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

conda environments:
conda environments:

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

Package Plan

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

added / updated specs:
 - python=3.8

The following packages will be downloaded:

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-1.1.1i-h2bbff1b_0
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-py38haa95532_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

ш

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 wrapt

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)

Collecting keras

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

Requirement already satisfied: h5py in c:\users\front\anaconda3\envs\tf2x\lib\site-packages (from keras) (2.10.0) Requirement already satisfied: numpy>=1.9.1 in c:\users\front\anaconda3\envs\tf2x\lib\site-packages (from keras) (1.19.4) Collecting scipy>=0.14

Downloading scipy-1.5.4-cp38-cp38-win_amd64.whl (31.4 MB)

31.4 MB 6.4 MB/s

Collecting matplotlib

Downloading matplotlib-3.3.3-cp38-cp38-win_amd64.whl (8.5 MB)

8.5 MB 3.3 MB/s

....

Successfully built pyrsistent pandocfilters

Installing collected packages: ipython-genutils, traitlets, pywin32, pyrsistent, 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 cycler-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 pyrsistent-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

추가 설치

pip install --upgrade pywin32==225 python C:\Users\[사용자이름]\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

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
```