iEEGWorkFlow_OCT2020_ZHANG

Part1-Locate & Import iEEG Data

STEP#1. Make new block/run folder under the subject folder (if it's not already there):

e.g. a folder named '017' inside:
/Volumes/ecog/ECoG_Data/YDJDatafile/DATA/

STEP#2. Copy the raw data into the corresponding block/run folder, each block should include the following files:

e.g. YDJDatafile017.ccf

YDJDatafile017.nev

YDJDatafile017.ns3

YDJDatafile017.ns5

YDJDatafile017.ns6

STEP#3. Convert the (.ns3, .ns5, .ns6) files into one big .mat file:

1) **Method #1**--use a fully automatic one-piece script:
/Volumes/ecog/Foster_Lab/CODE/MASTER/BASICS/Call_convert_code_server_256.m
2) **Method #2**—convert them manually in matlab:

```
>> addpath /Volumes/ecog/Foster_Lab/CODE/EMU_code
   addpath /Volumes/ecog/Foster_Lab/CODE/BASICS
>> openNSx('YDJDatafile017.ns3','p:double');
   openNSx('YDJDatafile017.ns5','p:double');
   openNSx('YDJDatafile017.ns6','p:double');
>> save('YDJDatafile017_rawData', 'NS3', 'NS5', 'NS6','-v7.3');
```

Now the one big .mat file will be automatically stored in:
/Volumes/ecog/ECoG_Data/YDJDatafile/DATA/017

STEP#4. Split the one big .mat file into individual channel files using this one-piece script:

/Volumes/ecog/Foster_Lab/CODE/MASTER/BASICS/ecog_rawData2mat.m

In matlab,

>> ecog_rawData2mat('YDJ',017,121)

Where 'YDJ' is the subject code. In this folder, the data is organized by recording blocks. '019' is the block number, and '121' is the channel number.

NOTE: HOW TO CHECK THE CHANNEL NUMBER FOR A SUBJECT?

this can be found in the subject folder (e.g.):

/Volumes/ecog/ECoG_Data/YDJDatafile/INFO/YDJ_montage.xlsx

OR you can manually add the numbers from each box together by combining the channel numbers from:

/Volumes/ecog/ECoG_Data/YDJDatafile/INFO/YDJ_montage_BOXA.jpg

&

/Volumes/ecog/ECoG_Data/YDJDatafile/INFO/YDJ_montage_BOXB.jpg

Although in this subject, there are only 60 active channels in BOXA, you still need to count the last four blank channels, for example, for YDJ, the total channel number is 64 from BOXA (although only 60 of them are active) + 57 from BOXB = 121 channels.

STEP#5. Copy all the individual channel files into Beauchamplab shared drive:

/Volumes/data/rave_data/raw/YDJ/017

ALL the future processing will happen in:

./data/rave_data/ent_data/EMU_NoisyWords/$subj

NEW:

(after the new name structure in EMU, effective from Jan 13th 2021)

#1. New files are saved as "EMU-001_subj-YXX_task-Test_run-01" instead of "00#" under the subject folder (e.g., YDL).

#2. Each block should include the following files:

e.g. YDLDatafile004.ccf

YDLDatafile004.nev

YDLDatafile004.ns3

YDLDatafile004.ns5

STEP#1. Convert the (.ns3, .ns5) files into one big .mat file:

use a fully automatic one-piece script:
/Volumes/ecog/Foster_Lab/CODE/EMU_CODE /
EMU_subj_Call_convert_code.m

1) In MATLAB, cd to the data folder:

```
cd('/Volumes/ecog/ECoG_Data/YDLDatafile/DATA')
```

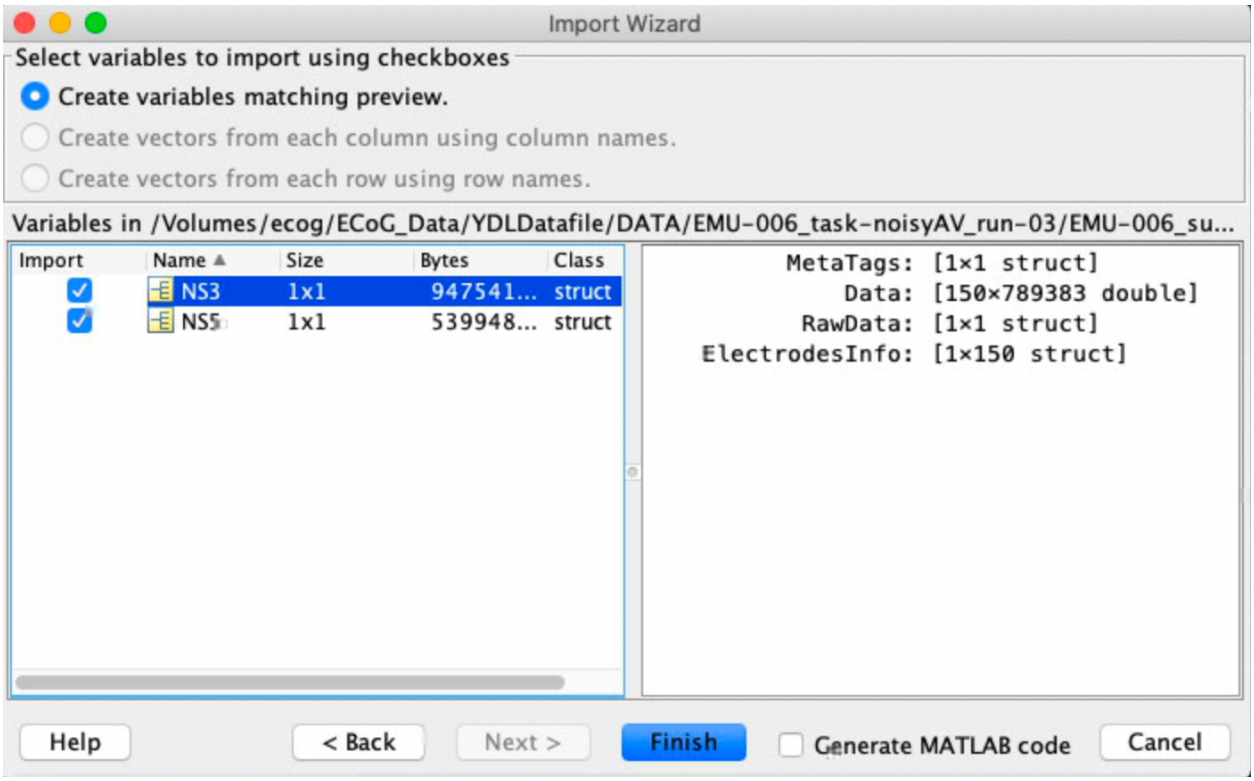
2) call the converting function:

```
EMU_subj_Call_convert_code('YDL',[4:9])
```

Where 'YDL' is the subject code. And [4:9] are the recording blocks

This code will create a folder for each block, and put the relevant files (.ns3, .ns5, .ccf, .nev) inside this folder. It also generates a big .mat file that is readable for MATLAB.

Note: check how many channels are in each block (normally you get this from the patient montage/see notes above, before recording, but you can double check it here): open the generated .mat file in matlab (snapshot below)



In the NS3 file, the data structure is [150 X 789383], so 150 is the channel number, and 789383 is the sample points for block #006.

STEP#2. Split the one big .mat file into individual channel files using this one-piece script:

/Volumes/ecog/Foster_Lab/CODE/ EMU_CODE / EMU_ subj_ecog_rawData2mat.m

1) In MATLAB, cd to the data folder:

```
cd('/Volumes/ecog/ECoG_Data/YDLDatafile/DATA')
```

2) call the function:

```
EMU_subj_ecog_rawData2mat('YDL',[4:9],150)
```

STEP#3. Copy all the individual channel files into Beauchamplab shared drive:

/Volumes/data/rave_data/raw/YDL

ALL the future processing will happen in:

./data/rave_data/ent_data/EMU_NoisyWords/$subj