Homework 0
Environment Setting

Requirement

- NVIDIA GPU Card
- Windows or Linux

Outline

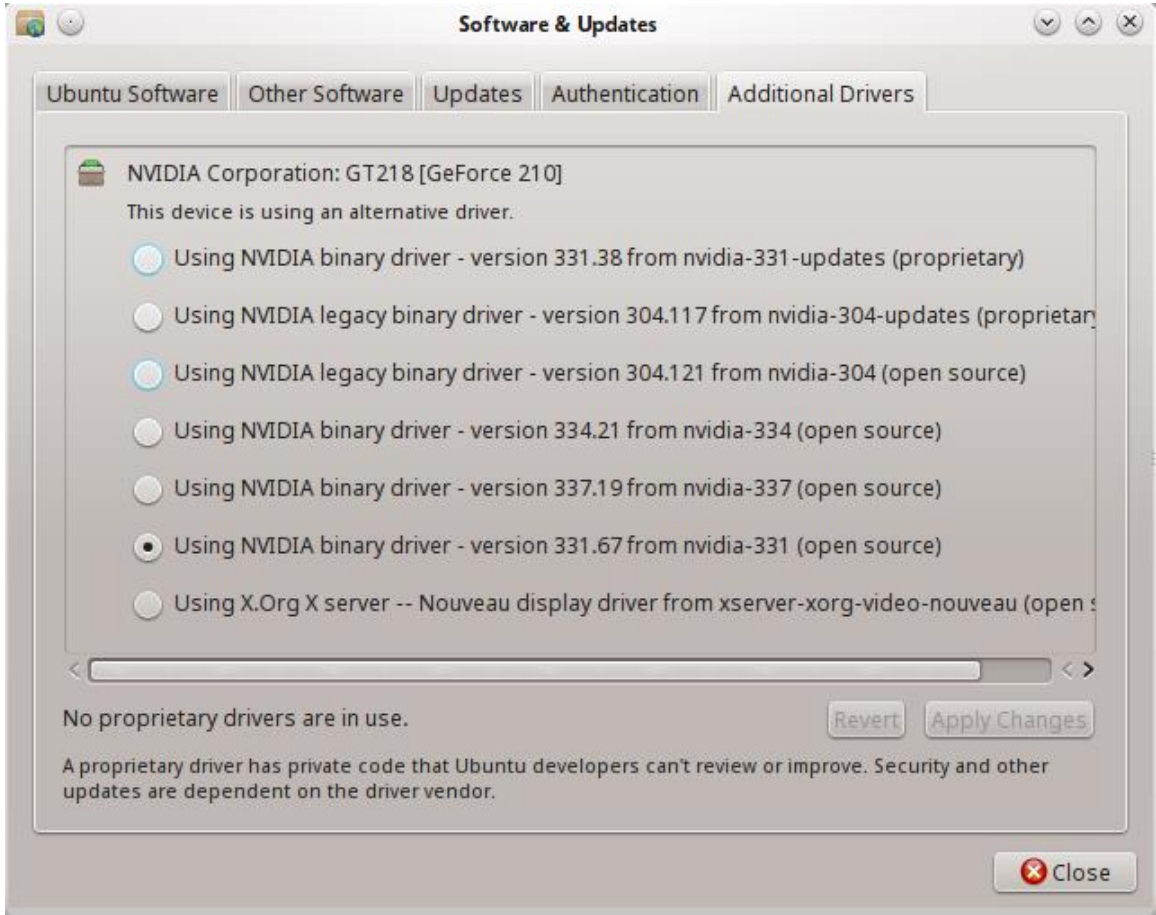
- Install Nvidia Driver
- Install Cuda8.0
- Install CuDNN6.0
- Install python3.4
- Install tensorflow and jupyter

Install Nvidia Driver

- http://www.nvidia.com/Download/index.aspx
- Find your GPU Card version and Download driver

Install Nvidia Driver - Linux

- Go to Software&Updates, select the driver and reboot
- Open terminal and type “nvidia-smi”



Install Nvidia Driver - Windows

- Go to directory you install Nvidia Driver
- Find “nvidia-smi.exe” and run in cmd

```
C:\Users\Joseph>"C:\Program Files\NVIDIA Corporation\NVSMI\nvidia-smi.exe"
Wed Sep 13 15:25:32 2017
+-----------------------------------------------------------------------------+
| NVIDIA-SMI 385.41                 Driver Version: 385.41                    |
|-------------------------------+----------------------+----------------------+
| GPU  Name            TCC/WDDM | Bus-Id        Disp.A | Volatile Uncorr. ECC |
| Fan  Temp  Perf  Pwr:Usage/Cap|         Memory-Usage | GPU-Util  Compute M. |
|===============================+======================+======================|
|   0  GeForce GTX 650    WDDM  | 00000000:01:00.0 N/A |                  N/A |
| 10%   32C    P8    N/A /  N/A |    182MiB /  1024MiB |     N/A      Default |
+-------------------------------+----------------------+----------------------+

+-----------------------------------------------------------------------------+
| Processes:                                                       GPU Memory |
|  GPU       PID   Type   Process name                             Usage      |
|=============================================================================|
|    0                    Not Supported                                       |
+-----------------------------------------------------------------------------+
```

Install Cuda8.0

- https://developer.nvidia.com/cuda-downloads
- Download the Cuda8.0 and follow the Base Installer
- Type “nvcc --version”

```
C:\Users\Joseph>nvcc --version
nvcc: NVIDIA (R) Cuda compiler driver
Copyright (c) 2005-2014 NVIDIA Corporation
Built on Fri_Jul_25_06:28:08_CDT_2014
Cuda compilation tools, release 6.5, V6.5.13
```

Install Cuda8.0 -Linux

- sudo vim ~/.bashrc
  - export CUDA_HOME=/usr/local/cuda-8.0
  - export LD_LIBRARY_PATH=${CUDA_HOME}/lib64
  - PATH=${CUDA_HOME}/bin:${PATH}
  - export PATH
- source ~/.bashrc

Install CuDNN6.0

- https://developer.nvidia.com/rdp/cudnn-download
- Register an account
- Download CudNN v6.0 for Cuda8.0

Install CuDNN6.0 - Linux

- cd folder/extracted/contents
- sudo cp -P include/cudnn.h /usr/include
- sudo cp -P lib64/libcudnn* /usr/lib/x86_64-linux-gnu/
- sudo chmod a+r /usr/lib/x86_64-linux-gnu/libcudnn*

Install Python3.4

- Python3.4 is already installed in Ubuntu
- For windows
  - https://www.python.org/downloads/

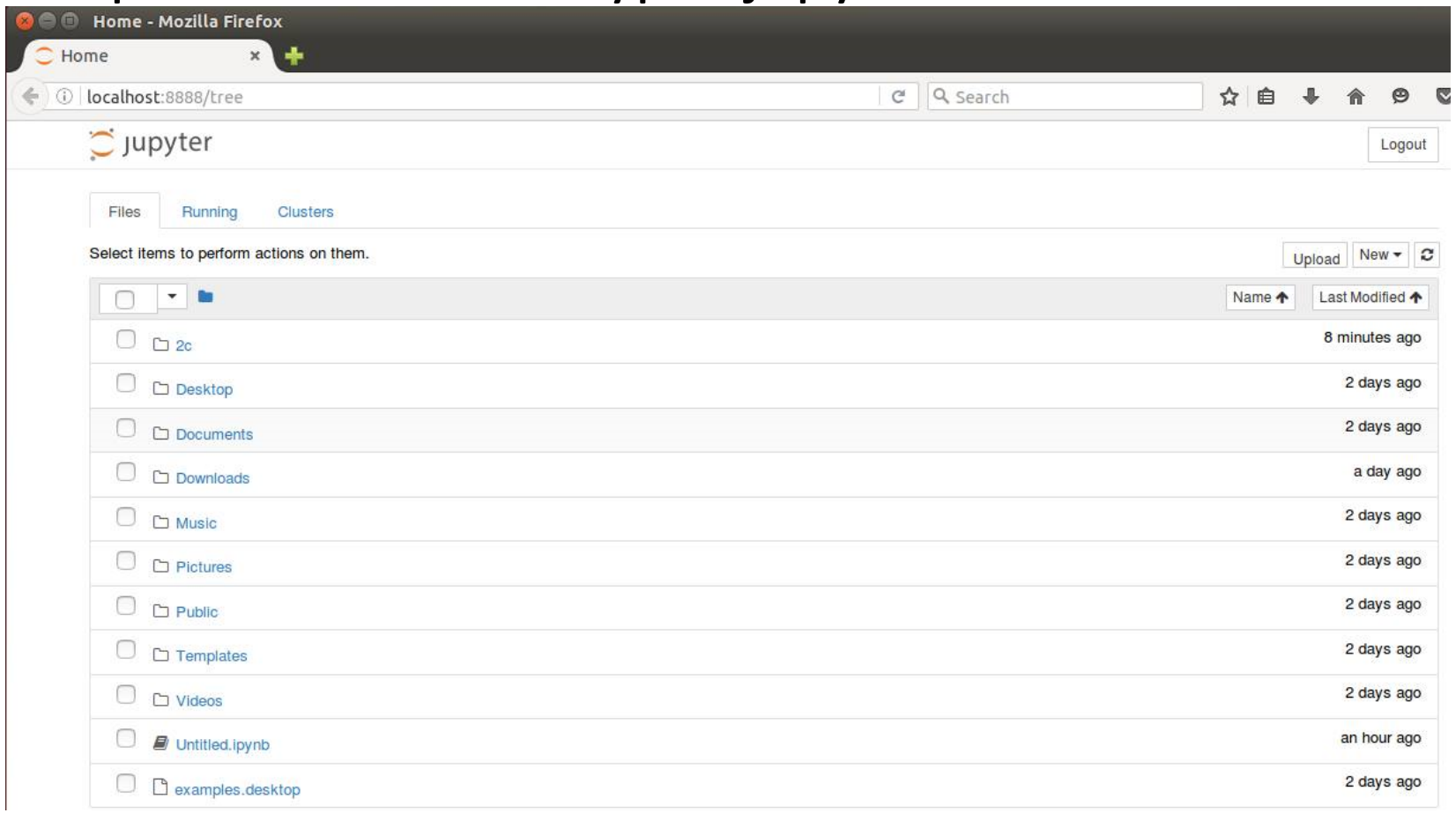
Install tensorflow and jupyter

- (pip install -U pip)

- pip install tensorflow-gpu
- pip install ipython[notebook]

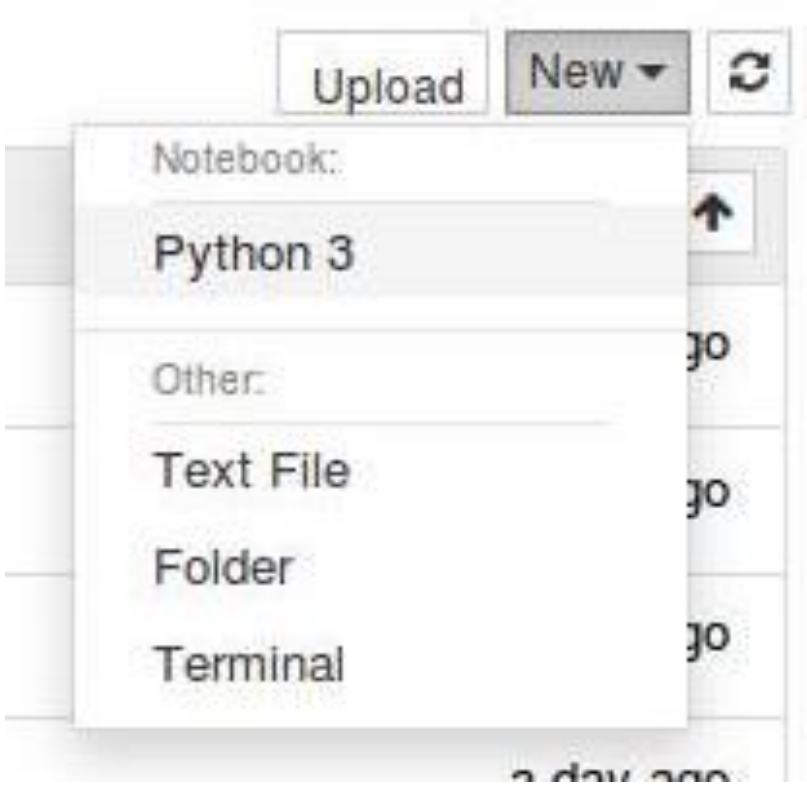
Install tensorflow and jupyter

- Open terminal and type “jupyter notebook”



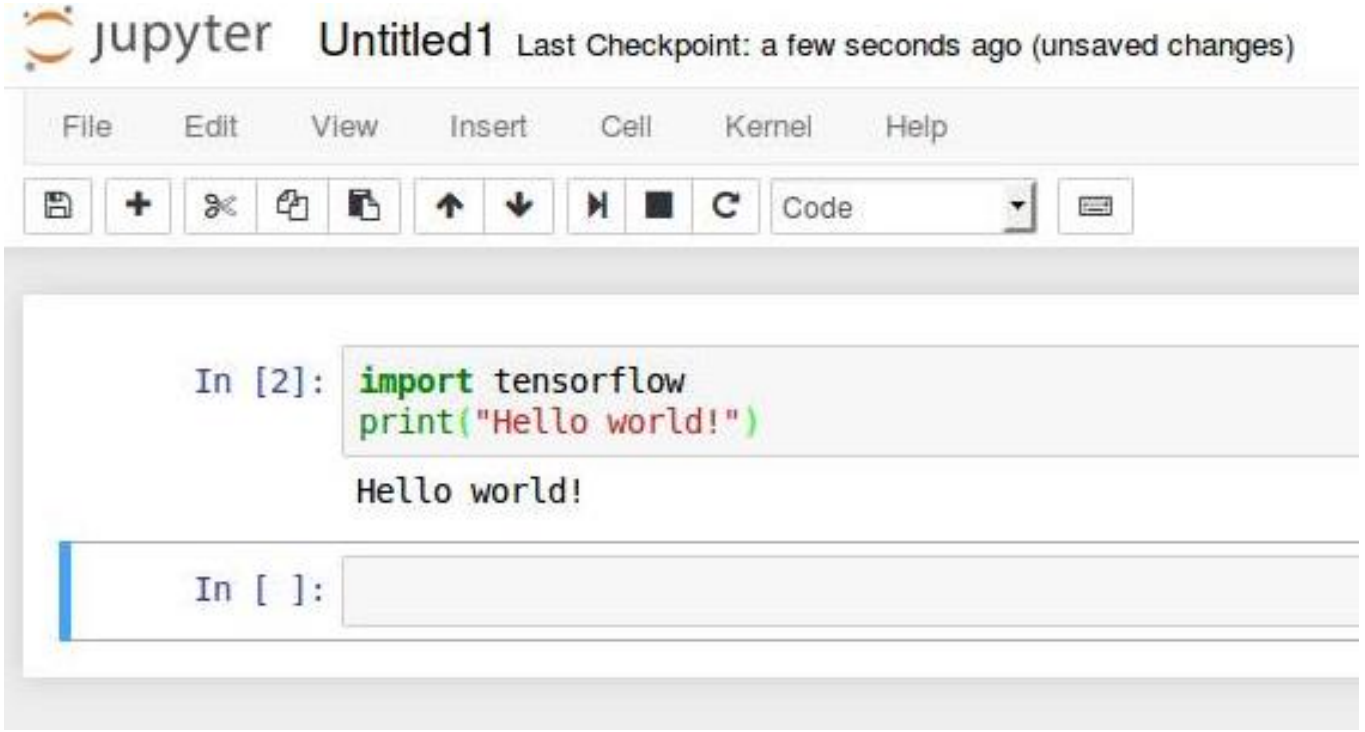
Install tensorflow and jupyter

- New a python file



Install tensorflow and jupyter

- Type test code
- Ctrl + Enter (Shift + Enter)



For Using Lecture GPU resource students

- Type “ssh -XY username@140.114.91.198”
- Select machine hades01~04
  - hades03, hades04 need scheduler
- Type “ssh -XY hades02”

For Using Lecture GPU resource students

- Using hades[03-04] by scheduler
  - E.g.: Type ”srun --pty --x11 -p GTX1080 -t 1:30 --gres=gpu:1 bash”
    - -p $QUEUE (hades03: GTX1080, hades04: P100)
    - -t $TIME (e.g.: 1:30 means 1 min and 30 seconds)
    - --gres=gpu:$NUM_GPU
  - Type “source selectGPU 0 1 2”
    - To specify which GPU you prefer to use
- Reference: https://goo.gl/M9GxPh

Account

- 1 account for each team
- Please send email to ccchen@lsalab.cs.nthu.edu.tw before Sep 24th
- Title: ML Account
  - Name:
  - Student ID:
- The password will be replied by email

Latex Overview

https://www.overleaf.com/read/gjfzbbpppsbw#/41514655/

Reference

- https://www.slideshare.net/jbhuang/research-101-paper-writing-with-latex

- https://drive.google.com/file/d/0B49GhdPE_q3OSWhwS0NkM1laS0U/view

Rule

Sept 29	TensorFlow Tutorial Required Reading: Ch 6.2 to 6.5	HW1 out
Oct 6	Feedforward Neural Network (FFNN) Required Reading: Ch 7 (7.3, 7.4, 7.10, 7.11, 7.12)	
Oct 13	FFNN: Recipes and Training Techniques Required Reading: Ch 8.1 to 8.5	Milestone 1 due

- Ex: 9/29 required reading: Ch 6.2 ~ 6.5
- Dead line will be two weeks later
  - Oct 13 23:59:59
  - 0 point for delay

- Upload the zip file to ilms
  - Ch6.2.zip
  - Ch6.2.Ch6.3.zip

Mile Stone 0

Mile Stone 0

- Teamup: 2 ppl in a team
- Setup your GitHub repo & working environment

- 想進 Google Brain 實習？Google Brain 負責人：經營 Github 至關重要！
  - https://goo.gl/MZatPB

- https://goo.gl/5D64JS