One Example Course of FAIRT

This is an example manual of FAIRT for windows user. For linux user, the steps are similar.

Step1.

Download FAIRT at https://github.com/cain106002/FAIRT/releases/latest. Please note that all six .h5 files and source code should be all downloaded.

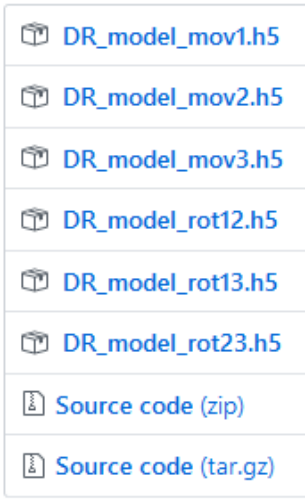

Fig.1

Step2.

Uncompress the source code. Put all files into one directory like Fig.2.

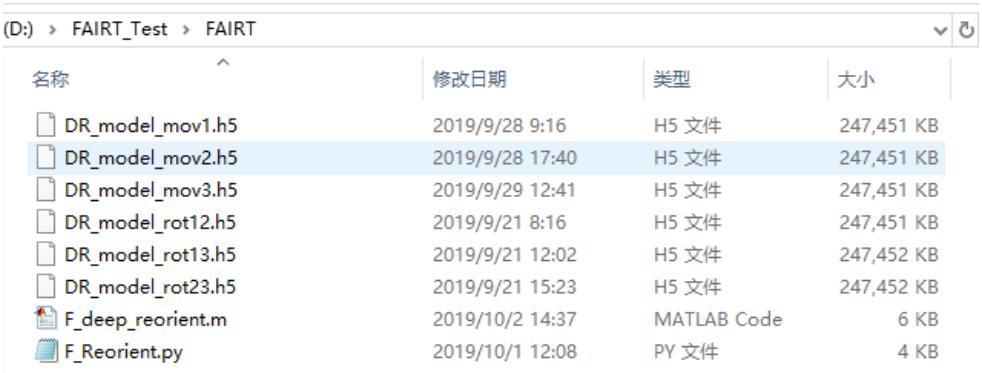

Fig.2

Step3.

Download the DATA_TEST.rar and uncompress it. The uncompressed data was as Fig.3.

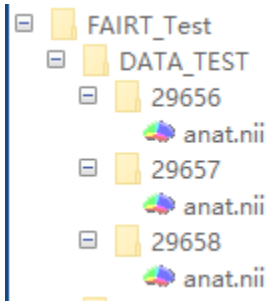

Fig.3

Step4-6 were constructing the running environment. They should be done only at the first time running FAIRT. Here we suggest to use the virtual environment of Anaconda

Step4.

Download Anaconda3.x at https://www.anaconda.com/distribution/#download-section and install it.

Step5.

Open anaconda prompt, and create a virtual environment named FAIRT_ENV

conda create –n FAIRT_ENV

Fig.4

Step6.

Activate FAIRT_ENV. If it is successful, the prefix would turn to FAIRT_ENV.

conda activate FAIRT_ENV

Fig.5

Install tensorflow and keras. The python running environment was constructed. Close the anaconda prompt

pip install tensorflow

pip install keras

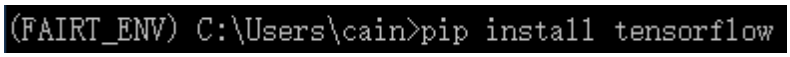

Fig.6

Step7.

Open anaconda prompt and activate FAIRT_ENV

conda activate FAIRT_ENV

Fig.7

Step8.

Open matlab under the FAIRT_ENV. cd to the bin path of MATLAB and then type matlab

Fig.8

Step9.

The downloaded files were arranged as Fig.9

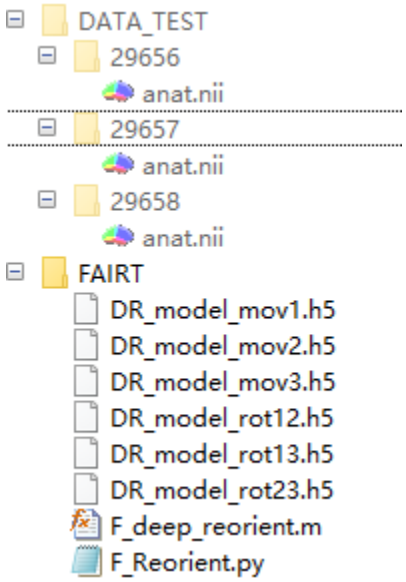

Fig.9

Step10.

cd to the FAIRT directory. (important!)

Step11.

Run FAIRT. The first parameter is the directory path storing .nii files. The second parameter is the directory path storing the output files. The third parameter is the directory path storing temporary files, it should be an empty directory and it will be deleted after the process is done.

F_deep_reorient('..\DATA_TEST','..\DATA_OUT','..\DATA_TMP')

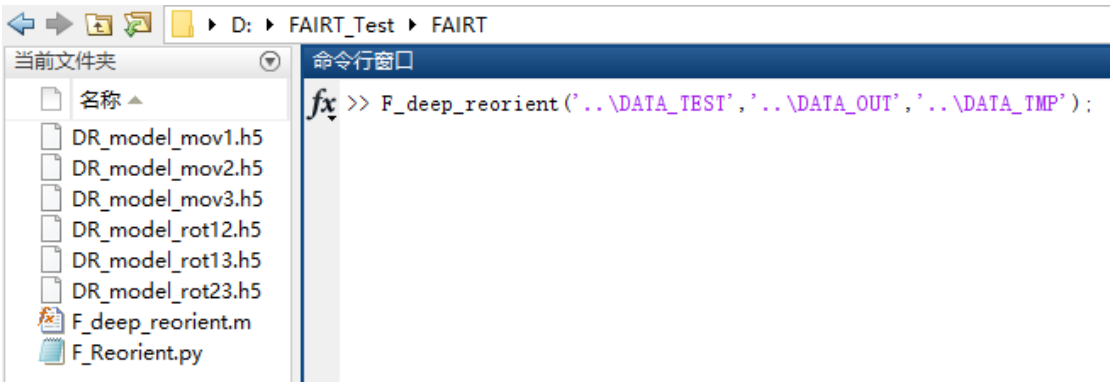

Fig.10

Step12.

The result data was stored in DATA_OUT.

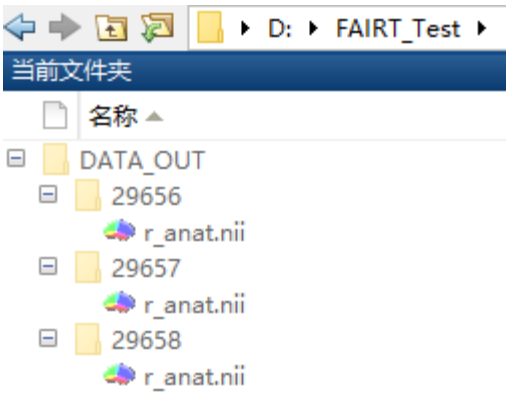

Fig.11