Meeting summary - iEEG data

Itzik Norman <normanik@gmail.com> 29 October 2018 at 09:51
To: Lionel Barnett <L.C.Barnett@sussex.ac.uk>, Guillaume Corlouer <guillaume.corlouer@gmail.com>
Cc: Anil Seth <A.K.Seth@sussex.ac.uk>, G.Corlouer@sussex.ac.uk, Rafi Malach <Rafi.Malach@gmail.com>

Dear Lionel and Guillaume,
I've uploaded to the CIFAR FTP folder iEEG data from 10 epilepsy patients. Login instructions are attached (same as last time).
The files include the following recordings:

1) Two periods of resting state, 200 seconds each.
2) Two sessions of picture viewing, recorded immediately after the resting-state period (132 seconds each; 28 pictures in total, 1500 duration, 750 ms inter-trial interval). The data was recorded as part of a memory experiment, instructing the patients to try to remember the pictures in detail, emphasizing face expressions, perspectives, lighting, colors etc.
3) 6 hours of night sleep, recorded the night before the experiment. (Please note that some of the data is still uploading)

In six patients we were also able to collect natural viewing data using the eye-tracking Goggles - I will prepare and upload the data later on, when needed.

Data format:
The data is stored in EEGLAB datasets. I uploaded two versions, the first contains a raw, non-filtered signal, referenced to a vertex screw or sub-dermal electrode and re-sampled at 500Hz. The data contain all electrodes, including noisy contacts - so please be aware.
In the second version the data is already converted to bipolar derivations ("bipolar referencing scheme").
Here is a short description of the preprocessing steps:
(1) Converting the iEEG signals to bipolar derivations by pairing adjacent electrode contacts and subtracting the signals. Recording sites in the hippocampus were paired with a nearby white-matter electrode, identified anatomically using FreeSurfer's segmentation. (2) Re-sampling each bipolar derivation at 500Hz. (3) Removing 60 Hz interference (including its harmonics) using a zero-lag linear-phase Hamming windowed FIR band-stop filter (implemented in EEGLAB).

Electrode locations are stored in the EEGLAB datasets as MNI coordinates. Later on, if needed, I'll be able to send you a much more detailed anatomical analysis, using FreeSurfer cortical parcellation.

Patients demographic details:

Initials	**Age**	**gender**	**language**	**bipolar electrode pairs**					
				all	visual	V1/V2	intermediate	face-selective	place-selective
DiAs	28	m	english	68	15	2	2	6	0
AnRi	50	m	spanish	55	14	2	6	0	0
BeFe	44	f	english	77	10	2	1	1	0
AnRa	29	f	english	57	21	3	3	3	0
JuRo	34	f	english	68	18	2	2	3	2
SoGi	30	f	spanish	95	15	0	0	3	3
NeLa	29	f	english	123	27	0	0	1	7
FaWa	55	f	english	122	7	0	0	1	0
ArLa	27	f	english	154	40	1	2	11	3
KiAl	33	f	english	93	10	0	0	3	0
avg	**35.90**			**912**	**177**	**12**	**16**	**32**	**15**
std	**10.07**								

Please let me know if you have any questions or further requests.
Looking forward to working with you on this interesting and promising project.

Best,

Itzik
[Quoted text hidden]

FTP instructions - CIFAR project.pdf
254K