Pytorch

1. Step by step instruction (cython?) with rasp 1.1.0 https://github.com/nmilosev/pytorch-arm-builds/
2. FL with RNN MNIST: Pytorch 1.0.0 with wheel 8322165 (including PySyft)

<https://drive.google.com/open?id=1anJ-P-IAbMFdB9D1LEH6Tx7fBW7MP8DU>

1. Compile from source (<http://ddrv.cn/a/586320>)

Using 1:

Error 1: no module named torch.\_c

<https://blog.csdn.net/weixin_39965127/article/details/102686314>

To increase swap space

#sudo nano /etc/swapfile0a0 (on this machine only)

#sudo nano /etc/dphys-swapfile(correct)

#CONF\_SWAPSIZE = 4096

#CONF\_MAXSWAP = 4096

Reboot

Extremely low download speed with git clone:  
try to change the mirror repository: <https://www.teknotut.com/en/change-the-repository-on-the-raspberry-pi/>

<https://raspberrypi.stackexchange.com/questions/9172/rpi-extremely-slow-download-speed>

‘Changing the repository to the nearest country is needed to speed up the upgrade process or the software installation process on the **Raspberry P**i. By default, Raspberry Pi uses the repository from **United Kingdom** (UK). If your International internet connection is slow, this will slow down the update process or install software on the Raspberry Pi.

Raspbian is a derivative Linux from **Debian**. We can change its repositories using the mirror closest to our location.’

sudo nano /etc/apt/sources.list

python setup.py install may include two steps: build and install, so we need to

* suppress the build step if it has already been built.
* Run install directly without building it

<https://www.jianshu.com/p/f8ffbf18c312>

To specify the path or location to install

python setup.py install --prefix=/path/to/install

<https://blog.csdn.net/sowhatgavin/article/details/81912541>

python setup.py install –user // to install to user directory

// when running, since one install is already executed, a series of check is completed and then goes to the installation process

**Solution to dev/root full**

To check which part of the file system occupies the most space:

sudo mount --bind / /mnt

sudo ncdu -x /mnt

$ sudo du -xh / | grep -P "G\t" (check big files)

<https://www.raspberrypi.org/forums/viewtopic.php?t=71520>

find out that most space is occupied by /var, because of swap space settings, hence change swap space to 1024M

**About Git clone:**

<https://stackoverflow.com/questions/31977306/difference-between-cloning-and-downloading>

Downloading a repository just downloads the files from the most recent commit of the default branch. It doesn't download any of the files in the .git folder. If this sounds like gibberish, all it does is download the most recent copy of the code. It doesn't download any of the history, so you can't browse through the history. You can't view any of the commit messages. You can't run git commands like git add, git push, etc. It's as if git never existed, and all you have is a copy of the code/files.

**Error 2: THESE PACKAGES DO NOT MATCH THE HASHES FROM THE REQUIREMENTS FILE**

Due to internet connection, cannot be resolved. All comments online indicates that the only solution s to try again or download wheels one by one.

Depends on the connectivity with Piwheels.com

To increase download speed, need to change pypi repository, choose ones with lowest network delay:

<https://blog.csdn.net/pythonstrat/article/details/102863546>

<https://blog.csdn.net/qq_16481211/article/details/81081996>

<https://blog.csdn.net/u011580175/article/details/82292424>

<https://blog.csdn.net/rytyy/article/details/78088682>

<https://www.cnblogs.com/schut/p/10410087.html>

instructions on pip install options and writing requirement files:

<https://pip.pypa.io/en/stable/reference/pip_install/>

configure multiple pypi sources:

<https://blog.csdn.net/waiwaiLILI/article/details/102599976>

does not solve the problems exhaustively: some packages (may be not contained in the local source) still need to be collected from piwheels.org, therefore experiences very low speed:

directly install: flask-socketio msgpack

can be satisfied with current speed: zstd, lz4

may need wheel (or try to change pypi source): websocket

zstd, websocket,

Increase github speed:

<https://www.jianshu.com/p/0493dcc15d6f>

**the MNIST example and Name example has different required packages! And different pytorch / pysyft versions as well!**

|  |  |  |
| --- | --- | --- |
|  | Name | MNIST |
| Pytorch | 1.0.1 | 1.0.0 wheel |
| PySyft | 0.1.13a1 | Compile, newest |
| Packages | **The guide is not complete!**  **Use the guide on git!** |  |

|  |  |  |
| --- | --- | --- |
|  | 3B+ | 4 |
| Pytorch | 1.0.0 compile | 1.0.0 wheel |
| PySyft | 0.1.13a1 | 0.1.13a1 |
| Packages |  | Name |

**No error reported on Pi 4 about syft / torch mismatch, but complained on 3B+.**

**Error 3: 3B+ failed to installed sklearn:**

**Error: failed to build wheel for scipy**