Anaconda 및 Colab 준비

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※ 와이파이 분산 접속(Anaconda, pytorch 설치 간 지연 현상)

앞 2줄: sub wifi 접속

- Room516 / gecepjs516

나머지: main wifi 접속

- SNUAI516 / snuai@516

* {name} / {password}

Anaconda 라?



- (위키피디아 정의)

아나콘다(Anaconda)는 패키지 관리와 디플로이를 단순케 할 목적으로 과학 계산(데이터 과학, 기계 학습 애플리케이션, 대규모 데이터처리, 예측 분석 등)을 위한 파이썬과 R 프로그래밍 언어의 자유-오픈 소스^[5] 배포판이다. 패키지 버전들은 패키지 관리 시스템 conda를통해 관리된다.^[6] 아나콘다 배포판은 1300만 명 이상의 사용자들이 사용하며 윈도우, 리눅스, macOS에 적합한 1,400개 이상의 유명데이터 과학 패키지가 포함되어 있다.^[7]

- 프로그래밍 언어(Python, R) + 머신러닝을 위한 기능(가상환경/주피터/Numpy/Pandas/sklearn 등)

설치파일 다운로드

https://www.anaconda.com/products/individual



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Individual Edition

Your data science toolkit

With over 25 million users worldwide, the open-source Individual Edition (Distribution) is the easiest way to perform Python/R data science and machine learning on a single machine. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries.



Welcome to Anaconda3 2021.11 (64-bit) Setup

Setup will guide you through the installation of Anaconda3 2021.11 (64-bit).

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

Next >

Cancel

) Anaconda3 2021.11 (6	4-bit) Setup —	>		
	License Agreement			
ANACONDA.	Please review the license terms before installing Anaconda3 2021.11 (64-bit).			
Press Page Down to see th	ne rest of the agreement			
Press Page Down to see th	ne rest of the agreement.	_		
	ne rest of the agreement. ===================================	1		
End User License Agreeme	ent - Anaconda Individual Edition	1		
	ent - Anaconda Individual Edition	1		
End User License Agreeme	ent - Anaconda Individual Edition aconda, Inc.	1		

If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 2021.11 (64-bit).

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I Agree

Cancel

and Anaconda, Inc. ("Anaconda") and governs your use of Anaconda Individual Edition

(which was formerly known as Anaconda Distribution).

Anaconda, Inc.

	Select Installation Type
ANACONDA.	Please select the type of installation you would like to perform for Anaconda3 2021.11 (64-bit).
Install for:	
O Just Me (recommended	0
All Users (requires adm	in privilence)
O All Osers (requires autil	iii privileges)

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Next >

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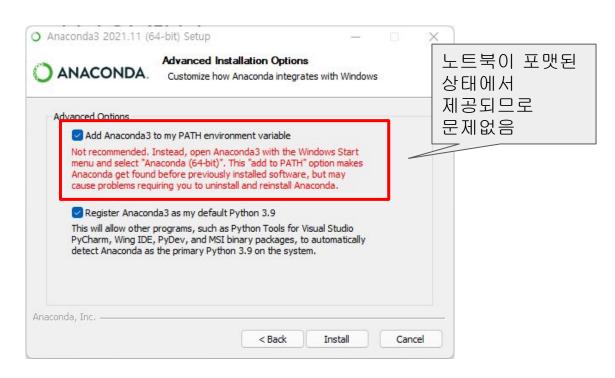
ANACONDA.	Choose Install Location Choose the folder in which to	o install Anaconda3 2	2021.11 (64-bit).
C-1 :11 : 1	13 2021, 11 (64-bit) in the followi	ng folder. To install i	n a different
	elect another folder. Click Next t		
folder, click Browse and se	elect another folder. Click Next t	o continue.	owse

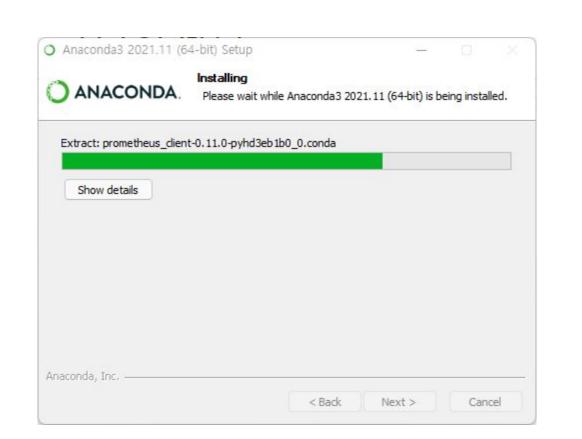
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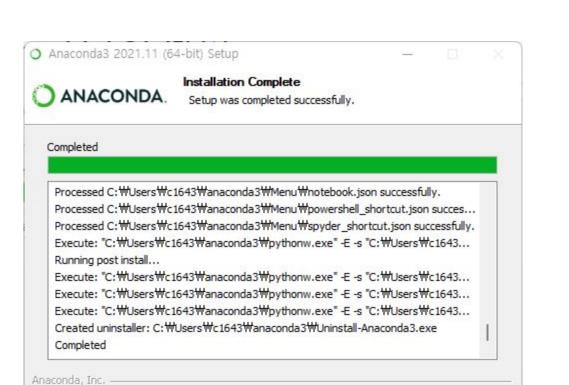
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Add Adaconda3 to my PATH environment variable 반드시 체크







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Anaconda3 2021.11 (64-bit) Setup

Completing Anaconda3 2021.11 (64-bit) Setup

Thank you for installing Anaconda Individual Edition.

Here are some helpful tips and resources to get you started. We recommend you bookmark these links so you can refer back to them later.

- Anaconda Individual Edition Tutorial
- Getting Started with Anaconda

< Back

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가상환경 및 주피터 노트북 실행

가상환경이란?

- 독립된 개발 환경을 구성해주는 기법
- 실습 간 패키지 및 버전의 **호환성 문제 해소**

주피터란?

- ipython 기반의 코딩 패키지
- 데이터 분석 및 수치 분석에 유리



가상환경 및 주피터 노트북 실행

- Anaconda Powershell Prompt 실행
- 밑줄 친 명령어 실행
 - \$ conda create -n SKLAB python=3.7
 - 가상환경 생성(name: SKLAB, python version: 3.7)
 - \$ conda activate SKLAB
 - 가상환경 활성화
 - \$ pip install jupyter
 - \$ pip install jupyterlab
 - jupyter notebook, jupyter lab 설치 또는 설치여부 확인
 - \$ jupyter notebook 또는 jupyter lab
 - 주피터 노트북(랩) 실행

가상환경 생성

```
C:\Users\C1643\AppData\Rc
(base) PS C:\Users\c1643> conda create -n SKLAB python=3.7
Collecting package metadata (current_repodata.json): done
Solving environment: done
==> WARNING: A newer version of conda exists. <==
  current version: 4.10.3
  latest version: 4.12.0
Please update conda by running
    $ conda update -n base -c defaults conda
## Package Plan ##
  environment location: C:\Users\c1643\anaconda3\envs\SKLAB
  added / updated specs:
    - python=3.7
The following packages will be downloaded:
    package
                                           build
    ca-certificates-2022.3.18
                                      haa95532_0
                                                         122 KB
    certifi-2021.10.8
                                  pv37haa95532_2
                                                         152 KB
    openssl-1.1.1n
                                      h2bbff1b_0
                                                         4.8 MB
    pip-21.2.4
                                  py37haa95532_0
                                                         1.8 MB
    python-3.7.11
                                      h6244533_0
                                                        14.5 MB
    setuptools-58.0.4
                                  py37haa95532_0
                                                         776 KB
    sqlite-3.38.0
                                      h2bbff1b_0
                                                         807 KB
    wheel-0.37.1
                                    pyhd3eb1b0_0
                                                          33 KB
    wincertstore-0.2
                                   py37haa95532_2
                                                          15 KB
                                          Total:
                                                        23.0 MB
The following NEW packages will be INSTALLED:
done
# To activate this environment, use
      $ conda activate SKLAB
# To deactivate an active environment, use
      $ conda deactivate
(base) PS C:\Users\c1643> conda activate SKLAB
```

주피터 노트북 실행

Or copy and paste one of these URLs:

```
(SKLAB) PS C:\Users\c1643> jupyter notebook
[I 2022-03-24 01:51:49.848 LabApp] JupyterLab extension loaded from C:\Users\c1643\anaconda3\lib\site-packages\jupyterlab
b
[I 2022-03-24 01:51:49.848 LabApp] JupyterLab application directory is C:\Users\c1643\anaconda3\share\jupyter\lab
[I 01:51:49.858 NotebookApp] Serving notebooks from local directory: C:\Users\c1643
[I 01:51:49.859 NotebookApp] Jupyter Notebook 6.4.5 is running at:
[I 01:51:49.859 NotebookApp] http://localhost:8888/?token=beb14b03a8b8c1ebdb07778331d447722d609f38cbc6f8ac
[I 01:51:49.859 NotebookApp] or http://l27.0.0.1:8888/?token=beb14b03a8b8c1ebdb07778331d447722d609f38cbc6f8ac
[I 01:51:49.859 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 01:51:49.984 NotebookApp]

To access the notebook, open this file in a browser:
```

file:///C:/Users/c1643/AppData/Roaming/jupyter/runtime/nbserver-15336-open.html

http://localhost:8888/?token=beb14b03a8b8c1ebdb07778331d447722d609f38cbc6f8ac or http://127.0.0.1:8888/?token=beb14b03a8b8c1ebdb07778331d447722d609f38cbc6f8ac



Quit

Last Modified

16 minutes ago

3 years ago

2 months ago

2 months ago

2 months ago

23 minutes ago

2 years ago

2 months ago

3 years ago

2 months ago

3 years ago

3 years ago

a year ago

Name **◆**

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Select items to perform actions on them.

Running

□ 0 - 1

3D Objects

anaconda3 Cisco Packet Tracer 7.2

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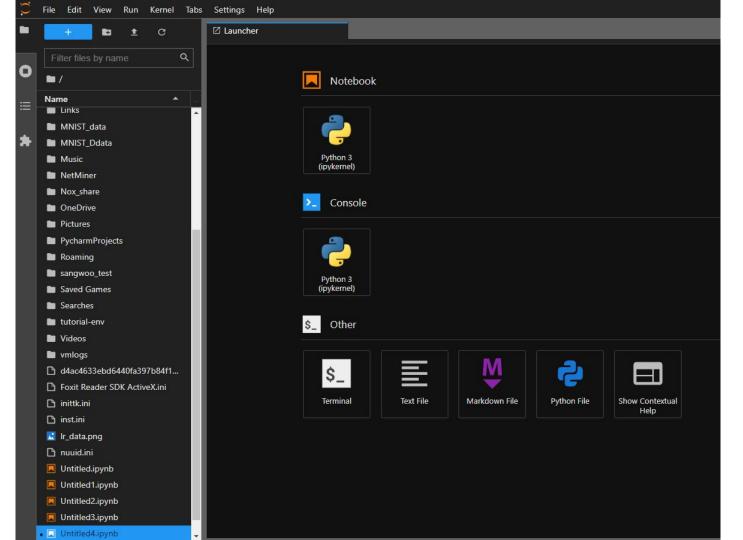
Favorites

iupylab jupylab

☐ Links

주피터 랩 실행

```
(SKLAB) PS C:\Users\c1643> jupyter lab
[I 2022-03-24 02:03:42.517 ServerApp] jupyterlab | extension was successfully linked.
[I 2022-03-24 02:03:42.550 ServerApp] Writing notebook server cookie secret to C:\Users\c1643\AppData\Roaming\jupyter\ru
ntime\jupyter_cookie_secret
[W 2022-03-24 02:03:42.579 ServerApp] The 'min_open_files_limit' trait of a ServerApp instance expected an int, not the
NoneType None.
[I 2022-03-24 02:03:42.728 LabApp] JupyterLab extension loaded from C:\Users\c1643\anaconda3\lib\site-packages\jupyterla
[I 2022-03-24 02:03:42.728 LabApp] JupyterLab application directory is C:\Users\c1643\anaconda3\share\jupyter\lab
[I 2022-03-24 02:03:42.736 ServerApp] jupyterlab | extension was successfully loaded.
[I 2022-03-24 02:03:43.249 ServerApp] nbclassic | extension was successfully loaded.
[I 2022-03-24 02:03:43.249 ServerApp] Serving notebooks from local directory: C:\Users\c1643
[I 2022-03-24 02:03:43.250 ServerApp] Jupyter Server 1.4.1 is running at:
[I 2022-03-24 02:03:43.250 ServerApp] http://localhost:8888/lab?token=ba8675339e5cb72de45bdf8d8b370278c2952058fae4405d
[I 2022-03-24 02:03:43.250 ServerApp] or http://127.0.0.1:8888/lab?token=ba8675339e5cb72de45bdf8d8b370278c2952058fae440
5d
[I 2022-03-24 02:03:43.250 ServerApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirm
ation).
[C 2022-03-24 02:03:43.373 ServerApp]
    To access the server, open this file in a browser:
        file:///C:/Users/c1643/AppData/Roaming/jupyter/runtime/jpserver-27592-open.html
   Or copy and paste one of these URLs:
        http://localhost:8888/lab?token=ba8675339e5cb72de45bdf8d8b370278c2952058fae4405d
     or http://127.0.0.1:8888/lab?token=ba8675339e5cb72de45bdf8d8b370278c2952058fae4405d
[W 2022-03-24 02:03:50.064 LabApp] Could not determine jupyterlab build status without nodejs
[I 2022-03-24 02:04:05.568 ServerApp] Creating new notebook in
[I 2022-03-24 02:04:06.643 ServerApp] Kernel started: 3alcd7ff-448d-419f-989f-0353c99c79c5
[W 2022-03-24 02:04:10.019 ServerApp] Got events for closed stream None
```



tensorflow/pytorch 설치

Anaconda Powershell Prompt 재실행 및 가상환경 활성화 colab 환경과의 통일성을 위하여 아래 버전으로 설치

- tensorflow: 2.8
- pytorch: 1.10
- \$ pip install tensorflow==2.8
- \$ conda install pytorch==1.10.0 torchvision==0.11.1 torchaudio==0.10.0 -c pytorch

Exercise

- 1) 가상환경 생성
 - a) 이름: MyNewEnv
 - b) python: 3.6
 - c) pytorch: 1.4

2) 가상환경 활성화

3) 주피터 노트북 실행후 아래 코드 입력하여 pytorch 버전 확인 a) import torch;print(torch.__version__)

목차

로컬 컴퓨터 세팅

Anaconda 설치

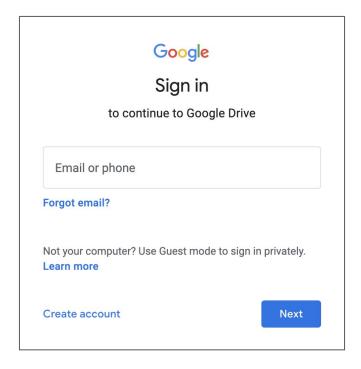
가상환경 생성 및 주피터 노트북 실행

tensorflow/pytorch 설치

Colab 세팅

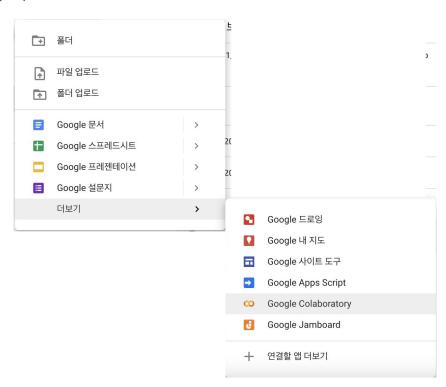
크롬 실행하여 구글 드라이브 로그인

drive.google.com



Google Colaboratory 추가하기

연결할 앱 더 보기 클릭



Google Colaboratory 추가하기





Colaboratory

X













검색결과: Colaboratory



★ 4.7 • **±** 10.000.000+

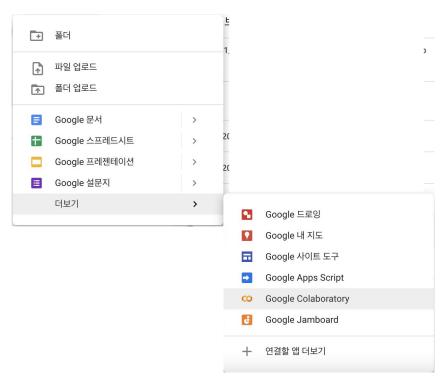






Google Colaboratory 새로만들기

Google Colaboratory 클릭

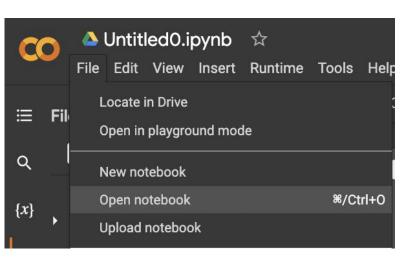


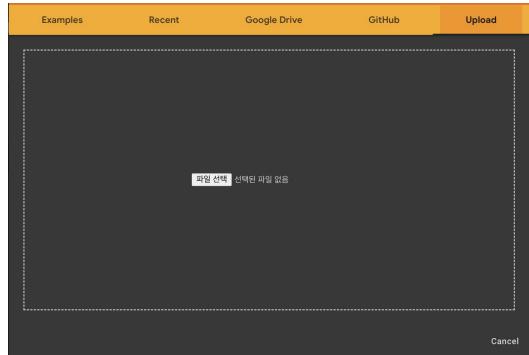
설치된 패키지 확인

```
import numpy as np
     import pandas as pd
     import tensorflow as tf
     import torch
     !python --version
[2]
   Python 3.7.13
[5]
     print("numpy version:", np. version )
     print("pandas version:", pd. version )
     print("tensorflow version:", tf. version )
     print("pytorch version:", torch. version )
   numpy version: 1.21.5
   pandas version: 1.3.5
   tensorflow version: 2.8.0
   pytorch version: 1.10.0+cull1
```

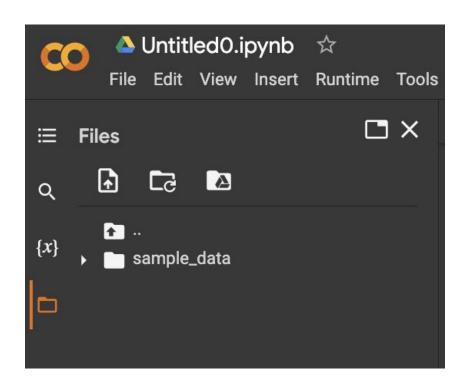
Open notebook

Load notebook file from Google drive, GitHub, Upload from local.





저장공간 확인 및 데이터 업로드/다운로드



감사합니다.