguard-4.4.4-py3-none-any.whl.metadata (3.3 kB)
Collecting webencodings
  Using cached webencodings-0.5.1-py2.py3-none-any.whl.metadata (2.1 kB)
Collecting beautifulsoup4
  Using cached beautifulsoup4-4.13.5-py3-none-any.whl.metadata (3.8 kB)
Requirement already satisfied: typing_extensions>=4.14.0 in /home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages (from typeguard) (4.15.0)
Collecting soupsieve>1.2 (from beautifulsoup4)
  Using cached soupsieve-2.8-py3-none-any.whl.metadata (4.6 kB)
Using cached typeguard-4.4.4-py3-none-any.whl (34 kB)
Using cached webencodings-0.5.1-py2.py3-none-any.whl (11 kB)
Using cached beautifulsoup4-4.13.5-py3-none-any.whl (105 kB)
Using cached soupsieve-2.8-py3-none-any.whl (36 kB)
Installing collected packages: webencodings, typeguard, soupsieve, beautifulsoup4
Successfully installed beautifulsoup4-4.13.5 soupsieve-2.8 typeguard-4.4.4 webencodings-0.5.1
```

```
pip check
```

다시 한번 pip check 명령으로 필요한 라이브러리가 있는지 확인함.

(아래 사진 처럼 “No ~~~~”가 나오면 라이브러리 설치 완료)

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip check
No broken requirements found.
```


6) lerobot 설치하기

```
pip install 'lerobot[all]'
```

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip install 'lerobot[all]'  
Requirement already satisfied: lerobot[all] in /home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages (0.3.4)  
Requirement already satisfied: datasets<=3.6.0,>=2.19.0 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (2.19.0)  
Requirement already satisfied: diffusers>=0.27.2 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (0.34.0)  
Requirement already satisfied: huggingface-hub>=0.34.2 in /home/dohun/.local/lib/python3.10/site-packages (from huggingface-hub[cli,hf-transfer]>=0.34.2->lerobot[all]) (0.34.4)  
Requirement already satisfied: cmake>=3.29.0.1 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (4.0.3)  
Requirement already satisfied: einops>=0.8.0 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (0.8.1)  
Requirement already satisfied: opencv-python-headless>=4.9.0 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (4.12.0.88)  
Requirement already satisfied: av>=14.2.0 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (15.0.0)  
Requirement already satisfied: jsonlines>=4.0.0 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (4.0.0)  
Requirement already satisfied: packaging>=24.2 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (24.2)  
Requirement already satisfied: pynput>=1.7.7 in /home/dohun/.local/lib/python3.10/site-packages (from lerobot[all]) (1.8.1)  
Requirement already satisfied: matplotlib-inline in /home/dohun/.local/lib/python3.10/site-packages (from ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (0.17.2)  
Requirement already satisfied: matplotlib-inline in /home/dohun/.local/lib/python3.10/site-packages (from ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (0.17)  
Requirement already satisfied: pexpect>4.3 in /home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages (from ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (4.9.0)  
Requirement already satisfied: stack_data in /home/dohun/.local/lib/python3.10/site-packages (from ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (0.6.3)  
Requirement already satisfied: traitlets>=5.13.0 in /home/dohun/.local/lib/python3.10/site-packages (from ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (5.14.3)  
Requirement already satisfied: parso<0.9.0,>=0.8.4 in /home/dohun/.local/lib/python3.10/site-packages (from jedi>=0.16->ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (0.8.4)  
Requirement already satisfied: Ptyprocess>=0.5 in /home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages (from pexpect>4.3->ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (0.7.0)  
Requirement already satisfied: executing>=1.2.0 in /home/dohun/.local/lib/python3.10/site-packages (from stack_data->ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (2.2.0)  
Requirement already satisfied: asttokens>=2.1.0 in /home/dohun/.local/lib/python3.10/site-packages (from stack_data->ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (3.0.0)  
Requirement already satisfied: pure-eval in /home/dohun/.local/lib/python3.10/site-packages (from stack_data->ipython>=5->meshcat->placo>=0.9.6->lerobot[all]) (0.2.3)  
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$
```

7) datasets 버전 낮추기

(컴퓨터 사양에 따라 datasets 버전을 낮추지 않아도 잘 돌아갈 수도 있음.)
lerobot train이나 visualize_dataset 등을 할 때, ValueError가 생길 수 있음.

```
python src/lerobot/scripts/train.py \
  --output_dir=outputs/train/diffusion_pusht \
  --policy.type=diffusion \
  --dataset.repo_id=lerobot/pusht \
  --policy.push_to_hub=false \
  --seed=100000 \
  --env.type=pusht \
  --batch_size=64 \
  --steps=200000 \
  --eval_freq=25000 \
  --save_freq=25000
```

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ python src/lerobot/scripts/train.py \
  --output_dir=outputs/train/diffusion_pusht \
  --policy.type=diffusion \
  --dataset.repo_id=lerobot/pusht \
  --policy.push_to_hub=false \
  --seed=100000 \
  --env.type=pusht \
  --batch_size=64 \
  --steps=200000 \
  --eval_freq=25000 \
  --save_freq=25000
INFO 2025-09-13 00:10:05 ils/utils.py:48 Cuda backend detected, using cuda.
WARNING 2025-09-13 00:10:05 /policies.py:80 Device 'None' is not available. Switching to 'cuda'.
INFO 2025-09-13 00:10:05 ts/train.py:111 {'batch_size': 64,
  'dataset': {'episodes': None,
    'image_transforms': {'enable': False,
      'max_num_transforms': 3,
      'random_order': False,
      'tfs': {'brightness': {'kwargs': {'brightness': [0.8, 1.2]}},
        'type': 'ColorJitter',
        'weight': 1.0},
    'generate_from_dict':
File "/home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages/datasets/features/features.py", line 1468, in generate_from_dict
    return {key: generate_from_dict(value) for key, value in obj.items()}
File "/home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages/datasets/features/features.py", line 1468, in <dictcomp>
    return {key: generate_from_dict(value) for key, value in obj.items()}
File "/home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages/datasets/features/features.py", line 1474, in generate_from_dict
    raise ValueError(f"Feature type '{_type}' not found. Available feature types: {list(_FEATURE_TYPES.keys())}")
ValueError: Feature type 'List' not found. Available feature types: ['Value', 'ClassLabel', 'Translation', 'TranslationVariableLanguages', 'LargeList', 'Sequence', 'Array2D', 'Array3D', 'Array4D', 'Array5D', 'Audio', 'Image', 'Video', 'Pdf', 'VideoFrame']
```

아래는 터미널에서 ValueError 부분만 따로 가져옴.

```
ValueError: Feature type 'List' not found. Available feature types: ['Value', 'ClassLabel', 'Translation', 'TranslationVariableLanguages', 'LargeList', 'Sequence', 'Array2D', 'Array3D', 'Array4D', 'Array5D', 'Audio', 'Image', 'Video', 'Pdf', 'VideoFrame']
```

이럴때는 datasets 버전을 낮추면 해결됨.

pip show datasets

pip show datasets 명령으로 datasets 버전을 확인.(버전은 보통 3.6.0)

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip show datasets
Name: datasets
Version: 3.6.0
Summary: HuggingFace community-driven open-source library of datasets
Home-page: https://github.com/huggingface/datasets
Author: HuggingFace Inc.
Author-email: thomas@huggingface.co
License: Apache 2.0
Location: /home/dohun/folder/miniconda3/envs/lerobot/lib/python3.10/site-packages
Requires: dill, filelock, fsspec, huggingface-hub, multiprocessing, numpy, packaging, pandas, pyarrow, pyyaml, requests, tqdm, xxhash
Required-by: lerobot
```

pip uninstall datasets

datasets 지우기.

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip uninstall datasets
Found existing installation: datasets 2.19.0
Uninstalling datasets-2.19.0:
  Would remove:
    /home/dohun/.local/bin/datasets-cli
    /home/dohun/.local/lib/python3.10/site-packages/datasets-2.19.0.dist-info/*
    /home/dohun/.local/lib/python3.10/site-packages/datasets/*
Proceed (Y/n)? y
Successfully uninstalled datasets-2.19.0
```

pip install datasets==2.19.0

datasets 2.19.0 (lerobot에서 사용 가능한 최소 버전의 datasets) 설치.

```
(lerobot) dohun@dohun-AERO-5-KE:~/folder/lerobot$ pip install datasets==2.19.0
Collecting datasets==2.19.0
  Using cached datasets-2.19.0-py3-none-any.whl.metadata (19 kB)
Requirement already satisfied: filelock in /home/dohun/.local/lib/python3.10/site-packages (from datasets==2.19.0) (3.16.1)
Requirement already satisfied: numpy>=1.17 in /home/dohun/.local/lib/python3.10/site-packages (from datasets==2.19.0) (2.2.6)
Requirement already satisfied: pyarrow>=12.0.0 in /home/dohun/.local/lib/python3.10/site-packages (from datasets==2.19.0) (21.0.0)
Requirement already satisfied: pyarrow-hotfix in /home/dohun/.local/lib/python3.10/site-packages (from datasets==2.19.0) (0.7)
Requirement already satisfied: dill<0.3.9,>=0.3.0 in /home/dohun/.local/lib/python3.10/site-packages (from datasets==2.19.0) (0.3.8)
Requirement already satisfied: pandas in /home/dohun/.local/lib/python3.10/site-packages (from datasets==2.19.0) (2.2.3)
```

8) `visualize_dataset`으로 `lerobot` 설치가 잘 됐는지 확인.

```
python -m lerobot.scripts.visualize_dataset \
  --repo-id lerobot/pusht \
  --episode-index 0
```

```
(lerobot) senakorea@senakorea-XPS-15-9510:~/Work/개인자료/2025_모방로봇/lerobots
python -m lerobot.scripts.visualize_dataset \
  --repo-id lerobot/pusht \
  --episode-index 0
Resolving data files: 100%|██████████| 206/206 [00:00<00:00, 591393.99it/s]
2025-09-15T02:23:49Z WARN wgpu_hal::gles::egl] Re-initializing Gles context due
to Wayland window
2025-09-15T02:23:49Z WARN wgpu_hal::gles::adapter] Detected skylake derivative
running on mesa i915. Clears to srgb textures will use manual shader clears.
2025-09-15T02:23:49Z WARN wgpu_hal::gles::adapter] Detected skylake derivative
running on mesa i915. Clears to srgb textures will use manual shader clears.
100%|██████████| 6/6 [00:00<00:00, 18.84it/s]
```

