

# 딥러닝 기본 환경 만들기\_window버전\_3\_8\_8(tf2.6 with 가상환경)

## 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 3.8.8  
tensorflow 2.6

## 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-1.1.1i	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

The following NEW packages will be INSTALLED:

=====

=====

370.7 MB 13 kB/s

127 kB 6.8 MB/s

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

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

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

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

Downloading Keras-2.4.3-py2.py3-none-any.whl (36 kB)

Requirement already satisfied: numpy>=1.9.1 in c:\users\front\anaconda3\envs\tf2x\lib\site-packages (from keras) (1.19.4)

Downloading scipy-1.5.4-cp38-cp38-win\_amd64.whl (31.4 MB)

31.4 MB 6.4 MB/s

Downloading matplotlib-3.3.3-cp38-cp38-win\_amd64.whl (8.5 MB)

8.5 MB 3.3 MB/s

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Installing collected packages: ipython-genutils, traitlets, pywin32, pysistent, attrs, wcwidth, tornado, pyzmq, python-dateutil, pyparsing, parso, jupyter-core, jsonschema, webencodings, pygments, pycparser, prompt-toolkit, **pickleshare**, packaging, nest-asyncio, nbformat, MarkupSafe, jupyter-client, jedi, decorator, colorama, backcall, async-generator, testpath, pywinpty, pandocfilters, nbclient, mistune, jupyterlab-pygments, jinja2, ipython, entrypoints, defusedxml, cffi, bleach, terminado, Send2Trash, prometheus-client, nbconvert, **ipykernel**, argon2-cffi, notebook, widgetsnbextension, qtpy, pytz, **pillow**, kiwisolver, cycler, threadpoolctl, scipy, qtconsole, pyyaml, **pandas**, **matplotlib**, jupyter-console, joblib, ipywidgets, **seaborn**, **scikit-learn**, **keras**, jupyter

Successfully installed MarkupSafe-1.1.1 Send2Trash-1.5.0 argon2-cffi-20.1.0 async-generator-1.10 attrs-20.3.0 backcall-0.2.0 bleach-3.2.1 cffi-1.14.4 colorama-0.4.4 cyclus-0.10.0 decorator-4.4.2 defusedxml-0.6.0 entrypoints-0.3 ipykernel-5.4.2 ipython-7.19.0 ipython-genutils-0.2.0 ipywidgets-7.5.1 jedi-0.17.2 jinja2-2.11.2 joblib-1.0.0 jsonschema-3.2.0 jupyter-1.0.0 jupyter-client-6.1.7 jupyter-console-6.2.0 jupyter-core-4.7.0 jupyterlab-pygments-0.1.2 keras-2.4.3 kiwisolver-1.3.1 matplotlib-3.3.3 mistune-0.8.4 nbclient-0.5.1 nbconvert-6.0.7 nbformat-5.0.8 nest-asyncio-1.4.3 notebook-6.1.5 packaging-20.8 pandas-1.1.5 pandocfilters-1.4.3 parso-0.7.1 pickleshare-0.7.5 pillow-8.0.1 prometheus-client-0.9.0 prompt-toolkit-3.0.8 pycparser-2.20 pygments-2.7.3 pyparsing-2.4.7 pyparsing-0.17.3 python-dateutil-2.8.1 pytz-2020.4 pywin32-300 pywinpty-0.5.7 pyyaml-5.3.1 pyzmq-20.0.0 qtconsole-5.0.1 qtpy-1.9.0 scikit-learn-0.23.2 scipy-1.5.4 seaborn-0.11.1 terminado-0.9.1 testpath-0.4.4 threadpoolctl-2.1.0 tornado-6.1 traitlets-5.0.5 wcwidth-0.2.5 webencodings-0.5.1 widgetsnbextension-3.5.1

**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

```
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
```

## 05 파이썬 버전 및 라이브러리 버전 확인

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

```
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
```