

딥러닝 기본 환경 만들기

학습 내용

- 내 컴퓨터의 파이썬 버전을 확인한다.
- 내 컴퓨터에 가상환경을 만든다.
- 내 컴퓨터에 tensorflow와 keras를 설치한다.

01 내 컴퓨터의 파이썬 버전을 확인

```
(base) C:\WINDOWS\system32>python --version
Python 3.8.5
```

02 내 컴퓨터에 가상 환경을 만들기

가상 환경 리스트 확인

```
(base) C:\WINDOWS\system32>conda env list
```

```
=====
(base) C:\WINDOWS\system32>conda env list
# conda environments:
#
base                * C:\Users\front\anaconda3
=====
```

가상 환경 만들기 및 가상 환경 활성화 시키기

가상 환경 만들기

- 파이썬 버전은 3.8로 지정하여 설치

```
(base) C:\WINDOWS\system32>conda create -n tf2x python=3.8
```

```
=====
(base) C:\WINDOWS\system32>conda create -n tf2x python=3.8
Collecting package metadata (current_repodata.json): done
Solving environment: done
```

```
## Package Plan ##
```

```
environment location: C:\Users\front\anaconda3\envs\tf2x
```

```
added / updated specs:
- python=3.8
```

The following packages will be downloaded:

| package | build | |
|----------------------------|----------------|---------|
| ca-certificates-2020.12.8 | haa95532_0 | 122 KB |
| certifi-2020.12.5 | py38haa95532_0 | 141 KB |
| openssl-1.1.1.i | h2bbff1b_0 | 4.8 MB |
| pip-20.3.3 | py38haa95532_0 | 1.8 MB |
| setuptools-51.0.0 | py38haa95532_2 | 741 KB |
| vc-14.2 | h21ff451_1 | 8 KB |
| vs2015_runtime-14.27.29016 | h5e58377_2 | 1007 KB |
| wheel-0.36.2 | pyhd3eb1b0_0 | 33 KB |
| Total: | | 8.6 MB |

The following NEW packages will be INSTALLED:

```
ca-certificates  pkgs/main/win-64::ca-certificates-2020.12.8-haa95532_0
certifi          pkgs/main/win-64::certifi-2020.12.5-py38haa95532_0
openssl          pkgs/main/win-64::openssl-1.1.1-i-h2bbff1b_0
pip              pkgs/main/win-64::pip-20.3.3-py38haa95532_0
python           pkgs/main/win-64::python-3.8.5-h5fd99cc_1
```

```
setuptools      pkgs/main/win-64::setuptools-51.0.0-py38ha95532_2
sqlite          pkgs/main/win-64::sqlite-3.33.0-h2a8f88b_0
vc              pkgs/main/win-64::vc-14.2-h21ff451_1
vs2015_runtime pkgs/main/win-64::vs2015_runtime-14.27.29016-h5e58377_2
wheel           pkgs/main/noarch::wheel-0.36.2-pyhd3eb1b0_0
wincertstore    pkgs/main/win-64::wincertstore-0.2-py38_0
zlib            pkgs/main/win-64::zlib-1.2.11-h62dcd97_4
```

Proceed ([y]/n)? y <- y를 선택 후 진행.

=====

가상 환경 활성화 시키기

done

#

To activate this environment, use

#

```
# $ conda activate tf2x # 가상 환경 활성화
```

#

To deactivate an active environment, use

#

\$ conda deactivate # 가상 환경 비 활성화

가상 환경 활성화 시키기

```
(base) C:\WINDOWS\system32>conda activate tf2x
```

```
(tf2x) C:\WINDOWS\system32>
```

03 내 컴퓨터에 tensorflow와 keras를 설치하기

tensorflow 설치하기

```
(tf2x) C:\WINDOWS\system32>pip install tensorflow
```

=====

```
(tf2x) C:\WINDOWS\system32>pip install tensorflow
```

Collecting tensorflow

Downloading tensorflow-2.4.0-cp38-cp38-win_amd64.whl (370.7 MB)

370.7 MB 13 kB/s

Requirement already satisfied: wheel~=0.35 in c:\users\front\anaconda3\envs\tf2x\lib\site-packages (from tensorflow) (0.36.2)

Collecting gast==0.3.3

Downloading gast-0.3.3-py2.py3-none-any.whl (9.7 kB)

Collecting absl-py~0.10

Downloading absl_py-0.11.0-py3-none-any.whl (127 kB)

127 kB 6.8 MB/s

Collecting astunparse~=1.6.3

• • •

....
Successfully built termcolor wrapit

Installing collected packages: urllib3, pyasn1, idna, chardet, six, rsa, requests, pyasn1-modules, oauthlib, cachetools, requests-oauthlib, google-auth, werkzeug, tensorboard-plugin-wit, protobuf, numpy, markdown, grpcio, google-auth-oauthlib, absl-py, wrapt, typing-extensions, termcolor, tensorflow-estimator, tensorboard, opt-einsum, keras-preprocessing, h5py, google-pasta, gast, flatbuffers, astunparse, tensorflow

```
(tf2x) C:\WINDOWS\system32>
```

추가 라이브러리 설치

keras, seaborn, pandas, jupyter, matplotlib, scikit-learn

[명령어] `pip install keras seaborn pandas jupyter matplotlib scikit-learn`

```
(tf2x) C:\WINDOWS\system32>pip install keras seaborn pandas jupyter matplotlib scikit-learn
```

Collecting jupyter

Downloading jupyter-1.0.0-py2.py3-none-any.whl (2.7 kB)


```
print(mpl.__version__)  
print(sns.__version__)  
print(np.__version__)  
print(sk.__version__)  
print(pd.__version__)
```

파이썬 버전 및 딥러닝 라이브러리 확인

```
print(sys.version)  
print(tf.__version__)  
print(keras.__version__)
```

```
3.8.5 (default, Sep  3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]  
2.4.0  
2.4.3
```

```
print(mpl.__version__)  
print(sns.__version__)  
print(np.__version__)  
print(sk.__version__)  
print(pd.__version__)
```

```
3.3.3  
0.11.1  
1.19.4  
0.23.2  
1.1.5
```