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

**This Week:**

**Paper:**

* + - Soleymani, M., Villaro-Dixon, F., Pun, T., & Chanel, G. (2017). *Toolbox for Emotional feAture extraction from Physiological signals (TEAP)*

EEG data preprocessing: Data analysis

Stage\_1: result summary table

WMC data extraction

Meeting with Wiam (Wedesday)

1. **Working on the EEG Dataset**
   * **Dataset Discussion:**
     + Gained a deeper understanding of our new experimental dataset.
     + Learned about the specific brain regions represented by each channel.
     + Channel 0 to Channel 15

A close-up of a device

Description automatically generated A diagram of a circular object with numbers and a number

Description automatically generated with medium confidence

* + - Explored the approach for extracting WMC (Working Memory Capacity) data.
  + **Data Preprocessing (EEG):**
    - Successfully converted the txt files to csv format.
    - Removed irrelevant columns that didn’t contribute much information.
    - Example: Subject\_12

A group of graphs showing different colors

Description automatically generated

1. Remove begin and end
2. Filter, high, low (0.5 – 65) (Xuanchang, Wiam)
3. Other approaches (paper, software, etc.)
4. Related papers (EEG data preprocessing), open source
5. Timestamp
6. Label: is it possible to use EEG to label Impasse? Attention
7. Clicker vs EEG special? Normal? (time)
8. The meaning of regions

A screenshot of a graph

Description automatically generated

A graph with red dots

Description automatically generated

A graph with red dots and numbers

Description automatically generated

* + **Jupiter Notebook Creation for Models in Stage I:**
    - Created separate Python files for each step (data preprocessing, processing, feature extraction, and model selection).
    - As requested by Gai, I merged all functions into a single notebook for a better result summary.

**Next Week:**

* Review literature on EEG signal features.
* Schedule a meeting with Wiam and Gai to discuss EEG signal noise reduction and feature extraction.
* Continue data processing for OSHA.
* Consider label settings.