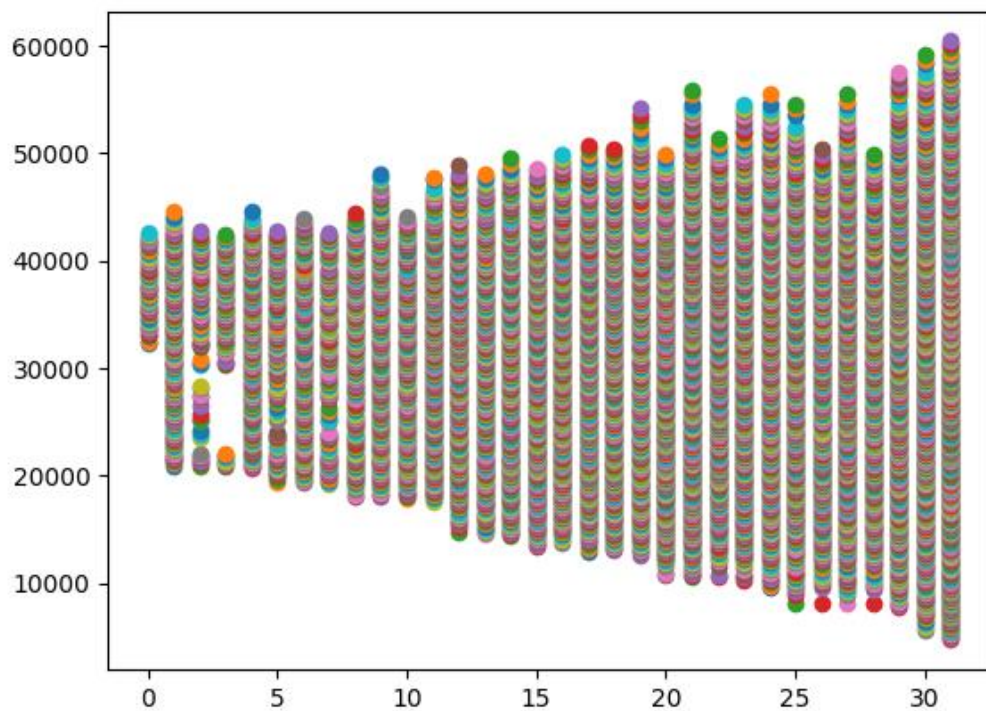


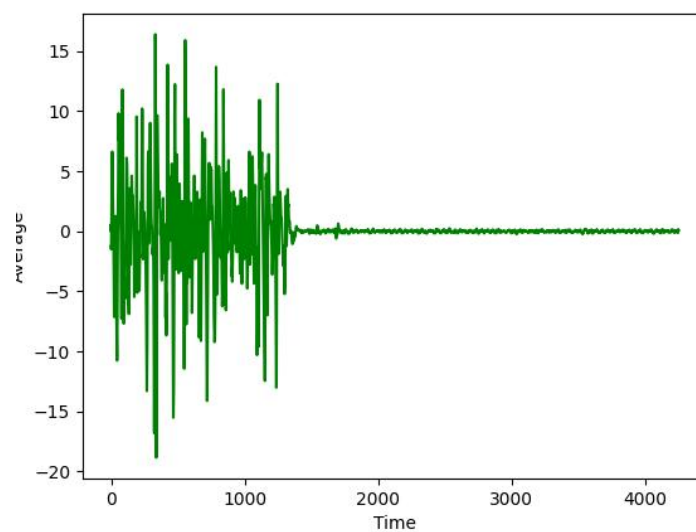
Task1



1.1. As seen from the image the scatter plot was used to get the peak interaction of each motor neuron and with respect to its samples it can be used with time as well by fs but changed it to this way as there will be no change in image

1.2. Of course the relation is that the higher MU have more spikes so that means more work is done by them so that means they were triggered more in higher frequency and higher sampling so it is the small ones as for big ones are

Task 2:



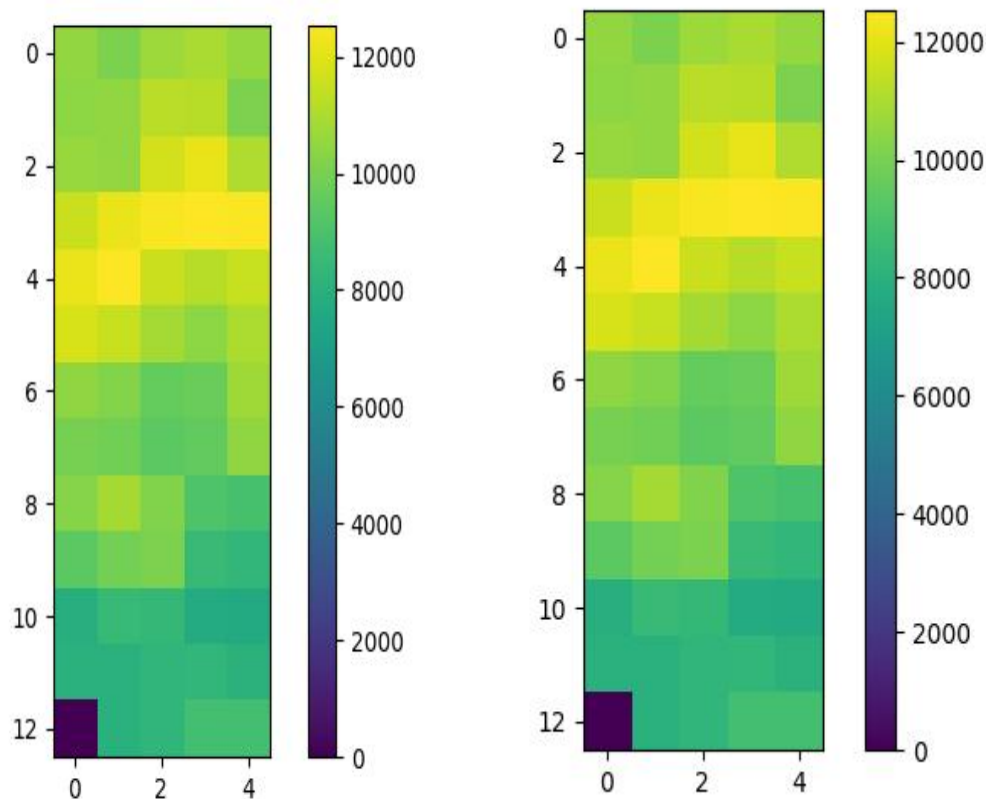
The signal used was used here in fast , so we have multiple peaks and cause we had made a code to get an average min to max relation to get average window size which we got from SIG 2.875 we could have bigger window which is good thing that covers all the signal and multiple but will also have zeros in the end cause it will be where the min is done is

The way this is done

1. Will make the trigger of samples as indexes of time
2. See eavh trigger as spike in 64 channels in 32 MU
3. Make array of array of array where the big one is 32 MU then 64 channels then the SIG signals
4. Make a window of length as described above
5. Get the signal as sum of points of each index and use the advantage that all window size *2 have same samples so be able to get sum
6. Divide to get avg
7. Get the RMS of the product
8. Loop this 32 *64 Times

That is why in code we had decreased from # will change here len(TheMaxVecArrayM) to just 2 cause of speed
for msscs in range(28,30):

Task 3:



3.3 The heat map is an amazing way to get the scalar position relation in regard of knowing both the samples times and signal so what happened as a continous in 2 is make the frames of index of time make the samples and be the trigger so for example MU 0 got triggered 50 times so have 50 summitions of 50 windows although the windows being big and so, it won't have much diffrecne to 128 of MU2 that much big cause there will have same area so larger sum but rather very close Average which can be seen in heatmap as well although it should be bigger in larger area so when

tried to reduce the window size to 0.125 so $1/8$ to be more precise, it had nearly the same heatmap which doesn't make sense unless the number of spikes are way way much higher in further MU and the change is close that make near near difference to see in heatmap