

# **Brief Description of Folder Contents**

## **1. previous\_versions**

This folder contains previous versions of the code and a folder showing connectivity matrices at different sampling rates.

## **2. EMOTIONS 1**

2.1. **filter\_EMOTIONS\_1.m** – contains code for preprocessing, epoching, calculation of connectivity matrices and plotting the matrices.

2.2. **m\_to\_v\_EMOTIONS\_1.m** – contains code for matrices to feature vectors transformation.

2.3. **GCmodel.m** – custom function for calculating Granger causality.

The remaining data for this dataset can be found on this link:

[https://drive.google.com/drive/folders/1hMaySEDi-asqwkFtEDawtoNZc4KpcoY?usp=drive\\_link](https://drive.google.com/drive/folders/1hMaySEDi-asqwkFtEDawtoNZc4KpcoY?usp=drive_link)

## **3. EEG MOTOR MOVEMEN-IMAGERY DATASET**

3.1. **filter\_EOC.m** – contains code for preprocessing, epoching and calculation of connectivity matrices.

3.2. **m\_to\_v\_EOC.m** – contains code for matrices to feature vectors transformation.

3.3. **GCmodel.m** – custom function for calculating Granger causality.

The remaining data for this dataset can be found on this link:

[https://drive.google.com/drive/folders/19exjFpFjpv\\_8FvY61ggiMn3WdqTi7Kja?usp=sharing](https://drive.google.com/drive/folders/19exjFpFjpv_8FvY61ggiMn3WdqTi7Kja?usp=sharing)

## 4. EMOTIONS 2

- 4.1. **filter\_EMOTIONS\_2.m** – contains code for preprocessing, calculation and plotting of Bivariate Autoregressive Model Prediction Error and calculation of connectivity matrices.
- 4.2. **m\_to\_v\_EMOTIONS\_2.m** - contains code for matrices to feature vectors transformation.
- 4.3. **GCmodel.m** – custom function for calculating Granger causality.

The remaining data for this dataset can be found on this link:

[https://drive.google.com/drive/folders/15wj3d4nY\\_kgkpo-MSyzz2wlB1R6BYb90?usp=drive\\_link](https://drive.google.com/drive/folders/15wj3d4nY_kgkpo-MSyzz2wlB1R6BYb90?usp=drive_link)

## 5. SEED

- 5.1. **filter\_SEED.m** - contains code for preprocessing and calculation of connectivity matrices.
- 5.2. **m\_to\_v\_SEED.m** – contains code for matrices to feature vectors transformation.
- 5.3. **mrmmr.m** - contains code for application of **fscmrmmr** function, feature scores extraction and plotting, MRMR-based feature ranking plotting, application of **plotEEGConnectionMap** function (this function is available in the same folder).
- 5.4. **avg\_2D.m** – contains code for training of a neural network model, plotting the confusion matrices for both test and train data, calculation of average gradient map using custom function **gradientMap** (this function is also available in the same folder), plotting of the average gradient map and application of **plotEEGConnectionMap** function.

The remaining data for this dataset can be found on this link:

[https://drive.google.com/drive/folders/1j8zuROcLIGhuaFTiEMX\\_cSbgI5xmX8AG?usp=sharing](https://drive.google.com/drive/folders/1j8zuROcLIGhuaFTiEMX_cSbgI5xmX8AG?usp=sharing)

