**Weekly Work Report 6/14/2024**

**This Week:**

**Working on the new dataset**

* **Meeting with Gai**
* **Data preprocessing**
* **Data Analysis**
* **Missing Data/ Some data confused**
  + EEG Signals
  + **New software OpenBCI** <https://github.com/OpenBCI>
  + **Convert to csv file**
  + **Data Analysis (EEG)**

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Sample Index EXG Channel 0 EXG Channel 1 EXG Channel 2 EXG Channel 3 EXG Channel 4 EXG Channel 5 EXG Channel 6 EXG Channel 7 EXG Channel 8 EXG Channel 9 EXG Channel 10 EXG Channel 11 EXG Channel 12 EXG Channel 13 EXG Channel 14 EXG Channel 15 Accel Channel 0 Accel Channel 1 Accel Channel 2 Other Other Other Other Other Other Other Analog Channel 0 Analog Channel 1 Analog Channel 2 Timestamp Other Timestamp (Formatted)

https://docs.openbci.com/Software/OpenBCISoftware/GUIDocs/

A screenshot of a computer

Description automatically generated

| **Column** | **Name** | **Description** |
| --- | --- | --- |
| 1 | Sample Index | The index of the sample per second (0-250) |
| 2 | EXG Channel 0 | EEG/EMG/ECG channel connected to N1P pins on Cyton |
| 3 | EXG Channel 1 | EEG/EMG/ECG channel connected to N2P pins on Cyton |
| 4 | EXG Channel 2 | EEG/EMG/ECG channel connected to N3P pins on Cyton |
| 5 | EXG Channel 3 | EEG/EMG/ECG channel connected to N4P pins on Cyton |
| 6 | EXG Channel 4 | EEG/EMG/ECG channel connected to N5P pins on Cyton |
| 7 | EXG Channel 5 | EEG/EMG/ECG channel connected to N6P pins on Cyton |
| 8 | EXG Channel 6 | EEG/EMG/ECG channel connected to N7P pins on Cyton |
| 9 | EXG Channel 7 | EEG/EMG/ECG channel connected to N8P pins on Cyton |
| 10 | EXG Channel 8 | EEG/EMG/ECG channel connected to N1P pins on Daisy |
| 11 | EXG Channel 9 | EEG/EMG/ECG channel connected to N2P pins on Daisy |
| 12 | EXG Channel 10 | EEG/EMG/ECG channel connected to N3P pins on Daisy |
| 13 | EXG Channel 11 | EEG/EMG/ECG channel connected to N4P pins on Daisy |
| 14 | EXG Channel 12 | EEG/EMG/ECG channel connected to N5P pins on Daisy |
| 15 | EXG Channel 13 | EEG/EMG/ECG channel connected to N6P pins on Daisy |
| 16 | EXG Channel 14 | EEG/EMG/ECG channel connected to N7P pins on Daisy |
| 17 | EXG Channel 15 | EEG/EMG/ECG channel connected to N8P pins on Daisy |
| 18 | Accel Channel 0 | Accelerometer channel 0 (X) |
| 19 | Accel Channel 1 | Accelerometer channel 1 (Y) |
| 20 | Accel Channel 2 | Accelerometer channel 2 (Z) |
| 21 | Not Used | See below |
| 22 | Digital Channel 0 (D11) | See below |
| 23 | Digital Channel 1 (D12) | See below |
| 24 | Digital Channel 2 (D13) | See below |
| 25 | Digital Channel 3 (D17) | See below |
| 26 | Not Used | See below |
| 27 | Digital Channel 4 (D18) | See below |
| 28 | Analog Channel 0 | Analog channel 0 |
| 29 | Analog Channel 1 | Analog channel 1 |
| 30 | Analog Channel 2 | Analog channel 2 |
| 31 | Timestamp | Unix timestamp |
| 32 | Marker Channel | Channel for adding manual markers to data |
| 33 | Timestamp (Formatted) | Year-Month-Day Hour:Minute:Second (Not in BrainFlow csv) |

Depending on the [Cyton board mode](https://docs.openbci.com/Cyton/CytonSDK/" \l "board-mode), the other channels will not display meaningful data.

**WMC:** Prof. K& Gai

**Next Week:**

* Review **literature** on relevant signals.
* Collaborate with Gai on the new dataset:
  + Be familiar with WMC
  + Schedule a meeting with Xuanchang and **Gai** , Prof. K, to discuss the experiment data.
  + Feature selection for Empatica and EEG signals