

딥러닝_기본_환경_만들기_window_3_8_13(tf2.9)

학습 내용

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

환경

anconda 5.
python 3.8.8

가상환경

python 3.8.13
tensorflow 2.9

01 내 컴퓨터의 파이썬 버전을 확인

```
(base) C:\WINDOWS\system32>python --version  
Python 3.8.13
```

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-1.1.1i	h2bfff1b_0	4.8 MB
pip-20.3.3	py38haa95532_0	1.8 MB

```
=====
(tf2x) C:\WINDOWS\system32>pip install tensorflow
Collecting tensorflow
  Downloading tensorflow-2.9.1-cp38-cp38-win_amd64.whl (444.1 MB)
   444.1 MB 62 kB/s
Collecting keras-preprocessing>=1.1.1
  Downloading Keras_Preprocessing-1.1.2-py2.py3-none-any.whl (42 kB)
   42 kB 462 kB/s
Collecting tensorflow-io-gcs-filesystem>=0.23.1
  Downloading tensorflow_io_gcs_filesystem-0.26.0-cp38-cp38-win_amd64.whl (1.5 MB)
   1.5 MB 6.4 MB/s
Collecting tensorflow-estimator<2.10.0,>=2.9.0rc0
  Downloading tensorflow_estimator-2.9.0-py2.py3-none-any.whl (438 kB)
   438 kB ...
Collecting astunparse>=1.6.0
```

```
(tf2x) C:\WINDOWS\system32>conda install tensorflow-gpu=2.9.0 --no-channel-priority --offline --quiet
```

```
Downloading astunparse-1.6.3-py2.py3-none-any.whl (12 kB)
```

```
Collecting opt-einsum>=2.3.2
```

```
Downloading opt_einsum-3.3.0-py3-none-any.whl (65 kB)
```

```
[Progress Bar] 65 kB 1.3 MB/s
```

```
Collecting h5py>=2.9.0
```

```
Downloading h5py-3.7.0-cp38-cp38-win_amd64.whl (2.6 MB)
```

```
[Progress Bar] 2.6 MB 6.4 MB/s
```

```
Requirement already satisfied: setuptools in c:\users\totofriend\anaconda3\envs\tf2x\lib\site-packages (from tensorflow) (61.2.0)
```

```
....
```

```
....
```

```
....
```

```
Installing collected packages: urllib3, pyasn1, idna, charset-normalizer, zipp, six, rsa, requests, pyasn1-modules, oauthlib, cachetools, requests-oauthlib, importlib-metadata, google-auth, werkzeug, tensorboard-plugin-wit, tensorboard-data-server, pyparsing, protobuf, numpy, markdown, grpcio, google-auth-oauthlib, absl-py, wrapt, typing-extensions, termcolor, tensorflow-io-gcs-filesystem, tensorflow-estimator, tensorboard, packaging, opt-einsum, libclang, keras-preprocessing, keras, h5py, google-pasta, gast, flatbuffers, astunparse, tensorflow
```

```
Successfully installed absl-py-1.1.0 astunparse-1.6.3 cachetools-5.2.0 charset-normalizer-2.1.0 flatbuffers-1.12 gast-0.4.0 google-auth-2.9.0 google-auth-oauthlib-0.4.6 google-pasta-0.2.0 grpcio-1.47.0 h5py-3.7.0 idna-3.3 importlib-metadata-4.12.0 keras-2.9.0 keras-preprocessing-1.1.2 libclang-14.0.1 markdown-3.3.7 numpy-1.23.1 oauthlib-3.2.0 opt-einsum-3.3.0 packaging-21.3 protobuf-3.19.4 pyasn1-0.4.8 pyasn1-modules-0.2.8 pyparsing-3.0.9 requests-2.28.1 requests-oauthlib-1.3.1 rsa-4.8 six-1.16.0 tensorboard-2.9.1 tensorboard-data-server-0.6.1 tensorboard-plugin-wit-1.8.1 tensorflow-2.9.1 tensorflow-estimator-2.9.0 tensorflow-io-gcs-filesystem-0.26.0 termcolor-1.1.0 typing-extensions-4.3.0 urllib3-1.26.10 werkzeug-2.1.2 wrapt-1.14.1 zipp-3.8.0
```

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

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

```
Requirement already satisfied: keras in c:\users\totofriend\anaconda3\envs\tf2x\lib\site-packages (2.9.0)
Collecting seaborn
  Downloading seaborn-0.11.2-py3-none-any.whl (292 kB)
    |██████████████████████████████████████████████████████████████████████████| 292 kB 2.2 MB/s
Collecting pandas
  Downloading pandas-1.4.3-cp38-cp38-win_amd64.whl (10.6 MB)
    |██████████████████████████████████████████████████████████████████████████| 10.6 MB 3.3 MB/s
Collecting jupyter
  Downloading jupyter-1.0.0-py2.py3-none-any.whl (2.7 kB)
Collecting matplotlib
  Downloading matplotlib-3.5.2-cp38-cp38-win_amd64.whl (7.2 MB)
    |██████████████████████████████████████████████████████████████████████████| 7.2 MB 6.4 MB/s
Collecting scikit-learn
  Downloading scikit_learn-1.1.1-cp38-cp38-win_amd64.whl (7.3 MB)
    |██████████████████████████████████████████████████████████████████████████| 7.3 MB 3.3 MB/s
Collecting scipy>=1.0
  Downloading scipy-1.8.1-cp38-cp38-win_amd64.whl (36.9 MB)
    |██████████████████████████████████████████████████████████████████████████| 36.9 MB 3.3 MB/s
Requirement already satisfied: numpy>=1.15 in c:\users\totofriend\anaconda3\envs\tf2x\lib\site-packages (from seaborn) (1.23.1)
Collecting pytz>=2020.1
  Downloading pytz-2022.1-py2.py3-none-any.whl (503 kB)
    |██████████████████████████████████████████████████████████████████████████| 503 kB 6.8 MB/s
Collecting python-dateutil>=2.8.1
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
    |██████████████████████████████████████████████████████████████████████████| 247 kB 6.4 MB/s
Collecting notebook
  Downloading notebook-6.4.12-py3-none-any.whl (9.9 MB)
    |██████████████████████████████████████████████████████████████████████████| 9.9 MB 6.8 MB/s
Collecting nbconvert
  Downloading nbconvert-6.5.0-py3-none-any.whl (561 kB)
```

....

Downloading pure_eval-0.2.2-py3-none-any.whl (11 kB)

Installing collected packages: traitlets, pywin32, pysistent, importlib-resources, attrs, wcwidth, tornado, pyzmq, python-dateutil, pycparser, pure-eval, parso, nest-asyncio, jupyter-core, jsonschema, fastjsonschema, executing, entrypoints, asttokens, webencodings, stack-data, soupsieve, pygments, prompt-toolkit, pickleshare, nbformat, matplotlib-inline, MarkupSafe, jupyter-client, jedi, decorator, colorama, cffi, backcall, tinycss2, pywinpty, psutil, pandocfilters, nbclient, mistune, jupyterlab-pygments, Jinja2, ipython, defusedxml, debugpy, bleach, BeautifulSoup4, argon2-cffi-bindings, terminado, Send2Trash, prometheus-client, nbconvert, ipython-genutils, ipykernel, argon2-cffi, notebook, widgetsnbextension, qtpy, pytz, pillow, kiwisolver, jupyterlab-widgets, fonttools, cyclor, threadpoolctl, scipy, qtconsole, pandas, matplotlib, jupyter-console, joblib, ipywidgets, seaborn, scikit-learn, jupyter
 Successfully installed MarkupSafe-2.1.1 Send2Trash-1.8.0 argon2-cffi-21.3.0 argon2-cffi-bindings-21.2.0 asttokens-2.0.5 attrs-21.4.0 backcall-0.2.0 BeautifulSoup4-4.11.1 bleach-5.0.1 cffi-1.15.1 colorama-0.4.5 cyclor-0.11.0 debugpy-1.6.2 decorator-5.1.1 defusedxml-0.7.1 entrypoints-0.4 executing-0.8.3 fastjsonschema-2.15.3 fonttools-4.34.4 importlib-resources-5.8.0 ipykernel-6.15.1 ipython-8.4.0 ipython-genutils-0.2.0 ipywidgets-7.7.1 jedi-0.18.1 Jinja2-3.1.2 joblib-1.1.0 jsonschema-4.6.2 jupyter-1.0.0 jupyter-client-7.3.4 jupyter-console-6.4.4 jupyter-core-4.11.1 jupyterlab-pygments-0.2.2 jupyterlab-widgets-1.1.1 kiwisolver-1.4.3 matplotlib-3.5.2 matplotlib-inline-0.1.3 mistune-0.8.4 nbclient-0.6.6 nbconvert-6.5.0 nbformat-5.4.0 nest-asyncio-1.5.5 notebook-6.4.12 pandas-1.4.3 pandocfilters-1.5.0 parso-0.8.3 pickleshare-0.7.5 pillow-9.2.0 prometheus-client-0.14.1 prompt-toolkit-3.0.30 psutil-5.9.1 pure-eval-0.2.2 pycparser-2.21 pygments-2.12.0 pysistent-0.18.1 python-dateutil-2.8.2 pytz-2022.1 pywin32-304 pywinpty-2.0.6 pyzmq-23.2.0 qtconsole-5.3.1 qtpy-2.1.0 scikit-learn-1.1.1 scipy-1.8.1 seaborn-0.11.2 soupsieve-2.3.2.post1 stack-data-0.3.0 terminado-0.15.0 threadpoolctl-3.1.0 tinycss2-1.1.1 tornado-6.2 traitlets-5.3.0 wcwidth-0.2.5 webencodings-0.5.1 widgetsnbextension-3.6.1

추가 설치 - 2022/05/22 기준 아래 내용을 설치를 진행하지 않아도 해결.
 만약 tensorflow를 import 할때, 에러 발생하면 아래를 수행하여 진행해 본다.

pip install --upgrade pywin32==225

python C:\Users\[사용자이름]\anaconda3\Scripts\pywin32_postinstall.py -install

(예) python C:\Users\toto\anaconda3\Scripts\pywin32_postinstall.py -install

04 주피터 노트북 실행 후, 기본 환경 확인

(tf2x) C:\WINDOWS\system32>jupyter notebook

```
import sys
import tensorflow as tf
import keras
```

```
import matplotlib as mpl
import seaborn as sns
import numpy as np
import sklearn as sk
import pandas as pd
```

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

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

05 파이썬 버전 및 라이브러리 버전 확인

```
import sys
import tensorflow as tf
import keras

import matplotlib as mpl
import seaborn as sns
import numpy as np
import sklearn as sk
import pandas as pd
```

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

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

3.8.13 (default, Mar 28 2022, 06:59:08) [MSC v.1916 64 bit (AMD64)]

2.9.1

2.9.0

3.5.2

0.11.2

1.23.1

1.1.1

1.4.3