A guide to install Jupyter Notebook

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1 Introduction

The Jupyter Notebook is the original web application for creating and sharing computational documents. It offers a simple, streamlined, document-centric experience. In our lectures we are going to use jupyter notebook to program and analyze data with python. Python is an high-level programming language very suitable for data analysis since it provides many useful libraries (a library is just a collection of codes made by other good people). In our lectures we are going to explore different libraries as numpy, matplotlib, pandas, seaborn etc (don't worry, there's a time and place for those stuff, but not now). The easiest way to work and have access to all the libraries is to use Anaconda, which is the most popular open-source Python distribution platform. You can see it just a normal computer program which allows you to open a jupyter notebook and collect all the needed libraries. Anaconda allows you to create an 'environment' where you can download and store all the libraries you need for a particular project (you can create an environment for each project you are following, just remember that you have to reinstall all the stuff for each enviroment). In the following I will resume some indications for installing Anaconda and the jupyter notebook on your Mac or Windows (if you have Linux I bet that you are already able to do it by yourself).

2 Installation for Mac

2.1 Installation

You can find the official instructions for installing Anaconda at:
https://docs.anaconda.com/anaconda/install/mac-os/
In the following I will guide the installation with the macOS graphical installer with some comments:

1) Press on the highlighted words in green 'macOS installer'. You will be redirected to a new page. There click on the Download button.

2) Now go to the downloaded Anaconda-bla-bla.pkg and click on it. You have

to follow the installation instructions as for a normal downloaded software.

3) follow 6,7,8,9 on the official instructions.

4) Now we have to verify the installation. Click on point 10 with the highlighted words in green 'verify your installation'. Here you can see some text. At first I suggest you to simply try to open the Anaconda software clicking on Launchpad and selecting Anaconda Navigator (or, you can use Cmd+Space to open Spotlight Search and type "Navigator" to open the program). For other tests follow the comments on the 'Pro management' section.

2.2 Graphical management

Now we have to create an environment to set our projects:

1) Open Anaconda and click on Environments on the left

2) Press on create button and give a name to your environment (in general the name of our project etc)

3)Now you can select your environment (just press on its name) and install all the libraries you need for your project

4) In order to install the libraries you have to change the first block from 'installed' to 'all' and than write the name of the library that you want to install in the box 'search packages' (package is a another name for library). Then find the package click on the hollow square on its left and click on apply to install it.

5) You can install jupyter (and as consequence the notebook) with the procedure described in point 4 searching for jupyter package. In order to launch the notebook come back to the Home page of Anaconda (assure that your environment is selected on square 'application on your-environment-name'), you will see an icone of jupyter notebbok. Click on Launch and the notebook will be opened in your browser.

6) install the following packages: numpy, matplotlib, pandas, seaborn

2.3 Pro management

We can manage our environment from the TERMINAL with the conda commands. After you have installed anaconda open a terminal and write:
conda list

If we have done all the things corrrectly it must write you some stuff (if the terminal says tha conda is not a command, we have a problem. Searching on the net I have found a common solution writing in terminal the command:

export PATH="/Users/myname/anaconda3/bin:$PATH"
where 'myname' is your username.)
Supposing that everything is fine we can work by terminal now (I know that at the beginning it is difficult but in general it is the best option since you have a better control on what you are doing). To create an environment,named envname, type on your terminal:

conda create -n envname
Then activate it with:
conda activate envname
Now you are in your environment. Now we have to install all the stuff we need:
1) Python: write, conda install python
2) Pip: write, conda install pip

Pip is the common installing tool, so from know we will use pip to install the packages:

3) pip install numpy
4) pip install matplotlib
5) pip install pandas
6) pip install seaborn
7) pip install jupyter
In order to launch your notebook type on the terminal:

jupyter notebook

2.4 Some YouTube videos that may help you in the installation

https://www.youtube.com/watch?v=0Hhqf8L-b_0
https://www.youtube.com/watch?v=UmORrAvr4pQ
https://www.youtube.com/watch?v=YA8Nq8Tlma4

3 Installation for Windows

3.1 Installation

You can find the official instructions for installing Anaconda at:
https://docs.anaconda.com/anaconda/install/windows/

Follow the instructions on the link above (their are quite the same for the Mac version, so if you have any problem try to read the Mac instructions).

Once you have downloaded and installed anaconda you can start it as a normal program searching it clicking Start etc.

3.2 Graphical management

The program is the same as for macOS so you can follow the same instructions on the section 2.2

3.3 Pro management

Windows does not display a default terminal as macOS and Linux. However Anaconda provides you a terminal promt named Anaconda Prompt. So you can search it on the Start menu and run it. Then you can follow the same instructions for the Pro management of Mac.

3.4 Some YouTube videos that may help you in the installation

https://www.youtube.com/watch?v=aN6OVm0mTHo
https://www.youtube.com/watch?v=2WL-XTl2QYI
https://www.youtube.com/watch?v=5mDYijMfSzs

4 Google Colab

Google provides an alternative to Jupyter Notebook named google colab. You can connect it to your google drive to store datas etc. If you are interested follow the instructions:

https://www.kdnuggets.com/2020/06/google-colab-deep-learning.html
I like quite much this guide (maybe it is a bit technical). However since it is from google there are numerous guide around the net.