

Final Term project (phase II) grading criteria

I. Matlab code (400 points)

- 1) Each section will be graded individually according to the accomplishment
- 2) The codes must be organized as specific sections by “%%”. Sections must include
 - a. Input file (50 points)
 - b. Filter signal (50 points)
 - c. Detect spikes (50 points)
 - d. Align spikes (50 points)
 - e. Extract features (50 points)
 - f. Cluster spikes (50 points)
 - g. Classify spikes (50 points)
 - h. Analysis (50 points)
- 3) Detailed comments are required in all sections
- 4) Each section has to be able to be a) executed individually and b) generate the input/output figures. The figures have to be well titled
- 5) Sufficient comment in code will seriously impact the grading
- 6) **Grading criteria for each section: CORRECT execution (40 points), readability (10 points)**
- 7) The beginning of the first section “Input file” should be as follows:

```
-----  
%% Inputfile  
M= csvread('EMG_example_2_fs_2k.csv'); %read in csv file  
time= M(:,1); % first column is the time series  
fs= (time(2)-time(1))^-1; % calculate the sample frequency  
channel_number= size(M,2)-1; % num of channels in the database  
for i=1:channel_number,  
    figure('Color',[1 1 1]);plot(time,M(:,i+1)); %plot each channel  
    str= sprintf('Channel %d',i);  
    xlabel('seconds');title(str);xlim([time(1) time(size(time,1))]); % label and title each plots  
end  
channel_select= 1; % select channel for testing. channel_select<= channel_number  
test_input= M(:,channel_select+1); %test_input will go through all the individual sections  
-----
```

Note:

1. The test file and channel can be randomly assigned for grading evaluation.
2. For *EMG_example_1_90s_fs_2k.csv*, you will have to type in the sample rate fs=2000 and arrange the time series accordingly.

II. Report (100 points)

- 1) Use **PowerPoint format**
- 2) Introduction/Method description (20 points)
- 3) Results and figures of 8 building section for 3 test databases (40 points)
- 4) Discussion of the results of each section and conclusion (40 points)
- 5) Avoid long and tedious description and focus at important points

III. Bonus (Each up to 100 points)

- 1) Advanced processing and analysis methods
- 2) Outstanding performance
- 3) Best 3 projects of the class