Windows 7,8,10 tensorflow width Anaconda3 install (python 3.5. ver)
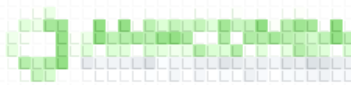
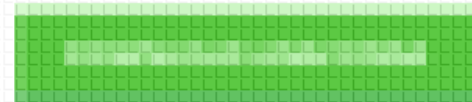**Only 64bit**

Windows tensorflow
Anaconda3
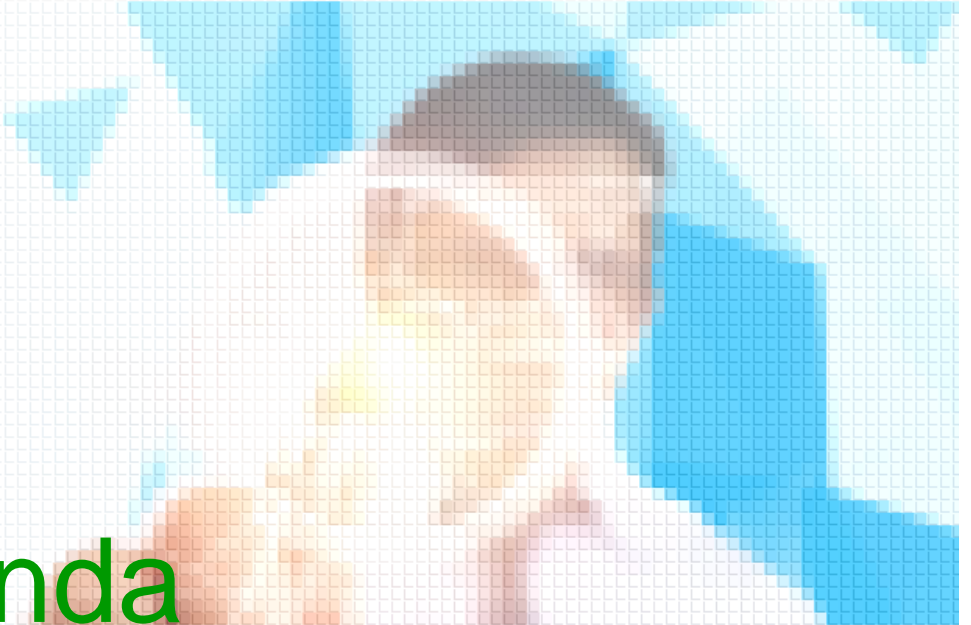2017 04 최종

Inatall Anaconda

Inatall Anaconda - 1 (download)

#반드시 64bit 환경에서만 사용 가능하다, 아래 그림이나 Url에 링크가 걸려있다#

Anaconda3 와 Git 설치를 통해 기본적인 python을 사용할 수 있게 된다.

설치과정 약 30분 ~ 1시간

https://repo.continuum.io/archive/.winzip/Anaconda3-4.2.0-Windows-x86_64.zip

Inatall Anaconda - 1 (download)

홈페이지에 가게되면 '3.6'버전이 나오게 되는데
Tensorflow 를 실행하는데 필요한 버전은 '3.5.'

Changelog

1. Download the installer
2. Optional: Verify data integrity with MD5 or SHA-256   More info
3. Double-click the .exe file to install Anaconda and follow the instructions on the screen

Behind a firewall? Use these zipped Windows installers

여기를 클릭해서 들어가 3.5 ver을 다운받는다.

Filename	Size	Last Modified	M
../	-		<
Anaconda2-4.3.1-Windows-x86.zip	336.9M	2017-03-10 11:44:41	b
Anaconda2-4.3.1-Windows-x86_64.zip	411.3M	2017-03-10 11:44:13	1
Anaconda3-4.3.1-Windows-x86.zip	345.9M	2017-03-10 11:45:41	d
Anaconda3-4.3.1-Windows-x86_64.zip	419.7M	2017-03-10 11:45:12	7
Anaconda2-4.3.0.1-Windows-x86.zip	336.0M	2017-02-03 10:26:52	6
Anaconda2-4.3.0.1-Windows-x86_64.zip	410.4M	2017-02-03 10:26:35	3
Anaconda3-4.3.0.1-Windows-x86.zip	345.0M	2017-02-03 10:27:32	f
Anaconda3-4.3.0.1-Windows-x86_64.zip	418.8M	2017-02-03 10:27:14	4
Anaconda2-4.3.0-Windows-x86.zip	336.0M	2017-01-31 10:49:57	e
Anaconda2-4.3.0-Windows-x86_64.zip	410.4M	2017-01-31 10:49:31	3
Anaconda3-4.3.0-Windows-x86.zip	345.0M	2017-01-31 10:50:52	f
Anaconda3-4.3.0-Windows-x86_64.zip	418.8M	2017-01-31 10:50:25	e
Anaconda2-4.2.0-Windows-x86.zip	322.0M	2016-09-28 12:01:22	b
Anaconda2-4.2.0-Windows-x86_64.zip	378.8M	2016-09-28 12:01:06	9
Anaconda3-4.2.0-Windows-x86.zip	331.2M	2016-09-28 12:02:00	d
Anaconda3-4.2.0-Windows-x86_64.zip	389.1M	2016-09-28 12:01:43	5
Anaconda2-4.1.1-Windows-x86.zip	284.1M	2016-07-08 11:32:17	b
Anaconda2-4.1.1-Windows-x86_64.zip	339.2M	2016-07-08 11:32:02	6

Inatall Anaconda - 2 (install start)

Anaconda3 설치시
관리자 권한 설정을 위해
All Users로 설치한다.

그다음은 Next Next

(이후의 설치에서 불필요한
 권한 설정을 하지 않기 위해)
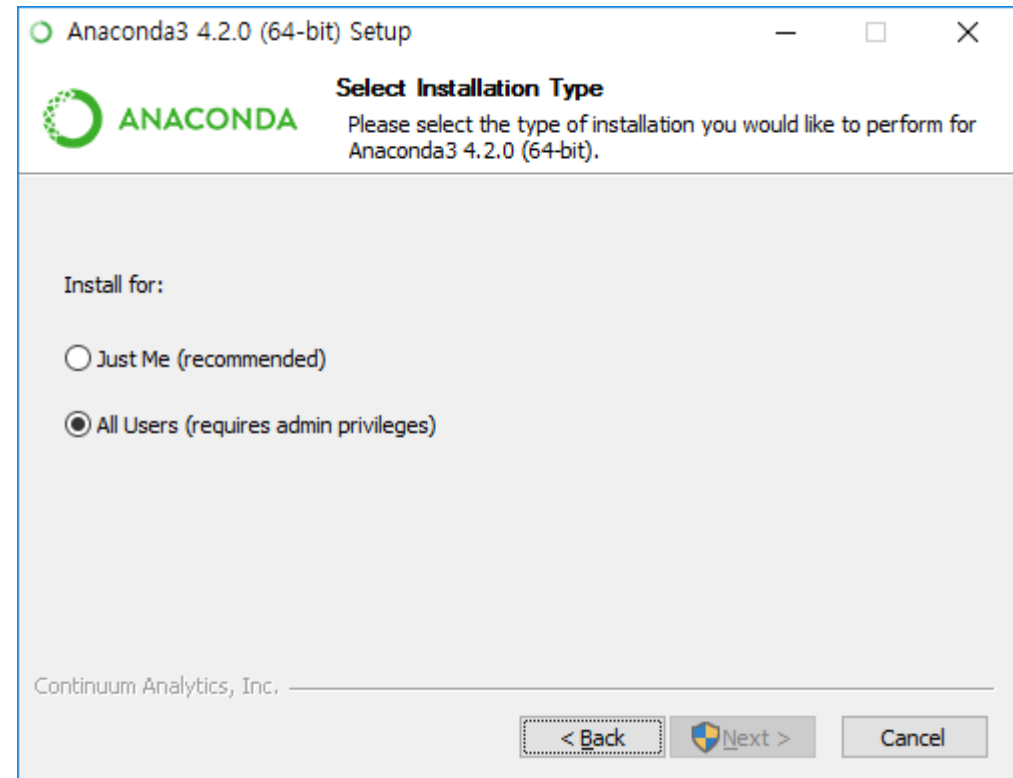
Git 설치

https://git-scm.com/download/win

위의 링크나 그림을 클릭해도 다운로드
경로로 들어갈 수 있다.

Git 을 통해 pip 명령어를 사용할 수
있다.

기본적으로 windows python은 pip 를
이용한 설치를 권장한다.

Downloading Git

Your download is starting...

You are downloading the latest (2.12.2) 64-bit version of Git for Windows. This is the most recent maintained build. It was released 6 days ago, on 2017-04-05.

If your download hasn't started, click here to download manually.

Other Git for Windows downloads

Git for Windows Setup
32-bit Git for Windows Setup.

64-bit Git for Windows Setup.

Git for Windows Portable ("thumbdrive edition")
32-bit Git for Windows Portable.

64-bit Git for Windows Portable.

The current source code release is version 2.12.2. If you want the newer version, you can build it from the source code.

Windows Tensorflow 설치

Cmd 창을 열어 아래의 커맨드를 실행해야 된다.
(실행하기 전에 반드시 설치는 관리자 권한이 필요하다)

Cpu : pip install tensorflow

pip install --ignore-installed --upgrade
https://storage.googleapis.com/tensorflow/windows/cpu/tensorflow-1.0.1-cp35-cp35m-win_amd64.whl

Gpu : pip install tensorflow-gpu

pip install --ignore-installed --upgrade
https://storage.googleapis.com/tensorflow/windows/gpu/tensorflow_gpu-1.0.1-cp35-cp35m-win_amd64.whl

열기(O)

관리자 권한으로 실행(A)

작업 표시줄에서 제거(K)

속성(R)

명령 프롬프

작업 표시줄에서 제거
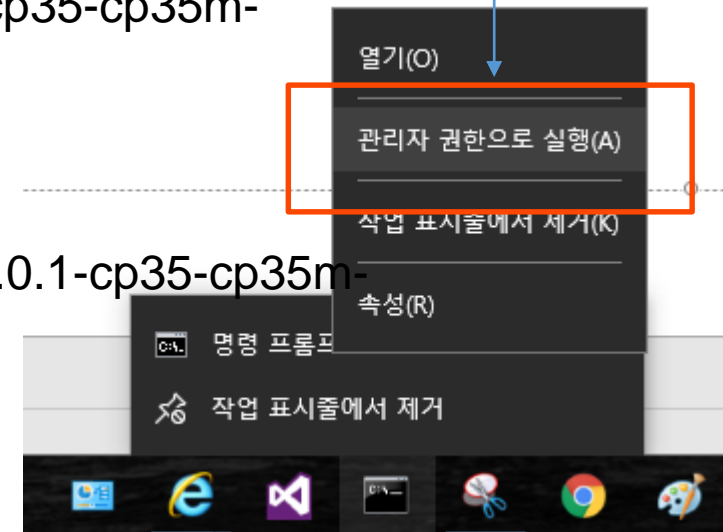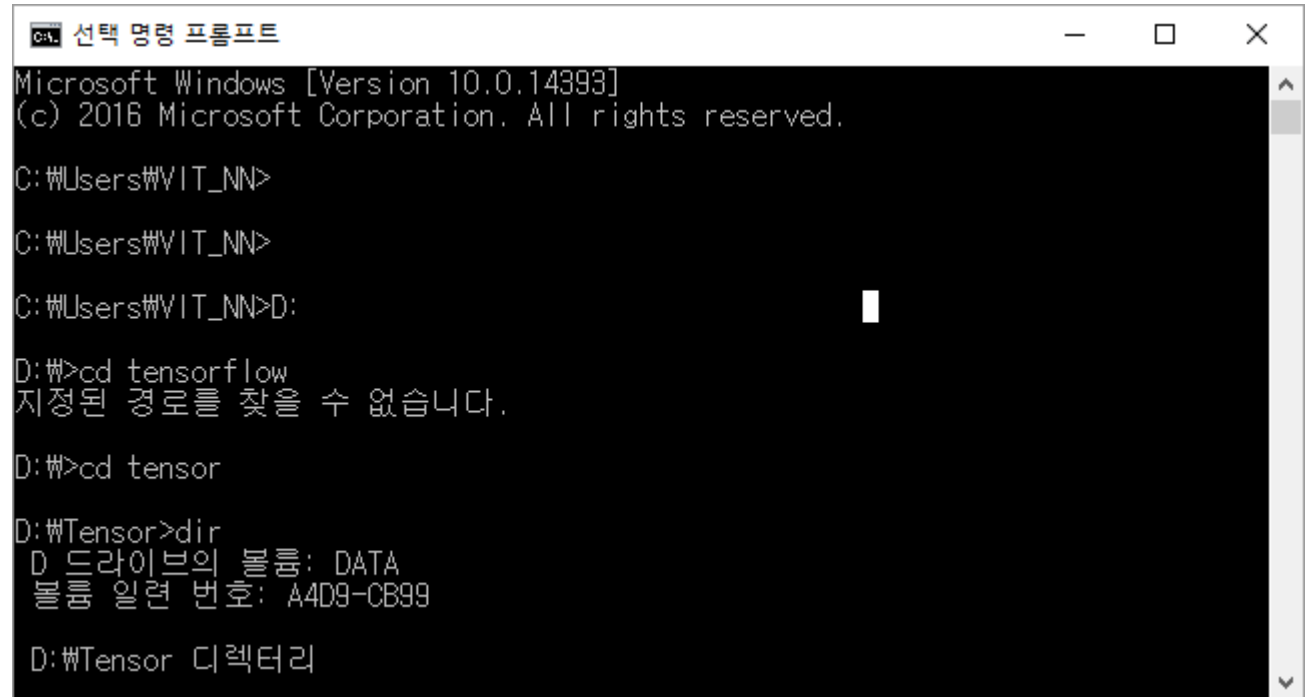
Windows Tensorflow 설치

오른쪽 그림처럼 아무 경로에서 설치를
시작해도 Anaconda에서 자동적으로 설치
경로를 잡아주기 때문에 어디서든 설치하면
된다.

다만, 앞으로 필요한 데이터들을 관리하기
위해 자신이 지정하는 특정 위치에서
시작하는 것이 좋다.

폴더이동 명령어 : cd [폴더 경로]
폴더 한칸뒤로 : cd..
드라이브 변경 : [해당 드라이브]:


```
선택 명령 프롬프트

Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\VIT_NN>

C:\Users\VIT_NN>

C:\Users\VIT_NN>D:

D:\>cd tensorflow
지정된 경로를 찾을 수 없습니다.

D:\>cd tensor

D:\Tensor>dir
 D 드라이브의 볼륨: DATA
 볼륨 일련 번호: A4D9-CB99

 D:\Tensor 디렉터리
```

Windows Tensorflow Gpu 설치 - 1

2가지를 설치해야 된다.

1. CUDA® Toolkit 8.0
NVIDA's documentation

아래 그림처럼 ver에 맞게 설정하고
다운로드 설치를 하면 된다.

1. Introduction

CUDA® is a parallel computing platform and programming model invented by NVIDIA. It enables dra

CUDA was developed with several design goals in mind:

- Provide a small set of extensions to standard programming languages, like C, that enable a st spending time on their implementation.
- Support heterogeneous computation where applications use both the CPU and GPU. Serial por The CPU and GPU are treated as separate devices that have their own memory spaces. This co

CUDA-capable GPUs have hundreds of cores that can collectively run thousands of computing thread share data without sending it over the system memory bus.
This guide will show you how to install and check the correct operation of the CUDA development to

1.1. System Requirements

tem, you will need the following installed:

PU
n of Microsoft Windows
n of Microsoft Visual Studio
Toolkit (available at http://developer.nvidia.com/cuda-downloads)

the currently supported Windows operating systems and compilers

Select Target Platform ⓘ

Click on the green buttons that describe your target platform. Only supported platforms will be shown.

Operating System	Windows	Linux	Mac OSX			
Architecture ⓘ	x86_64					
Version	10	8.1	7	Server 2016	Server 2012 R2	Server 2008 R2
Installer Type ⓘ	exe (network)	exe (local)				

Windows Tensorflow Gpu 설치 - 2

2. cuDNN v5.1

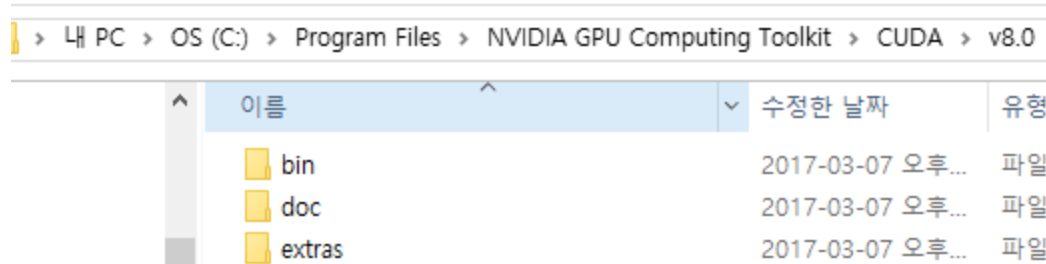NVIDA's documentation

하지만 회원가입을 해야 하기 때문에
번거로운 작업 없이 아래의 링크로 다운
http://naver.me/5TUNGOpq
(2017 4 11 이후 100회 한정)
그리고

The NVIDIA CUDA® Deep Neural Network library (cuDNN) is a GPU-accelerated library of primitives for deep neur
networks. cuDNN provides highly tuned implementations for standard routines such as forward and backward
convolution, pooling, normalization, and activation layers. cuDNN is part of the NVIDIA Deep Learning SDK.

Deep learning researchers and framework developers worldwide rely on cuDNN for high-performance GPU
acceleration. It allows them to focus on training neural networks and developing software applications rather than
spending time on low-level GPU performance tuning. cuDNN accelerates widely used deep learning frameworks,
including Caffe, TensorFlow, Theano, Torch, and CNTK. See supported frameworks for more details. cuDNN is free
available to members of the Accelerated Computing Developer Program

📁 bin
📁 include   이 파일들을
📁 lib

> 내 PC > OS (C:) > Program Files > NVIDIA GPU Computing Toolkit > CUDA > v8.0

이름	수정한 날짜	유형
📁 bin	2017-03-07 오후...	파일
📁 doc	2017-03-07 오후...	파일
📁 extras	2017-03-07 오후...	파일

여기 위치에 복사한다

Download

Up To 2x Faster Training on Pascal

Up To 10x Faster Training With Persistent LSTM RNNs

Windows Tensorflow 설치 Error

if you have Cannot remove entries from nonexistent file \anaconda32\envs\tst\lib\site-packages\easy-install.pth

-> typing:

      pip install --upgrade --ignore-installed setuptools
(setuptools 모듈 업데이트 필요)

not a supported wheel on this platform
-> typing:

      pip install --upgrade pip
(pip 모듈 업데이트 필요)
->
  Delete auther python exe program
(Anaconda3 64bit ver 이외의 파이선 실행 프로그램들과 충돌이 나기 때문에 나머지를 지우면 작동한다)

Windows Tensorflow 설치 과정 - cpu

import tensorflow as tf
Hello = tf.constant('Hello, Tensorflow!')
sess = tf.Session()
print(sess)
-> b'Hello, Tensorflow!'

```
C:\Users\Tiu>pip install tensorflow
Collecting tensorflow
  Downloading tensorflow-0.12.1-cp35-cp35m-win_amd64.whl (13.7MB)
    100% |###############################| 13.8MB 79kB/s
Collecting protobuf>=3.1.0 (from tensorflow)
  Downloading protobuf-3.2.0-py2.py3-none-any.whl (360kB)
    100% |###############################| 368kB 1.5MB/s
Requirement already satisfied (use --upgrade to upgrade): six>=1.10.0 in c:\program files\anaconda3\lib\site-packages (f
rom tensorflow)
Requirement already satisfied (use --upgrade to upgrade): wheel>=0.26 in c:\program files\anaconda3\lib\site-packages (f
rom tensorflow)
Requirement already satisfied (use --upgrade to upgrade): numpy>=1.11.0 in c:\program files\anaconda3\lib\site-packages
(from tensorflow)
Requirement already satisfied (use --upgrade to upgrade): setuptools in c:\program files\anaconda3\lib\site-packages\set
uptools-27.2.0-py3.5.egg (from protobuf>=3.1.0->tensorflow)
Installing collected packages: protobuf, tensorflow
Successfully installed protobuf-3.2.0 tensorflow-0.12.1
You are using pip version 8.1.2, however version 9.0.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

C:\Users\Tiu>
C:\Users\Tiu>python
Python 3.5.2 |Anaconda 4.2.0 (64-bit)| (default, Jul  5 2016, 11:41:13) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import tensorflow as tf
>>> hello = tf.constant('Hello, TensorFlow!')
>>> sess = tf.Session()
>>> print(sess.run(hello))
b'Hello, TensorFlow!'
>>>
```

Windows Tensorflow 설치 과정 - gpu

import tensorflow as tf
Hello = tf.constant('Hello, Tensorflow!')
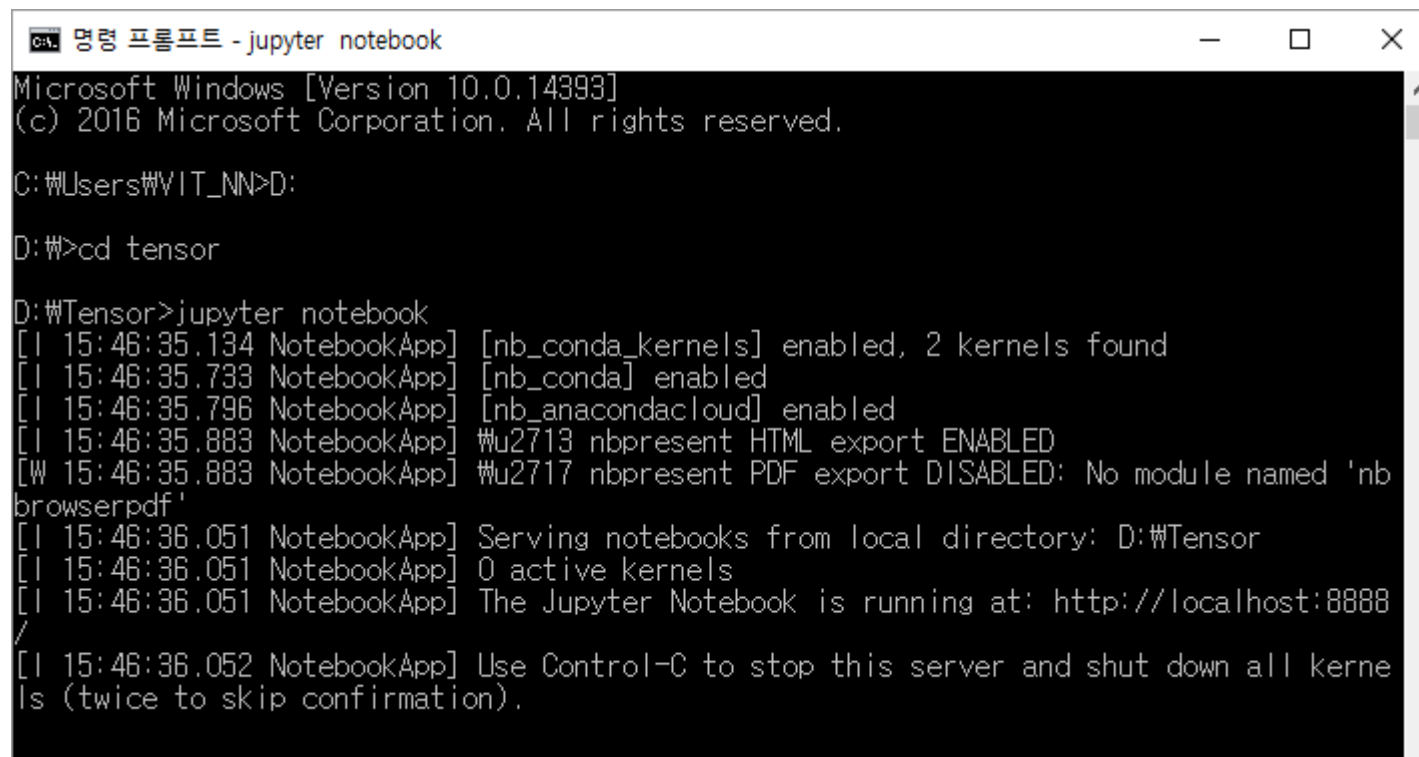sess = tf.Session()
print(sess)
-> b'Hello, Tensorflow!'

Windows Tensorflow Jupyter notebook

cmd : Jupyter notebook

Jupyter notebook 도
마찬가지로 cmd에서 위의
명령어를 치면 실행이 된다.

종료할때는 cmd 창에서

Ctrl + c 키를 눌러 정상종료

후 열려있는 notebook 창을
닫는다.

Windows Tensorflow Jupyter notebook

Jupyter notebook 에서의 시작
위치는 cmd 창에서 마지막 위치와
동일하다.

또한 실시간으로 파일이 업데이트
되므로

동시접근만 아니라면 충분히
변경이 가능하다