CS5284 : Graph Machine Learning

Running Course Notebooks with Local Installation

Semester 1 2025/26

Xavier Bresson

https://x.com/xbresson

Department of Computer Science
National University of Singapore (NUS)

Local Installation for OSX & Linux

- Install Python and run the notebooks on your OSX or Linux machine :

Local Installation for OSX & Linux

- Open a Terminal and type

```
# Conda installation
curl https://repo.continuum.io/miniconda/Miniconda3-latest-Linux-x86_64.sh -o miniconda.sh
curl https://repo.continuum.io/miniconda/Miniconda3-latest-MacOSX-x86_64.sh -o miniconda.sh
chmod +x miniconda.sh
./miniconda.sh
source ~/.bashrc

# Clone GitHub repo
git clone https://github.com/xbresson/GML2023.git
cd GML2023

# Install python libraries
conda env create -f environment.yml
source activate gnn_course

# Run the notebooks in Chrome
jupyter notebook
```

https://github.com/xbresson/CS5284_2025?tab=readme-ov-file#local-installation-for-osx--linux

Local Installation for OSX & Linux

CS5242_2021 — miniconda.sh — 155×44

```
Last login: Mon Aug  9 15:02:37 on ttys001
(base) xbresson@r-153-121-25-172 CS5242_2021 % curl https://repo.continuum.io/miniconda/Miniconda3-latest-MacOSX-x86_64.sh -o miniconda.sh -J -L -k
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0     0    0     0    0     0      0      0 --:--:-- --:--:-- --:--:--     0
100 42.3M  100 42.3M    0     0  23.2M      0  0:00:01  0:00:01 --:--:-- 30.5M
(base) xbresson@r-153-121-25-172 CS5242_2021 % chmod +x miniconda.sh
(base) xbresson@r-153-121-25-172 CS5242_2021 % ./miniconda.sh

Welcome to Miniconda3 py39_4.10.3

In order to continue the installation process, please review the license
agreement.
Please, press ENTER to continue
>>>
```

```
  wheel              pkgs/main/noarch::wheel-0.36.2-pyhd3eb1b0_0
  xz                 pkgs/main/osx-64::xz-5.2.5-h1de35cc_0
  yaml               pkgs/main/osx-64::yaml-0.2.5-haf1e3a3_0
  zlib               pkgs/main/osx-64::zlib-1.2.11-h1de35cc_3


Preparing transaction: done
Executing transaction: \
done
installation finished.
Do you wish the installer to initialize Miniconda3
by running conda init? [yes|no]
[yes] >>>
no change     /Users/xbresson/miniconda3/condabin/conda
no change     /Users/xbresson/miniconda3/bin/conda
no change     /Users/xbresson/miniconda3/bin/conda-env
no change     /Users/xbresson/miniconda3/bin/activate
no change     /Users/xbresson/miniconda3/bin/deactivate
no change     /Users/xbresson/miniconda3/etc/profile.d/conda.sh
no change     /Users/xbresson/miniconda3/etc/fish/conf.d/conda.fish
no change     /Users/xbresson/miniconda3/shell/condabin/Conda.psm1
no change     /Users/xbresson/miniconda3/shell/condabin/conda-hook.ps1
no change     /Users/xbresson/miniconda3/lib/python3.9/site-packages/xontrib/conda.xsh
no change     /Users/xbresson/miniconda3/etc/profile.d/conda.csh
no change     /Users/xbresson/.zshrc
No action taken.
If you'd prefer that conda's base environment not be activated on startup,
   set the auto_activate_base parameter to false:

conda config --set auto_activate_base false

Thank you for installing Miniconda3!
(base) xbresson@r-153-121-25-172 CS5242_2021 %
```

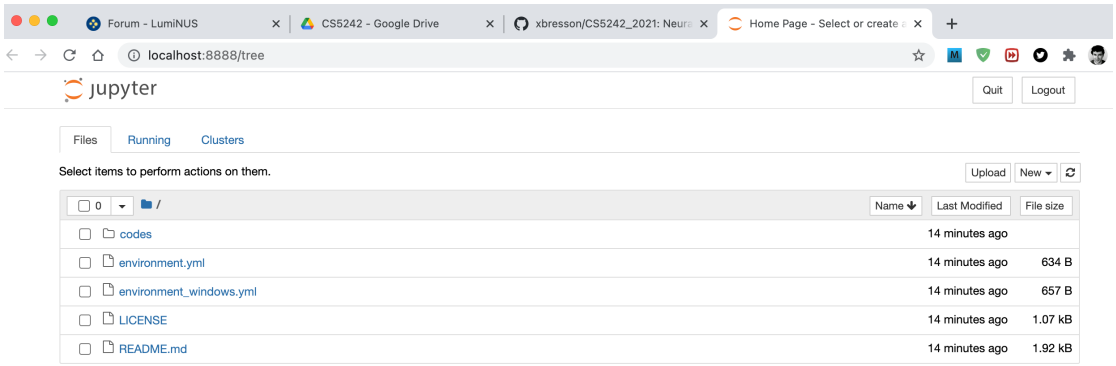
Local Installation for OSX & Linux

```
(base) xbresson@r-153-121-25-172 CS5242_2021 % conda
usage: conda [-h] [-V] command ...

conda is a tool for managing and deploying applications, environments and packages.

Options:

positional arguments:
  command
    clean        Remove unused packages and caches.
    compare      Compare packages between conda environments.
    config       Modify configuration values in .condarc. This is modeled after the git config command. Writes to the user .condarc file
                 (/Users/xbresson/.condarc) by default.
    create       Create a new conda environment from a list of specified packages.
    help         Displays a list of available conda commands and their help strings.
    info         Display information about current conda install.
    init         Initialize conda for shell interaction. [Experimental]
    install      Installs a list of packages into a specified conda environment.
    list         List linked packages in a conda environment.
    package      Low-level conda package utility. (EXPERIMENTAL)
    remove       Remove a list of packages from a specified conda environment.
    uninstall    Alias for conda remove.
    run          Run an executable in a conda environment. [Experimental]
    search       Search for packages and display associated information. The input is a MatchSpec, a query language for conda packages. See examples
                 below.
    update       Updates conda packages to the latest compatible version.
    upgrade      Alias for conda update.

optional arguments:
  -h, --help     Show this help message and exit.
  -V, --version  Show the conda version number and exit.

conda commands available from other packages:
  env
(base) xbresson@r-153-121-25-172 CS5242_2021 %
```

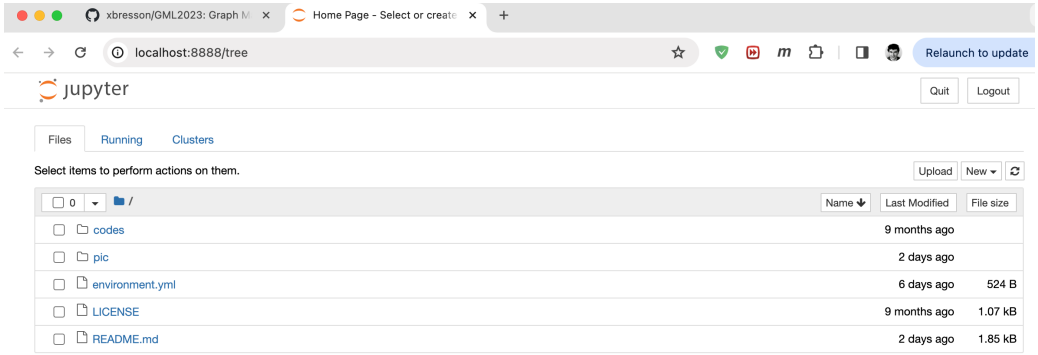
```
(base) xbresson@r-153-121-25-172 tmp % git clone https://github.com/xbresson/CS5242_2021.git
Cloning into 'CS5242_2021'...
remote: Enumerating objects: 201, done.
remote: Counting objects: 100% (201/201), done.
remote: Compressing objects: 100% (117/117), done.
remote: Total 201 (delta 82), reused 187 (delta 71), pack-reused 0
Receiving objects: 100% (201/201), 2.82 MiB | 6.62 MiB/s, done.
Resolving deltas: 100% (82/82), done.
(base) xbresson@r-153-121-25-172 tmp % cd CS5242_2021
(base) xbresson@r-153-121-25-172 CS5242_2021 % conda env create -f environment.yml
```

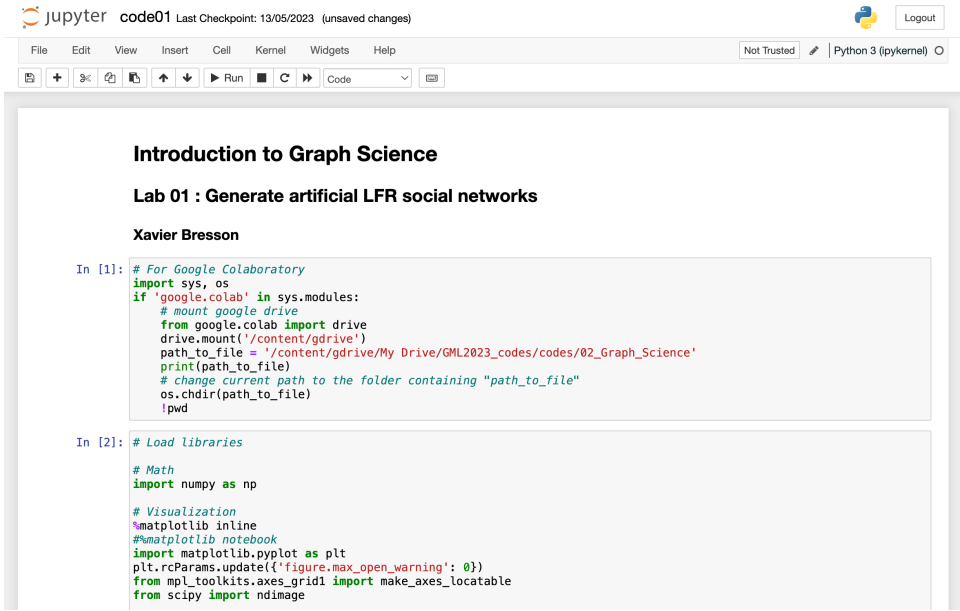
Local Installation for OSX & Linux

```
Collecting protobuf>=3.8.0
  Using cached protobuf-3.17.3-cp37-cp37m-macosx_10_9_x86_64.whl (1.0 MB)
Requirement already satisfied: six>=1.9 in /Users/xbresson/miniconda3/envs/deeplearn_course/lib/python3.7/site-packages (from protobuf>=3.8.0->tensorboardx
==2.2->-r /Users/xbresson/Documents/Dropbox/10_NUS_2021_now/05_My_Teaching/06_CS5242_sem1_21:22/04_Github/tmp/CS5242_2021/condaenv.1o03j884.requirements.tx
t (line 2)) (1.16.0)
Collecting future
  Using cached future-0.18.2-py3-none-any.whl
Installing collected packages: future, pyglet, protobuf, cloudpickle, tensorboardx, gym, fastprogress
Successfully installed cloudpickle-1.6.0 fastprogress-1.0.0 future-0.18.2 gym-0.18.0 protobuf-3.17.3 pyglet-1.5.0 tensorboardx-2.2

done
#
# To activate this environment, use
#
#     $ conda activate deeplearn_course
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) xbresson@r-153-121-25-172 CS5242_2021 % conda activate deeplearn_course
(deeplearn_course) xbresson@r-153-121-25-172 CS5242_2021 % jupyter notebook
[I 12:18:06.635 NotebookApp] Writing notebook server cookie secret to /Users/xbresson/Library/Jupyter/runtime/notebook_cookie_secret
[I 12:18:08.268 NotebookApp] Serving notebooks from local directory: /Users/xbresson/Documents/Dropbox/10_NUS_2021_now/05_My_Teaching/06_CS5242_sem1_21:22/
04_Github/tmp/CS5242_2021
[I 12:18:08.268 NotebookApp] Jupyter Notebook 6.4.2 is running at:
[I 12:18:08.268 NotebookApp] http://localhost:8888/?token=0e66862970f67d6ba62bcef6ffbe79d851bf26d95f292340
[I 12:18:08.268 NotebookApp]  or http://127.0.0.1:8888/?token=0e66862970f67d6ba62bcef6ffbe79d851bf26d95f292340
[I 12:18:08.268 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 12:18:08.275 NotebookApp]

    To access the notebook, open this file in a browser:
        file:///Users/xbresson/Library/Jupyter/runtime/nbserver-87552-open.html
    Or copy and paste one of these URLs:
        http://localhost:8888/?token=0e66862970f67d6ba62bcef6ffbe79d851bf26d95f292340
     or http://127.0.0.1:8888/?token=0e66862970f67d6ba62bcef6ffbe79d851bf26d95f292340
```



Local Installation for OSX & Linux





Local Installation for Windows

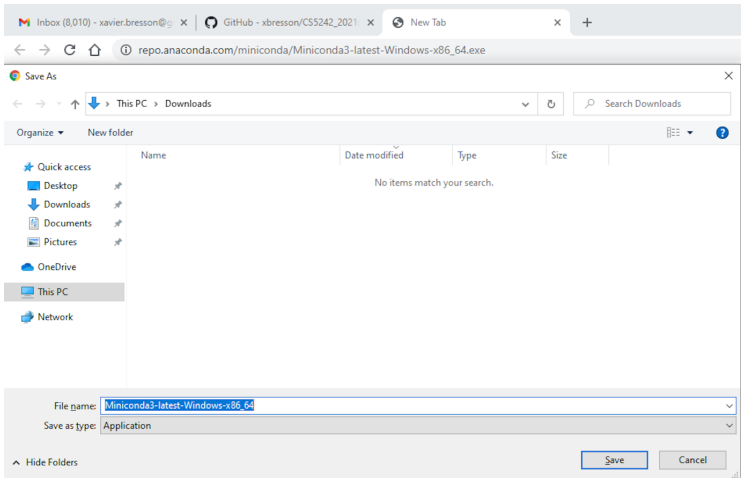
- Install Anaconda and run the notebooks on your Windows machine :

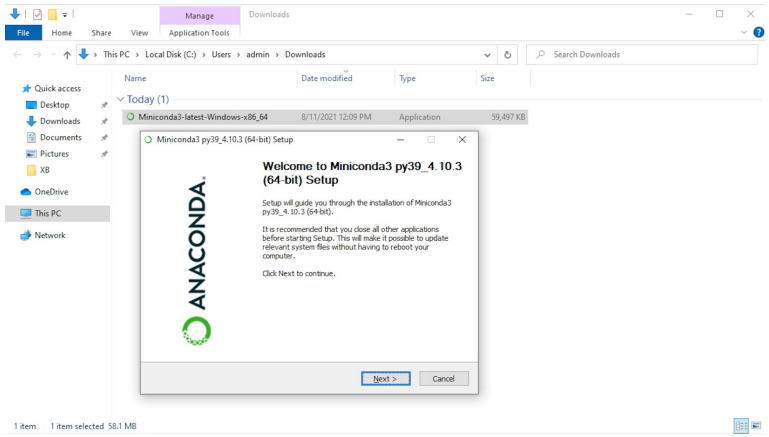
Local Installation for Windows

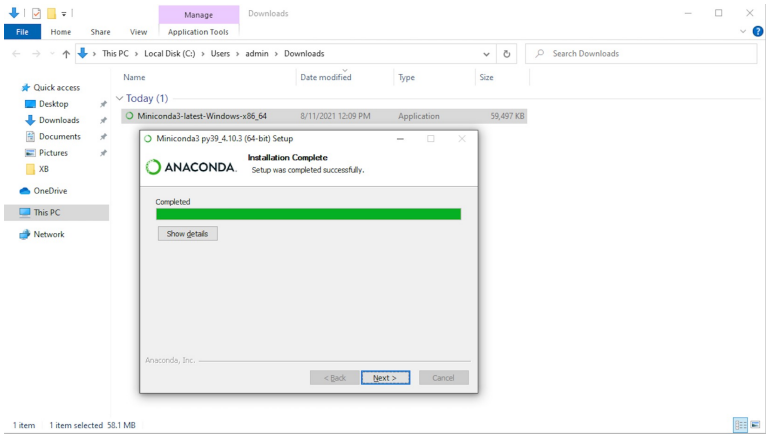
```
# Install Anaconda
https://repo.anaconda.com/miniconda/Miniconda3-latest-Windows-x86_64.exe

# Open an Anaconda Terminal
Go to Application => Anaconda3 => Anaconda Prompt

# Install git : Type in terminal
conda install git

# Clone GitHub repo
git clone https://github.com/xbresson/GML2023.git
cd GML2023

# Install python libraries
conda env create -f environment.yml
conda activate gnn_course

# Run the notebooks in Chrome
jupyter notebook
```

https://github.com/xbresson/CS5284_2025?tab=readme-ov-file#local-installation-for-windows

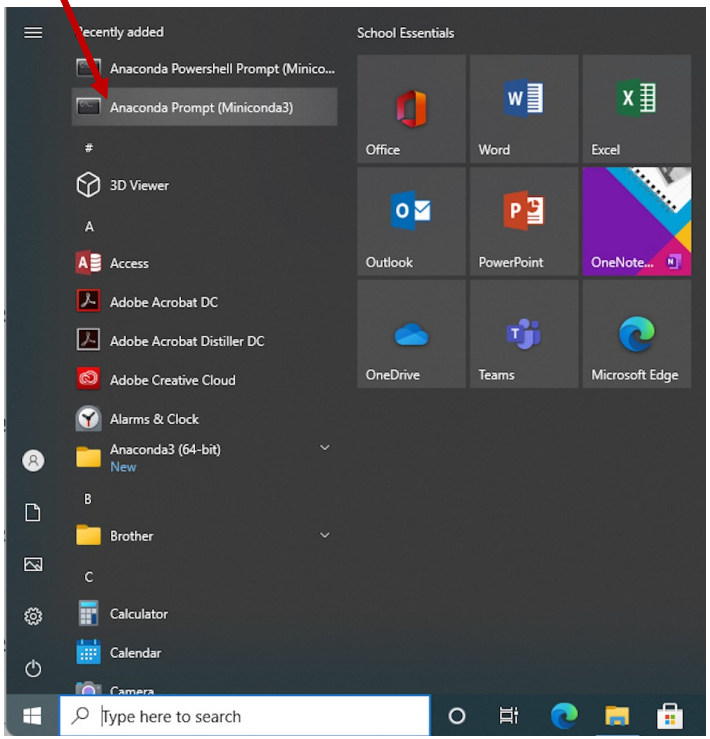
Local Installation for Windows

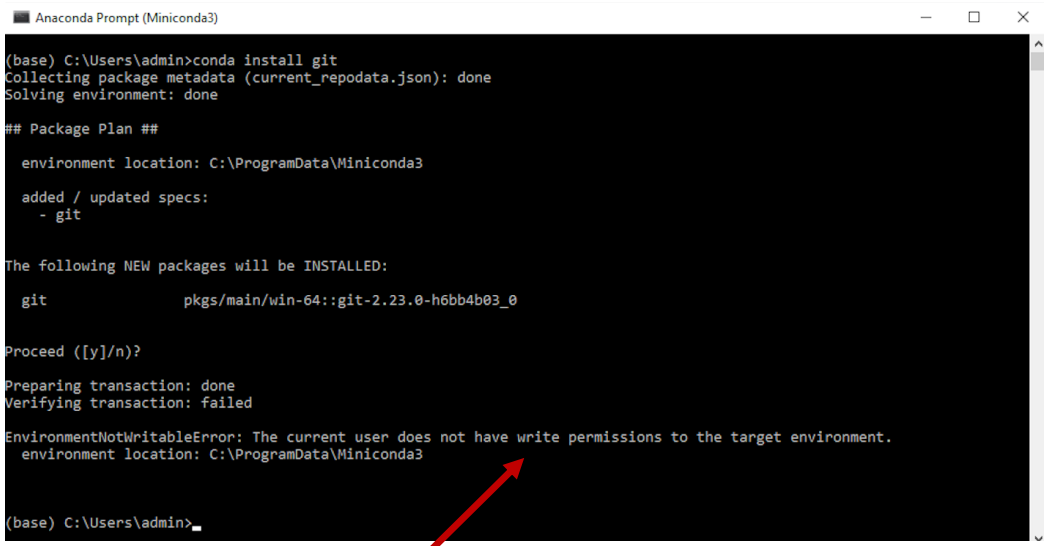






Local Installation for Windows

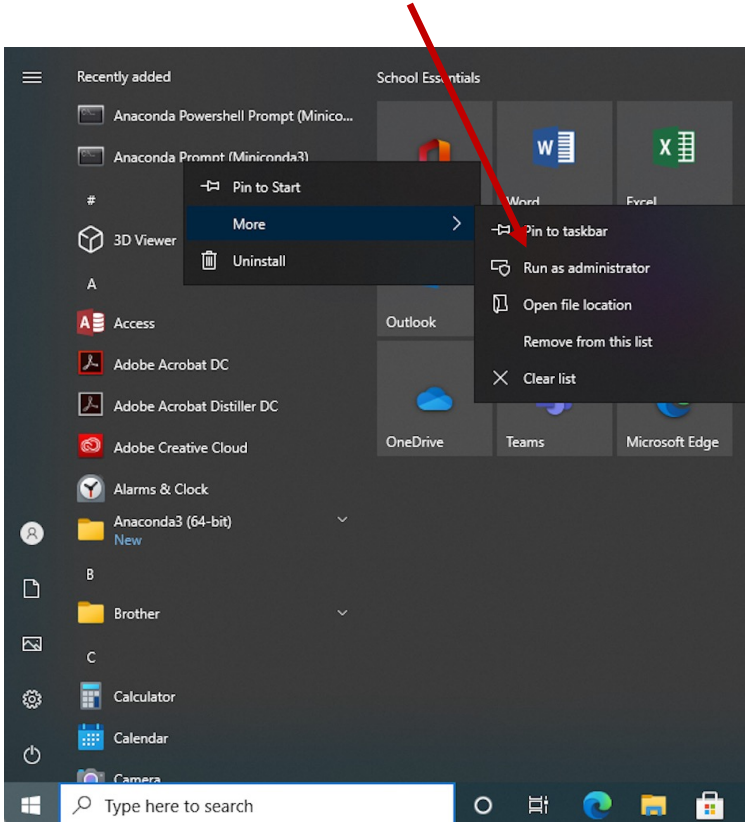


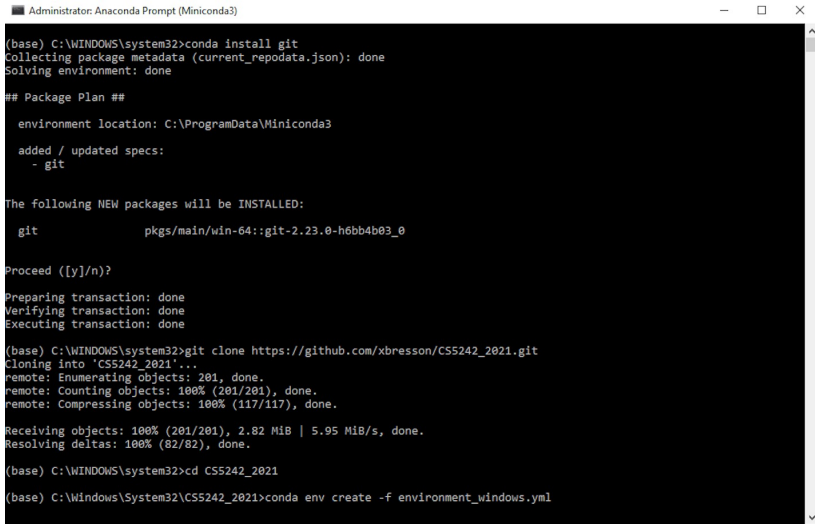


If you need admin rights to run Miniconda, then follow the next slide.

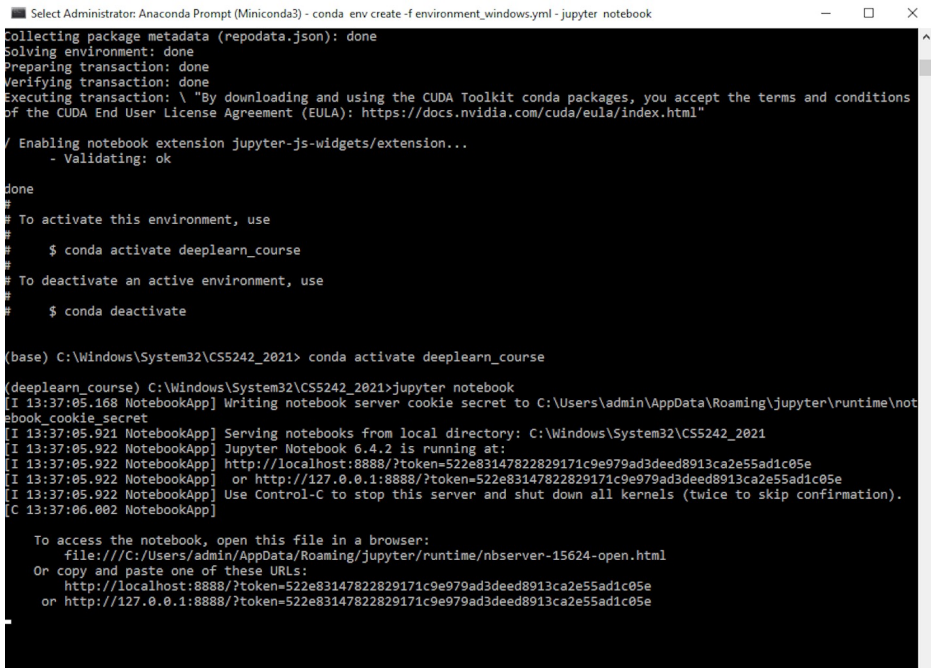
Local Installation for Windows

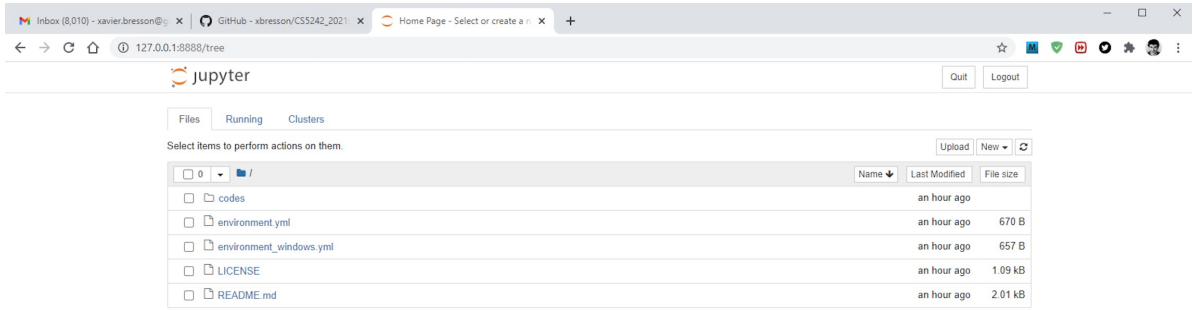
Secondary click then select “Run as administrator”.



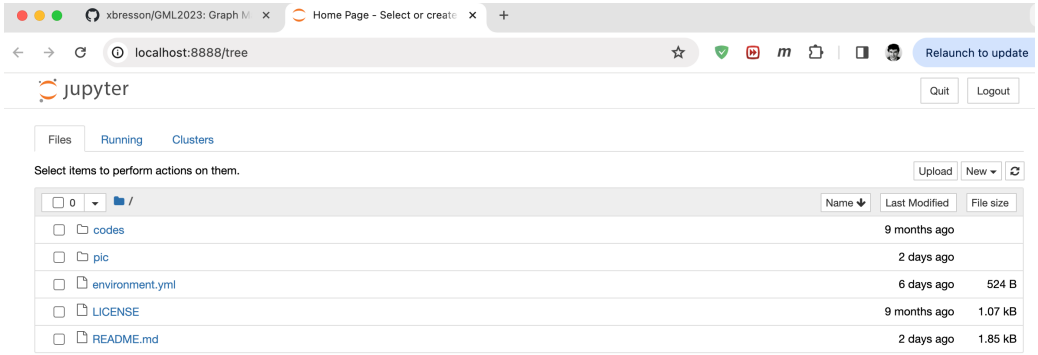


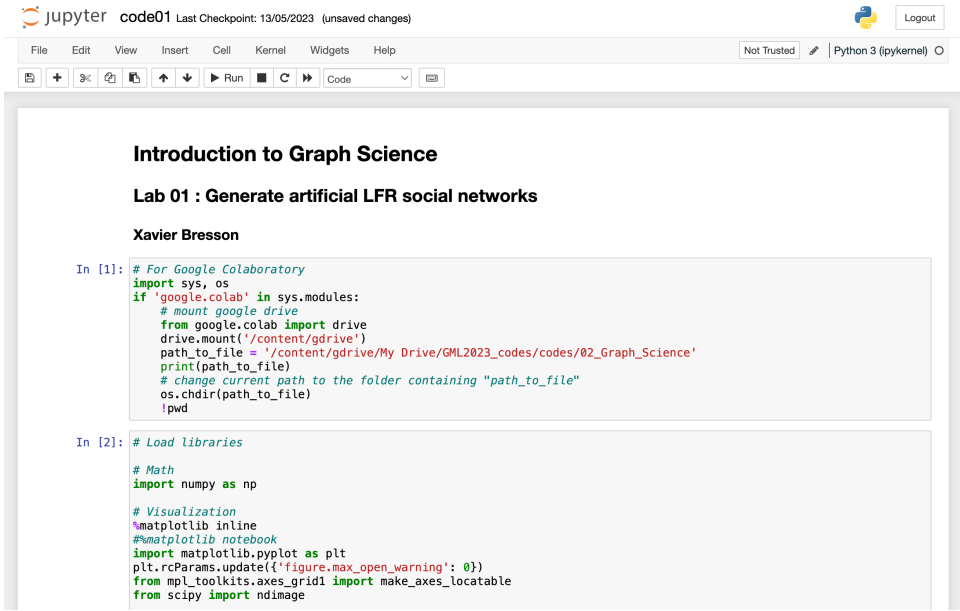
Local Installation for Windows





Local Installation for Windows





Questions?