EEC4400

Tutorial on TensorFlow.

Although this tutorial is mainly based on the Windows OS, it is easy to find corresponding methods for MacOS or Linux like Ubuntu.

Anaconda (for python)

Installation

Please visit this official website for Free Download | Anaconda to download the Anaconda. If you are blocked due the the policy, I'll put the latest version of the installation package together with the PDF.

You can simply run the exe file and follow the instructions step by step.

Create a new conda env for python

After you have successfully installed the Anaconda, open the Anaconda prompt, it is just like a PowerShell. When you enter the Anaconda prompt, you should now be in the base env of Anaconda.

Following are the commands that you can follow to create a new environment:

```
# creating an anaconda env whose name is EEC4400 with Python 3.9
# you can modify the name, i.e., EEC4400, and the python version, i.e.,
python=3.9, corresponding to your onw needs
conda create -n EEC4400 python=3.9

# activate the env that you just created
conda activate EEC4400

# change the source channels for conda install
# it is ok for you to use other mirrors that work well in China.
conda config --remove-key channels
conda config --add channels https://mirrors.ustc.edu.cn/anaconda/pkgs/main/
conda config --add channels https://mirrors.ustc.edu.cn/anaconda/pkgs/free/
conda config --add channels https://mirrors.ustc.edu.cn/anaconda/cloud/conda-
forge/
conda config --add channels https://mirrors.ustc.edu.cn/anaconda/cloud/msys2/
conda config --add channels https://mirrors.ustc.edu.cn/anaconda/cloud/bioconda/
conda config --add channels https://mirrors.ustc.edu.cn/anaconda/cloud/menpo/
conda config --set show_channel_urls yes
```

Install the TensorFlow in the anaconda env

Note: For those who do not want to use Anaconda for their Python environment management or those who do not have enough space for Anaconda, once you have installed the Python environment, and have downloaded the corresponding version of pip (e.g., pip2 for Python2 and pip3 for Python3), you can also follow the instruction below in your own environment

Please follow these commands below for TensorFlow installation using pip.

```
# the -i https://pypi.mirrors.ustc.edu.cn/simple/ is for you to specify the
channel that pip will refer to
pip install tensorflow==2.6.2 -i https://pypi.mirrors.ustc.edu.cn/simple/

pip install numpy==1.19.5 pandas==1.2.* matplotlib==3.3.* seaborn==0.12.*
scikit-learn==1.2.* scipy==1.10.* -i https://pypi.mirrors.ustc.edu.cn/simple/

pip install protobuf==3.19.6 -i https://pypi.tuna.tsinghua.edu.cn/simple
```

You can use other versions of TensorFlow but please always check the dependencies between packages.