

# Instructions

Thank you for participating in the 2019 emteq Activity Recognition Challenge! You will find below some information about the data and challenge.

## Dataset and Subjects:

Each directory contains a single .csv file containing data from an individual using a wearable device with an IMU sensor built-in.

Subjects 0001, 0002, and 0003 are training datasets with the activity types on display. Subject 0004 is a test dataset with the activity type removed.

## Headers:

The header information for each .csv file is:

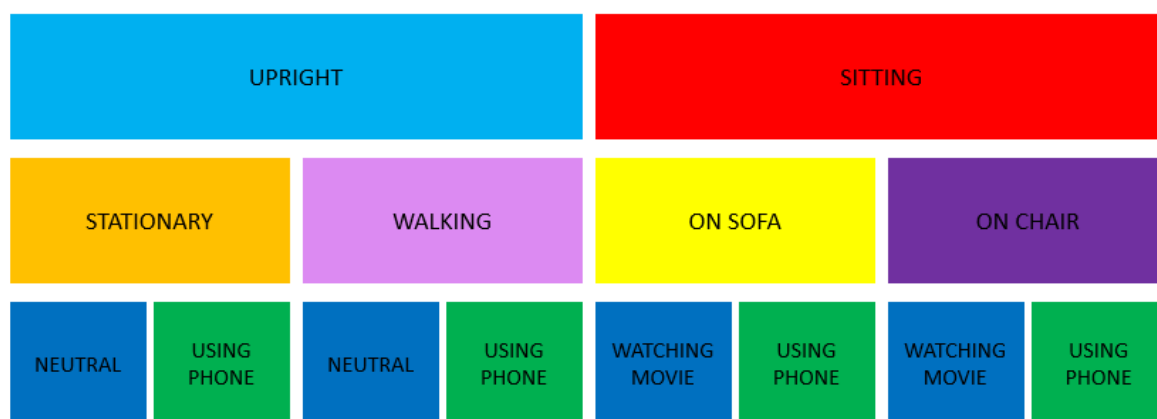
timestamp, AccX, AccY, AccZ, GyroX, GyroY, GyroZ, MagX, MagY, MagZ, Activity

## Goal and activities:

The goal is to recognise 8 activities.

The activities concern daily living recorded over approximately 4 hours whilst simultaneously video recording the participants to verify the annotations. The activities were performed when upright (standing stationary vs. walking), or sitting (sitting at a desk on a chair vs. sitting on a sofa). During these activities, the individual may or may not be using a smartphone thus there are 4 main classes of activities (standing, walking, sitting on a chair at a desk, sitting on a sofa), and up to 8 sub-categories of activities. We recognise that the dataset size is limited which will make identification of all subcategories challenging.

Thus activity types are categorised as shown below:



- 1a – upright walking
- 1b – upright walking with smartphone
  
- 2a - sitting on sofa watching movie
- 2b - sitting on sofa with smartphone
  
- 2c - sitting on chair working on laptop
- 2d - sitting on chair working on smartphone
  
- 3a - upright standing stationary
- 3b - upright standing with smartphone

The activity type labelled "TRANSITION" is the time in which subjects 'transitioned' from one activity to the next. This "TRANSITION" activity should not be used to train the model, and you will not be required to label this activity in the subject 004 dataset.

Please provide a label per timestamp. The winner will be the entrant who obtains the best F1-score evaluation. If two or more participants obtain the best same result, the committee will elect the one with the best methodology.

**File submission:**

Results should be submitted in a CSV file containing two columns: (1) timestamp and (2) activity. Please, use headlines "**timestamp**" and "**activity**" as default. Each prediction (row in CSV file) should contain a timestamp and the activity predicted.

Please send your file to [claire.baert@emteq.net](mailto:claire.baert@emteq.net) by 30<sup>th</sup> August 2019.

timestamp	activity
2019-07-10_141406:660	2a
2019-07-10_141406:680	2a
2019-07-10_141406:700	1b