

## Preparation for Introduction to deep learning with PyTorch

First of all, we are pleased you decided to take part in our deep learning tutorial! Because this tutorial is a combination of theoretical introduction to neural networks and deep learning and practical hands-on, you will need to install a few things if you want to take part in the Livecoding part. Please, install all of the following.

### Short version

Our recommendation is to install Python (and the subsequent libraries) using Anaconda.

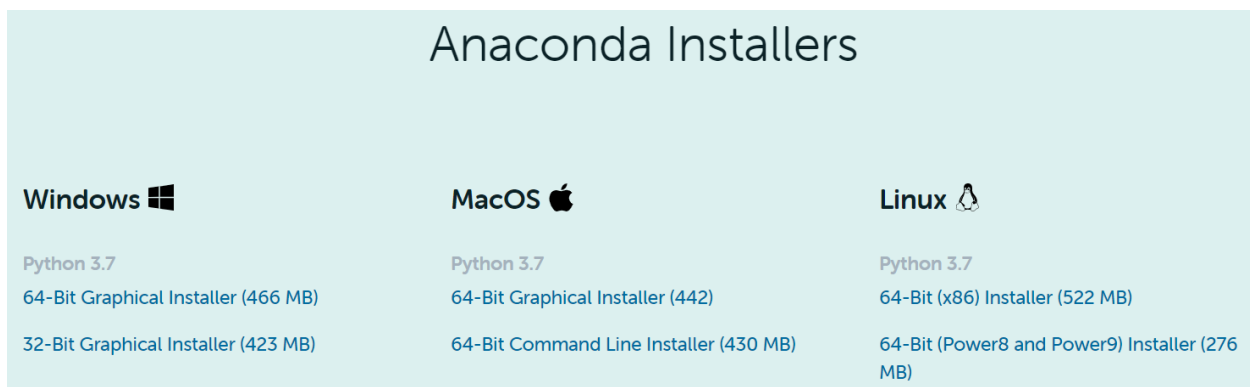
1. Install Python 3.7
2. Install NumPy, SciPy, Matplotlib and Scikit-learn
3. Install PyTorch
  - a. <https://pytorch.org/> -> Quick start locally
  - b. If you have compatible Nvidia GPU: install version with CUDA support
  - c. If you want to compute on CPU: install version with CUDA set to "None"
4. Install Jupyter Lab
  - a. [https://jupyterlab.readthedocs.io/en/stable/getting\\_started/installation.html](https://jupyterlab.readthedocs.io/en/stable/getting_started/installation.html)
5. OpenCV
  - a. <https://anaconda.org/conda-forge/opencv>

Other materials will be provided right before the tutorial.




### Detailed version

#### Python 3.7

Our recommendation is to install Python (and the subsequent libraries) using Anaconda. First, visit <https://www.anaconda.com/products/individual>. Select your operating system and download the installer.



Anaconda Installers

Windows 	MacOS 	Linux 
Python 3.7 64-Bit Graphical Installer (466 MB) 32-Bit Graphical Installer (423 MB)	Python 3.7 64-Bit Graphical Installer (442) 64-Bit Command Line Installer (430 MB)	Python 3.7 64-Bit (x86) Installer (522 MB) 64-Bit (Power8 and Power9) Installer (276 MB)

## PyTorch

Visit <https://pytorch.org/>. In the section Quick start locally select your preferred configuration.

1. PyTorch Build: Stable (1.5)
2. Your OS: Self explanatory
3. Package: Depends on your Python installation. We recommend using Conda.
4. Language: Python
5. CUDA: If you have newer Nvidia GPU, select 10.2, in case of older GPU select 10.1 or 9.2. If you don't have Nvidia CUDA capable GPU, select None.

PyTorch Build	Stable (1.5)		Preview (Nightly)	
Your OS	Linux	Mac	Windows	
Package	Conda	Pip	LibTorch	Source
Language	Python		C++ / Java	
CUDA	9.2	10.1	10.2	None
Run this Command:	<code>conda install pytorch torchvision cudatoolkit=10.2 -c pytorch</code>			

This is an example for Windows 10 OS, Anaconda and Nvidia GeForce GTX 1050 Ti GPU.

Copy the command from "Run this command" to clipboard.

## Other libraries

Open Anaconda command prompt and run following commands:

1. `conda install pytorch torchvision cudatoolkit=10.2 -c pytorch`
  - a. Replace this command by command copied in the previous section.
2. `conda install -c conda-forge matplotlib`
3. `conda install -c anaconda scipy`
4. `conda install -c conda-forge jupyterlab`
5. `conda install scikit-learn`
6. `conda install -c conda-forge opencv`