

PhyMER Dataset

The physiological Dataset for Multimodal Emotion Recognition with Personality as a Context (PhyMER) dataset consists of multimodal physiological data for Emotion recognition.

Dataset Summary

The PhyMER dataset consists of the recorded physiological signals, participants' personality information, and emotion annotations in terms of Arousal, Valence, and seven basic emotions.

Modality: Electroencephalogram(EEG), Electrodermal Activity(EDA), Blood Pulse Volume(BVP), Heart Rate(HR), Peripheral Skin Temperature(TEMP), Personality Traits

Labels:

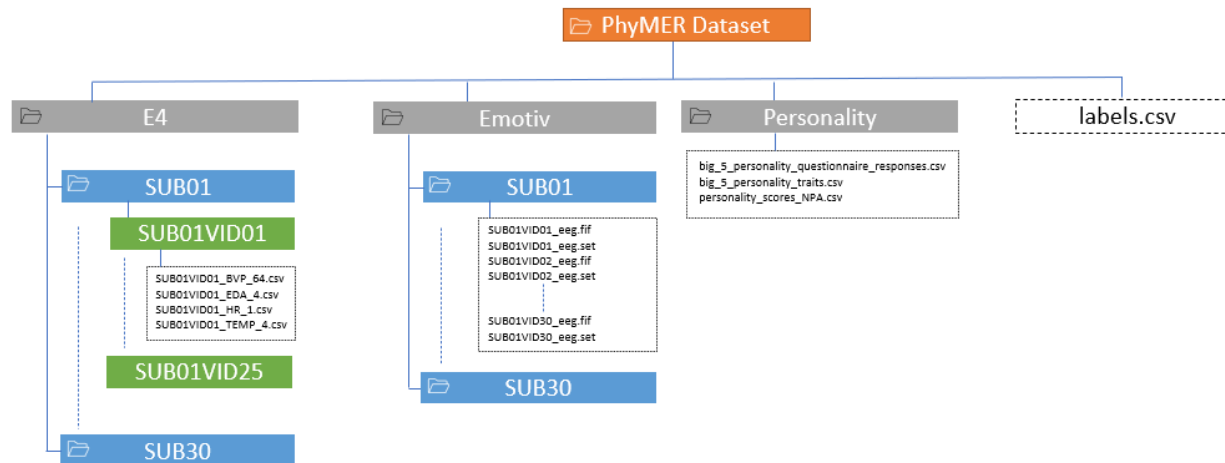
- Arousal and valence(1-9)
- Seven Basic Emotions(Anger, Disgust, Fear, Happy, Neutral, Sad, Surprise)

File Listing

The dataset folder consists of the following contents

1. E4 : contains the multiple modality data obtained from Empatica E4 wristband grouped by subject IDs
2. Emotiv: contains the EEG data obtained from the Emotiv EpocX headset
3. Personality: Personality Questionnaire, Big-5 Personality trait scores, and Personality score interpretation according to Newcastle Personality Assessor (NPA) questionnaire method.

The folder structure of the dataset is as illustrated below:



File Format

E4 Data

The data is stored in CSV format and filenames follow the following structure:

experimentID_signalType_samplingFrequency.csv (experiment Id is formed by combining subject id and stimulus video id)

Emotiv Data

The data is stored in two different formats.

FIF format: as used by MNE Python

SET format: as used by EEGLab

Personality

Personality information was recorded using a Newcastle Personality Assessor (NPA) questionnaire method. The files are in CSV format:

- *big_5_personality_questionnaire_responses.csv*: contains original questionnaire responses of the participants.
- *big_5_personality_traits.csv*: contains the Big-5 personality trait interpretation of the questionnaire responses

- *personality_scores_NPA.csv*: contains the NPA interpretation of the Big-5 personality traits in terms of low, medium-low, medium-high, and high.

Labels

Labels include self annotations of the participants for arousal, valence, and basic emotions.

- *labels.csv*: (experiment_code, arousal, valence, emotion) contains the annotations by the participants for each stimulus video.

Missing Data

Due to device malfunction following samples are missing:

- Eight samples for Subject SUB10(SUB10VID09-SUB10VID16) were excluded due to the device malfunctioning during the experiment.