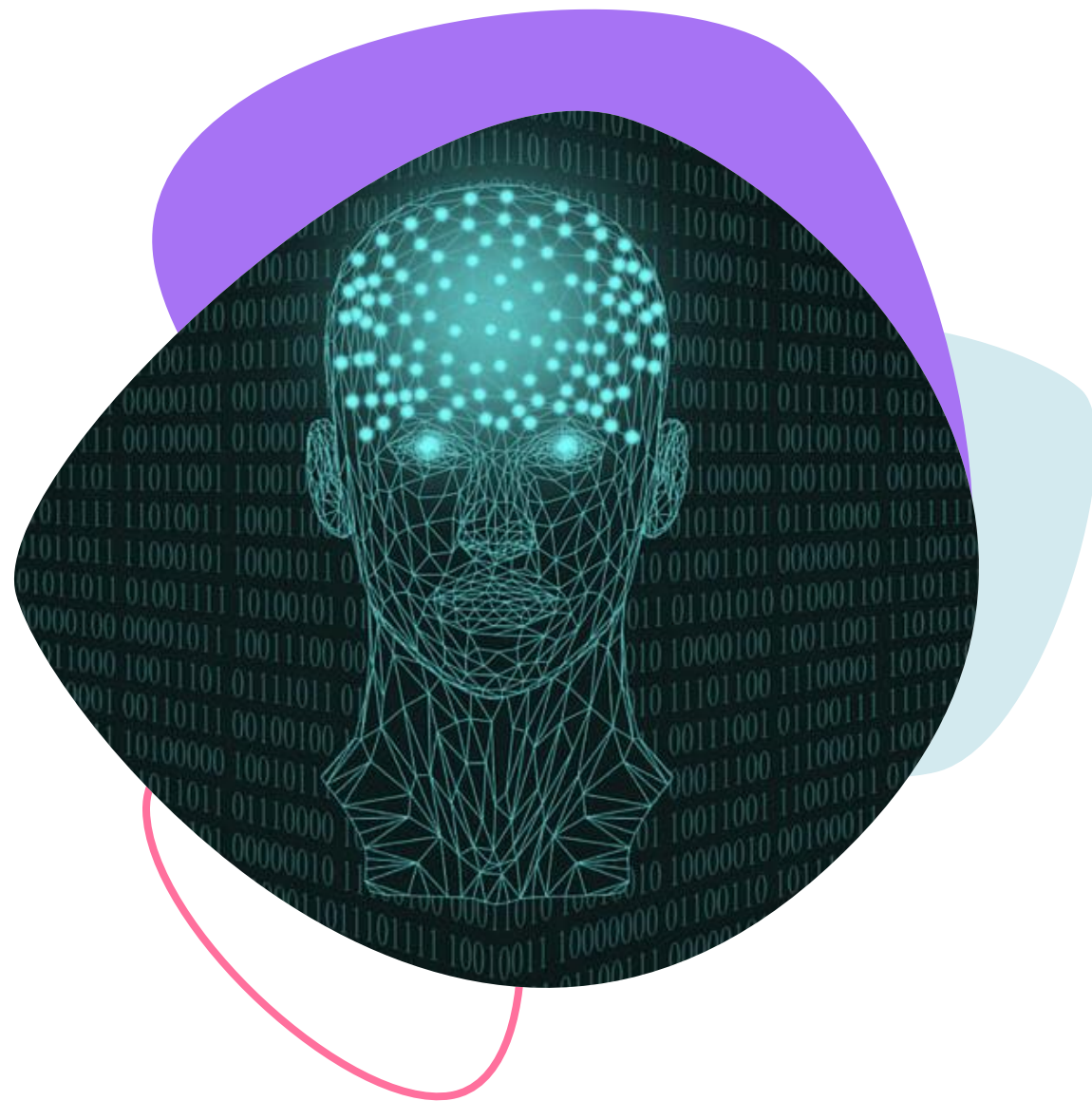


AI 신경망의 기초: MLP 완전정복

Session 1. Python Installation Guide

Presented by **Yunseon Byun** (yun-seon@kimm.re.kr)



Python 설치 가이드

1-1

Python 설치: 직접 설치 방식

1-2

Python 설치: Anaconda 가상환경 기반 설치 방식

2

Integrated Development Environment (IDE),
또는 Interactive 개발 환경 설치

3
(option)

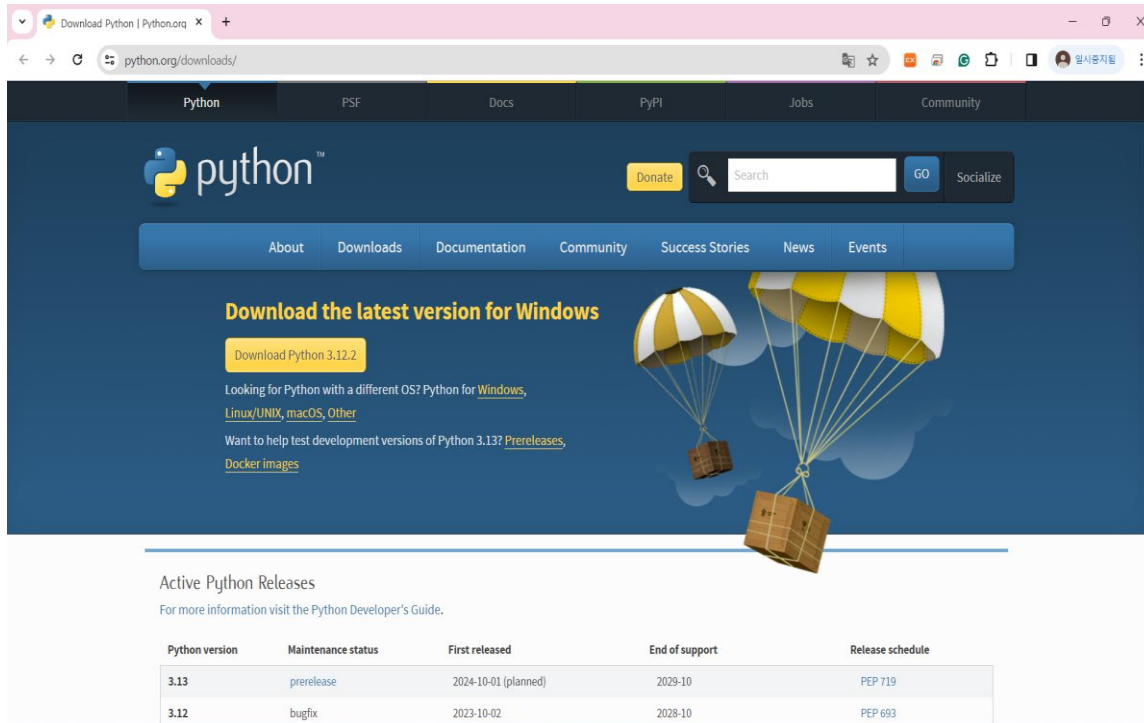
GPU 활용 분석을 위한 환경 설정

Python 설치 가이드

1-1

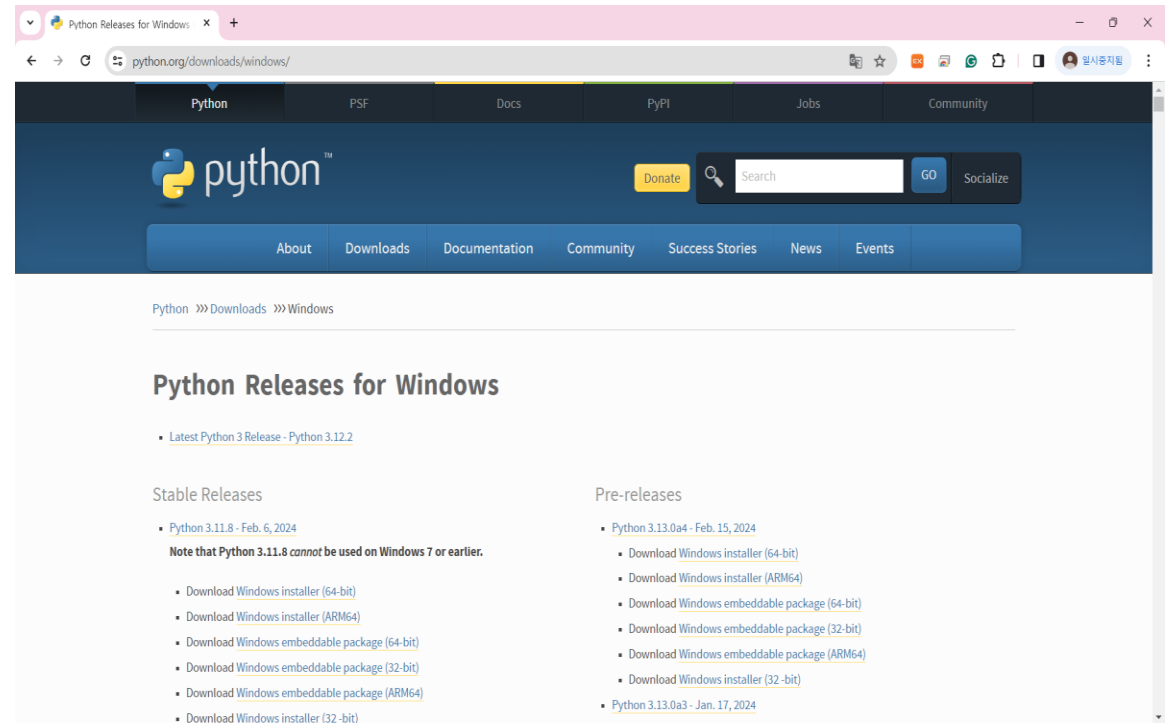
Python 설치: 직접 설치 방식

(Step 1) 공식 홈페이지 접속(<https://www.python.org/downloads/>) 후, 파일 다운로드



The screenshot shows the Python.org homepage. The navigation bar includes links for Python, PSF, Docs, PyPI, Jobs, and Community. The main content area features the Python logo, a search bar, and a navigation menu with links for About, Downloads, Documentation, Community, Success Stories, News, and Events. A prominent banner for Windows downloads is visible, with a button to 'Download Python 3.12.2'. Below the banner, there is a section for 'Active Python Releases' with a table listing the current versions and their support status.

Python version	Maintenance status	First released	End of support	Release schedule
3.13	prerelease	2024-10-01 (planned)	2029-10	PEP 719
3.12	bugfix	2023-10-02	2028-10	PEP 693



The screenshot shows the 'Python Releases for Windows' page. The navigation bar is the same as the homepage. The main content area has a breadcrumb trail: Python >>> Downloads >>> Windows. The title is 'Python Releases for Windows'. Below the title, there is a link to the 'Latest Python 3 Release - Python 3.12.2'. The page is divided into two columns: 'Stable Releases' and 'Pre-releases'. The 'Stable Releases' column lists the current stable release (Python 3.11.8) and provides links to download the Windows installer (64-bit and ARM64) and the Windows embeddable package (64-bit and 32-bit). The 'Pre-releases' column lists the next prerelease (Python 3.13.0a4) and provides links to download the Windows installer (64-bit and ARM64) and the Windows embeddable package (64-bit and 32-bit).

Python >>> Downloads >>> Windows

Python Releases for Windows

- [Latest Python 3 Release - Python 3.12.2](#)

Stable Releases

- Python 3.11.8 - Feb. 6, 2024
Note that Python 3.11.8 cannot be used on Windows 7 or earlier.
 - [Download Windows installer \(64-bit\)](#)
 - [Download Windows installer \(ARM64\)](#)
 - [Download Windows embeddable package \(64-bit\)](#)
 - [Download Windows embeddable package \(32-bit\)](#)
 - [Download Windows embeddable package \(ARM64\)](#)

Pre-releases

- Python 3.13.0a4 - Feb. 15, 2024
 - [Download Windows installer \(64-bit\)](#)
 - [Download Windows installer \(ARM64\)](#)
 - [Download Windows embeddable package \(64-bit\)](#)
 - [Download Windows embeddable package \(32-bit\)](#)
 - [Download Windows embeddable package \(ARM64\)](#)
 - [Download Windows installer \(32-bit\)](#)
- Python 3.13.0a3 - Jan. 17, 2024

Python 설치 가이드

1-1

Python 설치: 직접 설치 방식

(Step 2) Installation Guide에 따라 설치 완료



Python 설치 가이드

1-1

Python 설치: 직접 설치 방식 (Step 3) Python 설치 확인

C:\WINDOWS\system32\cmd.exe - python

Microsoft Windows [Version 10.0.19045.3448]
(c) Microsoft Corporation. All rights reserved.

C:\Users\kmy>python **버전확인**

Python 3.11.5 (tags/v3.11.5:cce6ba9, Aug 24 2023, 14:38:34) [MSC v.1936 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.

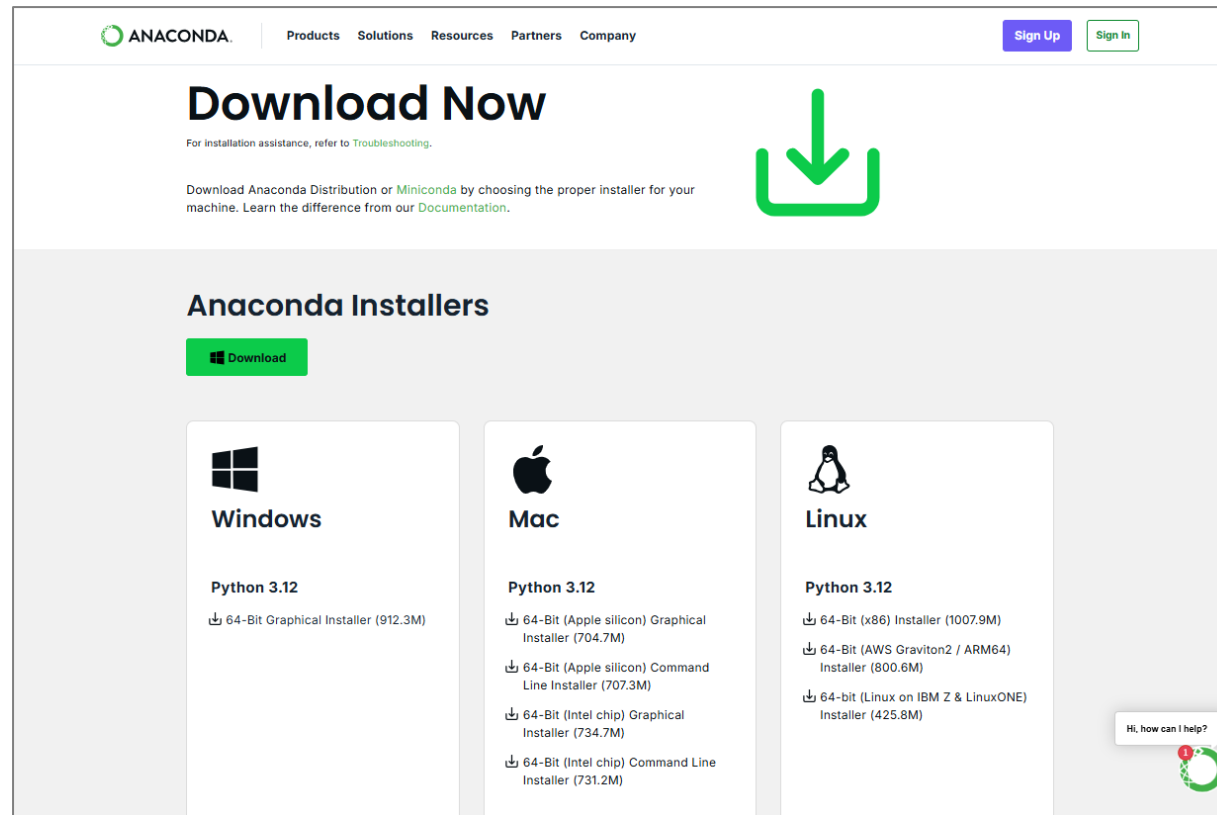
>>> print('hello')
hello

파이썬 실행 테스트



Python 설치 가이드

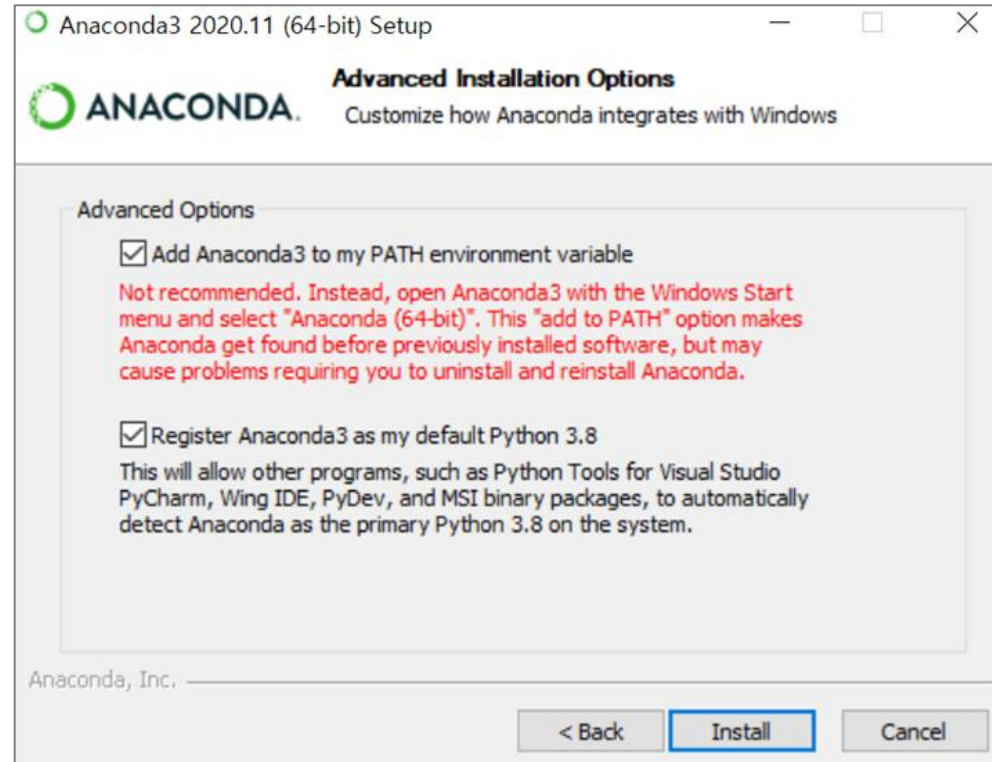
1-2 Python 설치: Anaconda 가상환경 기반 설치 방식
(Step 1) 공식 홈페이지 접속(<https://www.anaconda.com/download/>) 후, 파일 다운로드



Python 설치 가이드

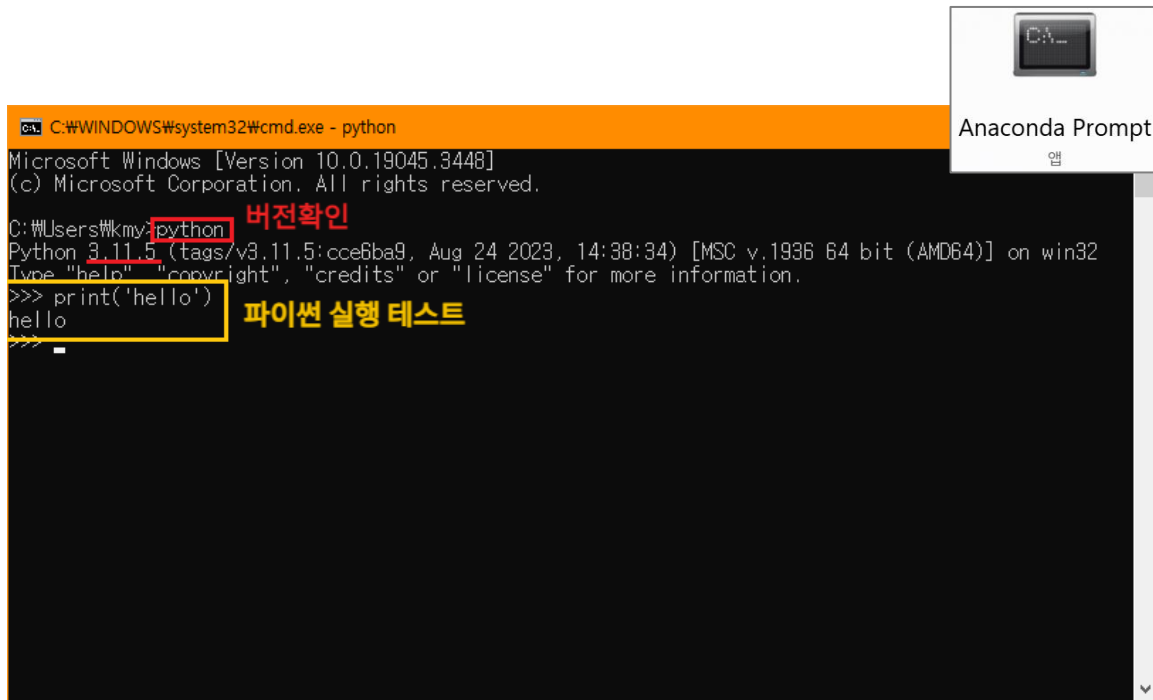
1-2

Python 설치: Anaconda 가상환경 기반 설치 방식
(Step 2) Installation Guide에 따라 설치 완료



Python 설치 가이드

1-2 Python 설치: Anaconda 가상환경 기반 설치 방식 (Step 3) Python 설치 확인



```
C:\WINDOWS\system32\cmd.exe - python
Microsoft Windows [Version 10.0.19045.3448]
(c) Microsoft Corporation. All rights reserved.

C:\Users\mkmy>python
Python 3.11.5 (tags/v3.11.5:cce6ba9, Aug 24 2023, 14:38:34) [MSC v.1936 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> print('hello')
hello
>>>
```

(1) 가상환경 생성

```
conda create -n 가상환경 이름 python=파이썬 버전
conda create -n py1 python=3.6
conda create -n py1
```

(2) 생성된 가상환경 목록 확인

```
conda env list
```

(3) 가상환경 활성화

```
conda activate 가상환경 이름
conda activate py1
```


Python 설치 가이드

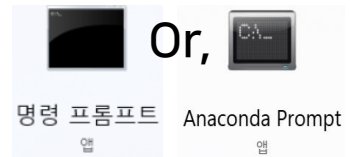
2 IDE, 또는 Interactive 개발 환경 설치

실행 키: Shift + Enter



실행 키: F9(line), F5(all)

실행 키: Run ,
Alt + Shift + F10



Option 1.

(1) Jupyter notebook 설치
pip install jupyter

(2) Jupyter lab 설치
pip install jupyterlab

Option 3.

(1) Spyder 설치
pip install spyder

Option 2.

(1) Jupyter notebook 실행
jupyter notebook

(2) Jupyter lab 실행
jupyter lab

(2) Spyder 실행
spyder

Python 설치 가이드

2 IDE, 또는 Interactive 개발 환경 설치

실행 키: Shift + Enter



✓ Jupyter 내 가상환경 사용 시,

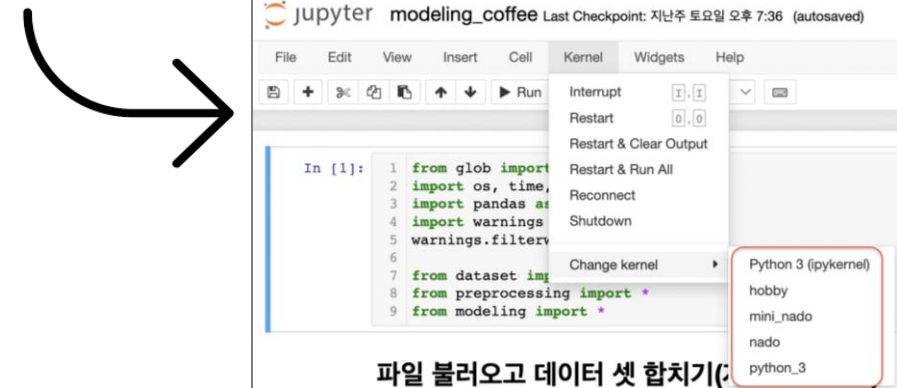
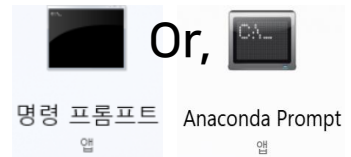
생성된 가상환경과 나의 IDE를 연결하는
Kernel 생성 필요!

(1) Kernel 패키지 설치

`pip install ipykernel` (또는, `conda install ipykernel`)

(2) Kernel 연결

`python -m ipykernel install --display-name "Display용 Kernel명"`



파일 불러오고 데이터 셋 합치기

Python 설치 가이드

3

GPU 활용 분석을 위한 환경 설정

* 목적: 딥러닝 프레임워크 또는 기계학습 라이브러리 사용



Tensorflow-gpu 설정 방식 참고링크:
<https://datawithnosense.tistory.com/22>

Keras-gpu 설정 방식 참고링크:
<https://like-edp.tistory.com/3>

PyTorch-gpu 설정 방식 참고링크:
https://blog.naver.com/me_a_me/223570004477

Thank you

Yunseon Byun 변윤선

나노융합본부, 이차전지장비연구실

yun-seon@kimm.re.kr

