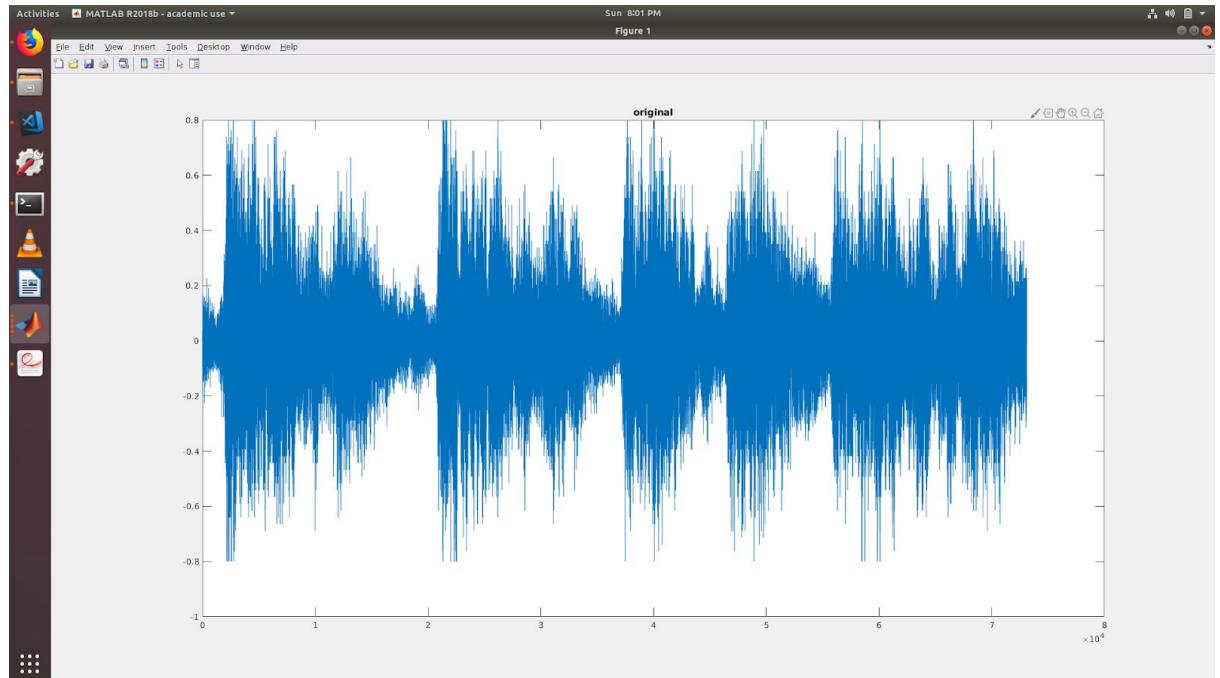


DSAA - ASSIGNMENT - 1-REPORT

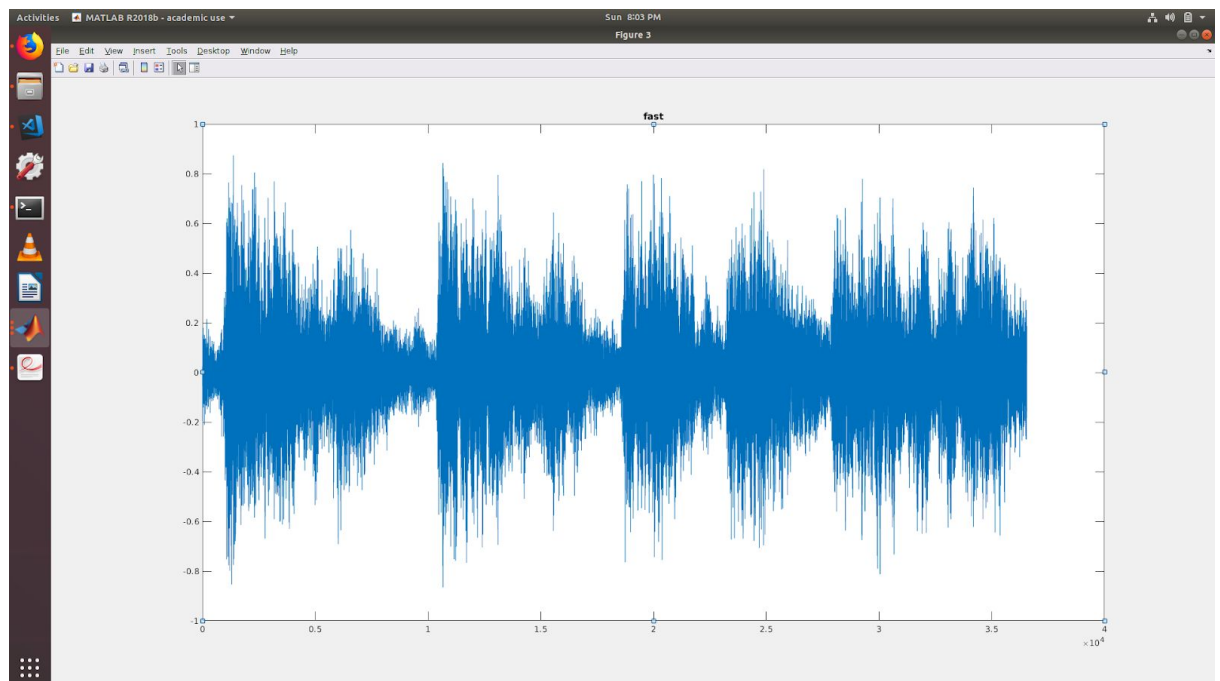
PARYUL JAIN - 20171083

Q1).

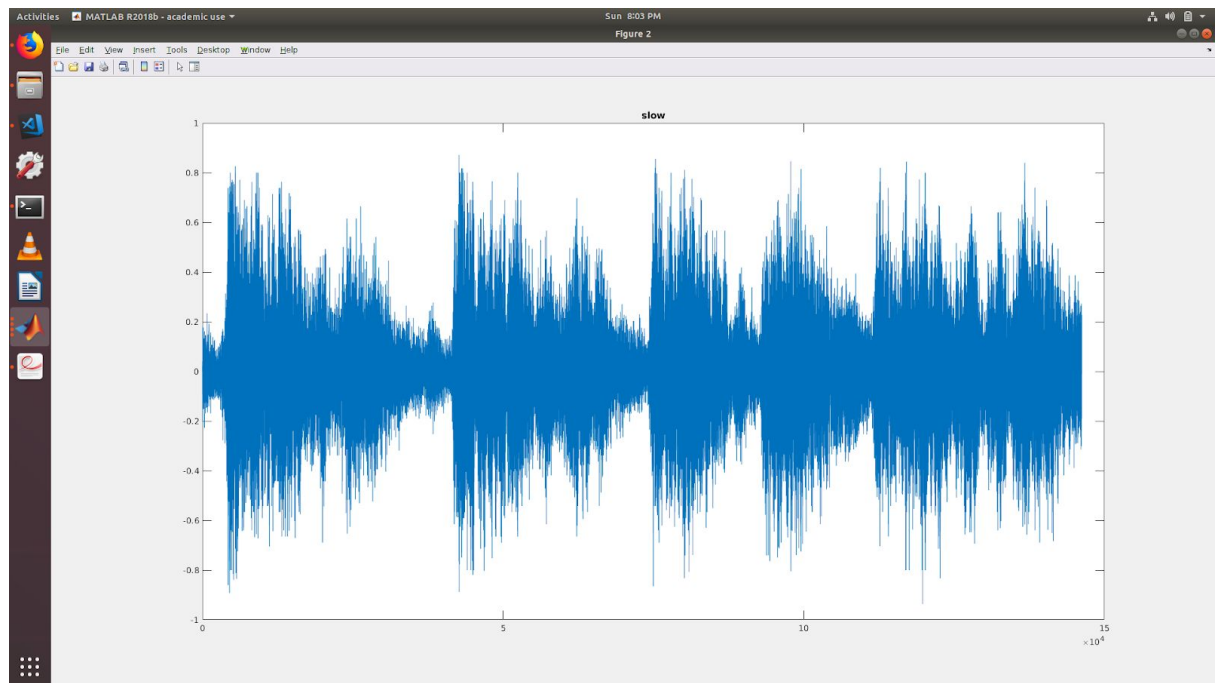
ORIGINAL SOUND:->



FAST SOUND :->



Slow:->



We can see the change in scales . The slow sound gets elongated , and the fast compresses.

Q3).

COR-RELATION:->

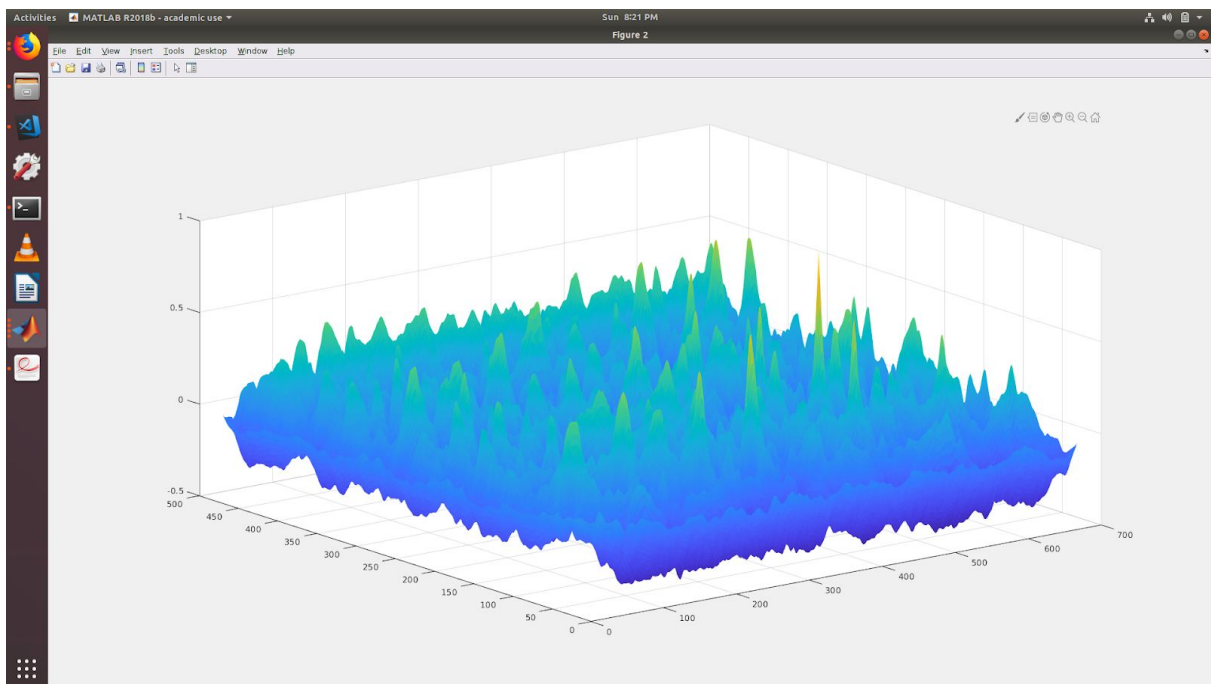
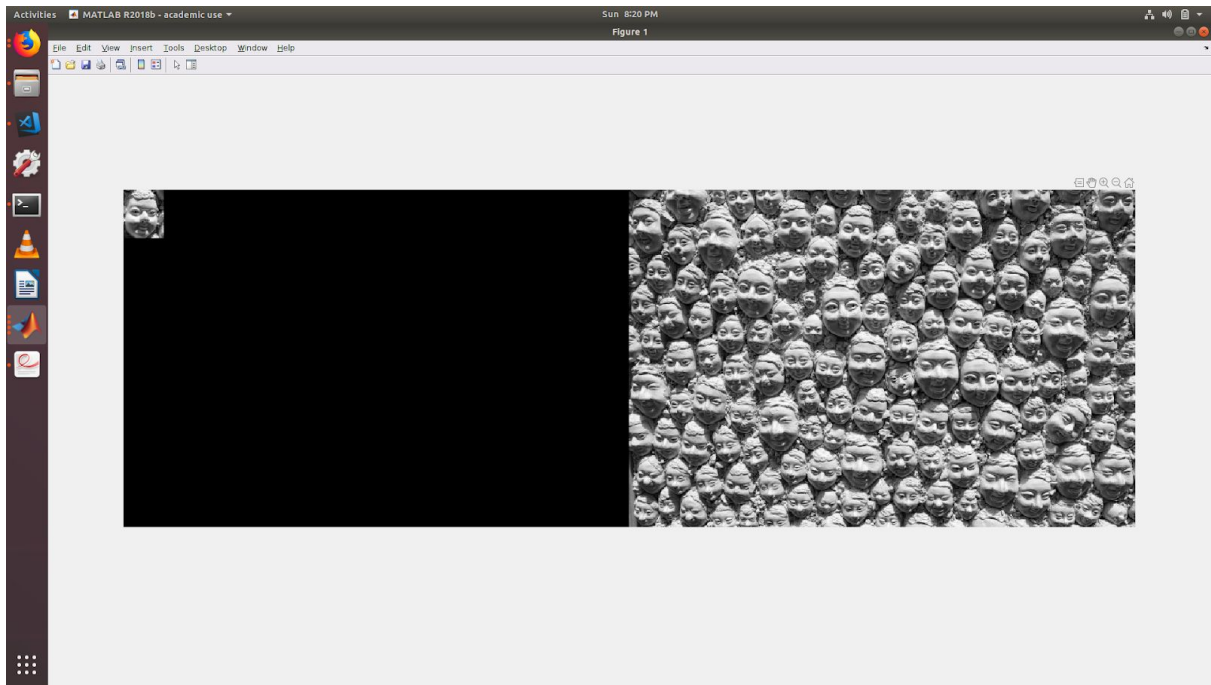
We first perform a correlation to find the most correlated area.

Normxcorr2 : performs 2D correlation. It works only on grayscale images.

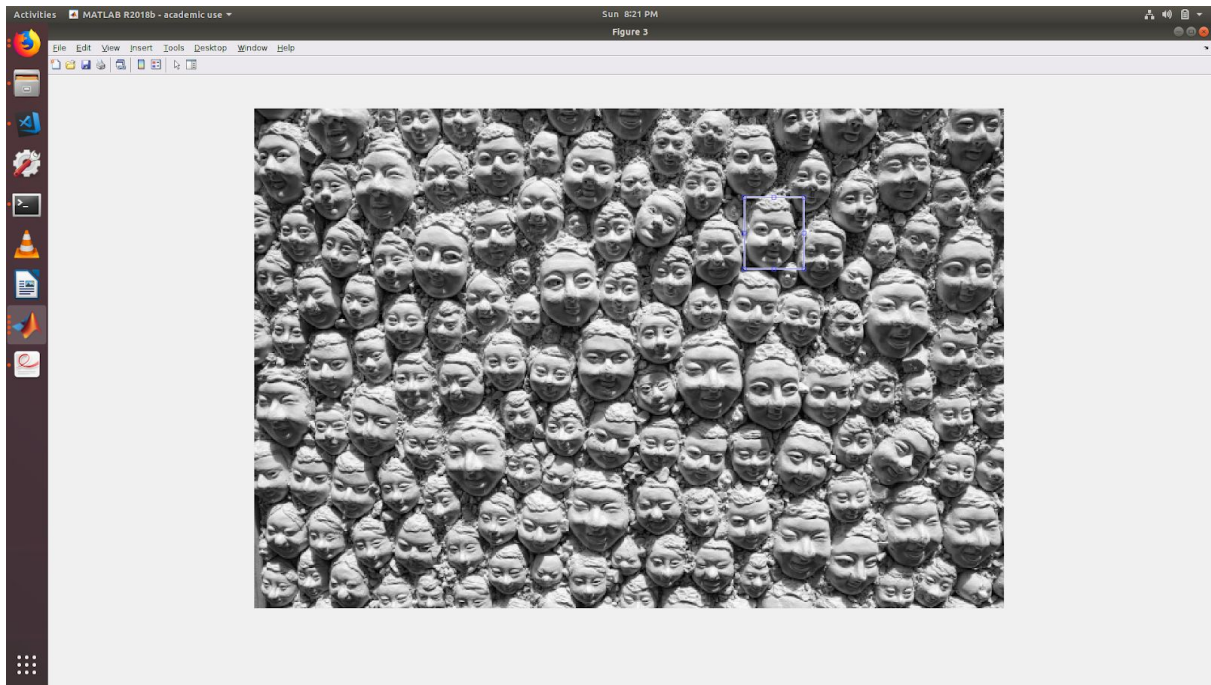
The total offset or translation between images depends on the location of the peak in the cross-correlation matrix, and on the size and position of the sub images.

This will not work if the image on which we have to search has noise. Since there will not be proper peaks.

To search for noisy images , the noisy images can be first passed through gaussian filter to remove the noise and then again searched for in the big image.

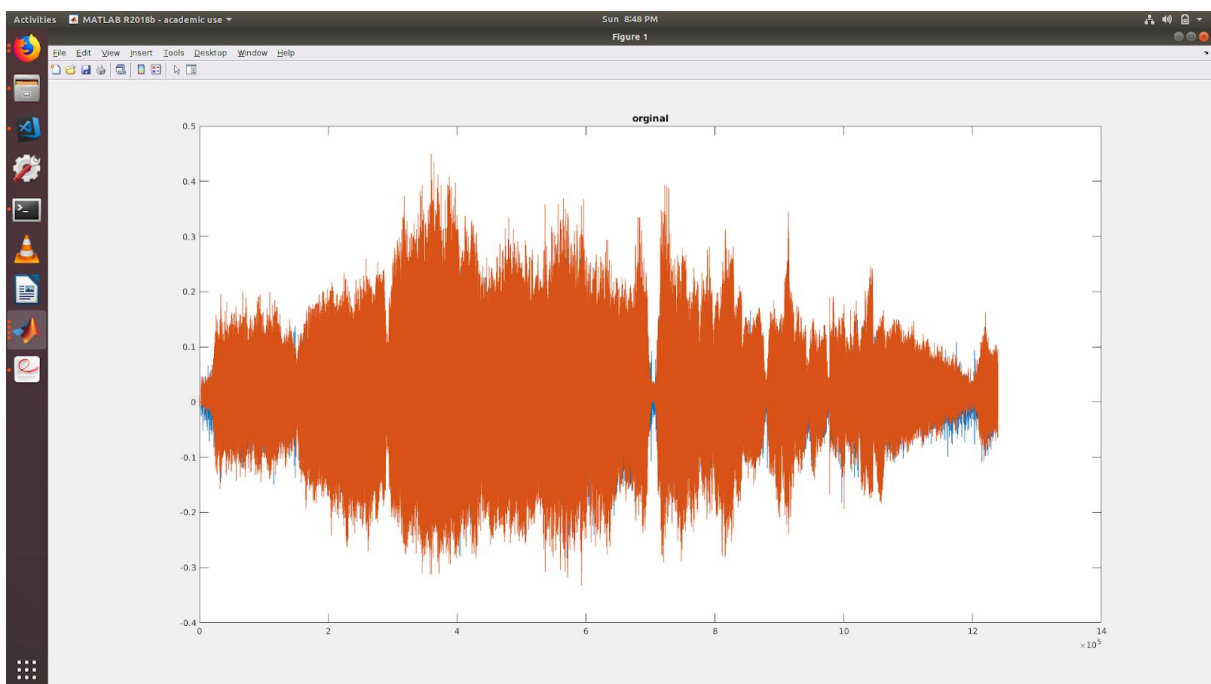


Cross - correlation matrix

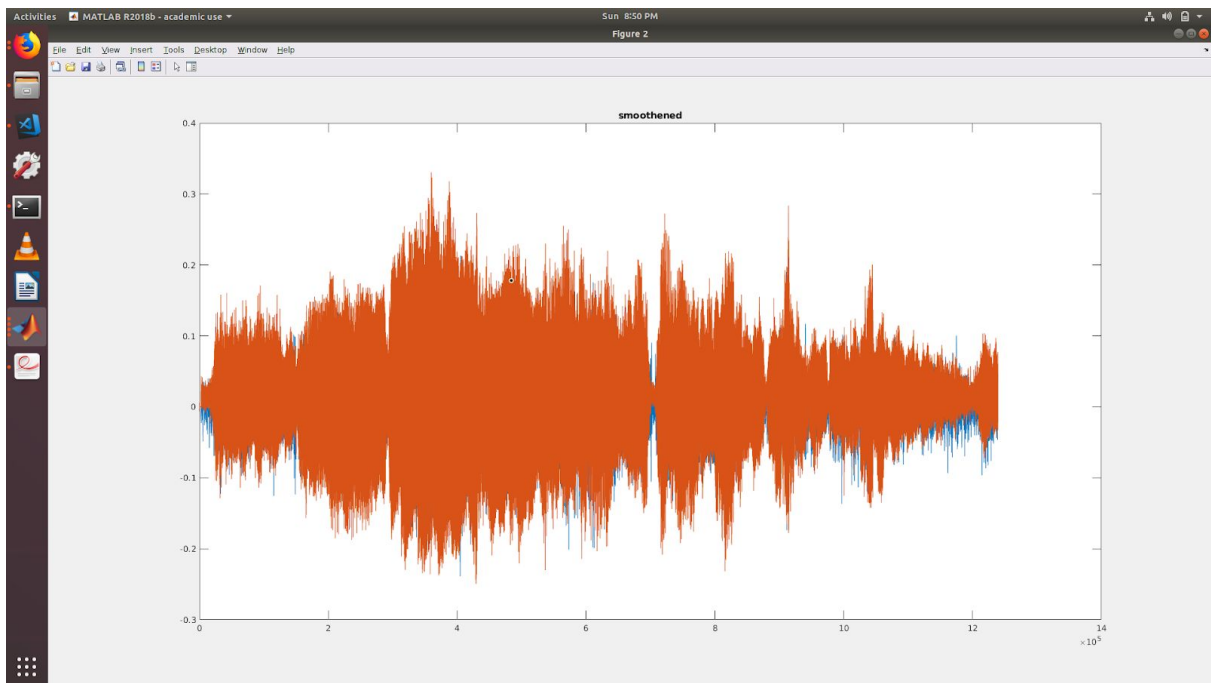


Detected image

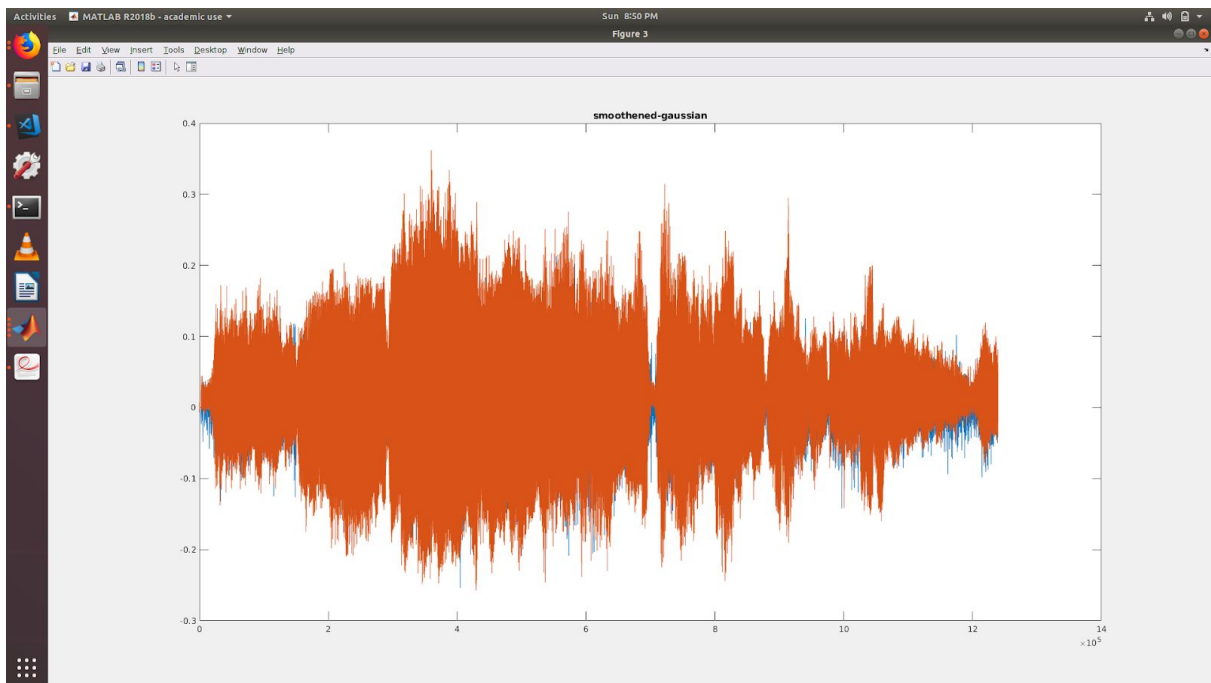
Q5).



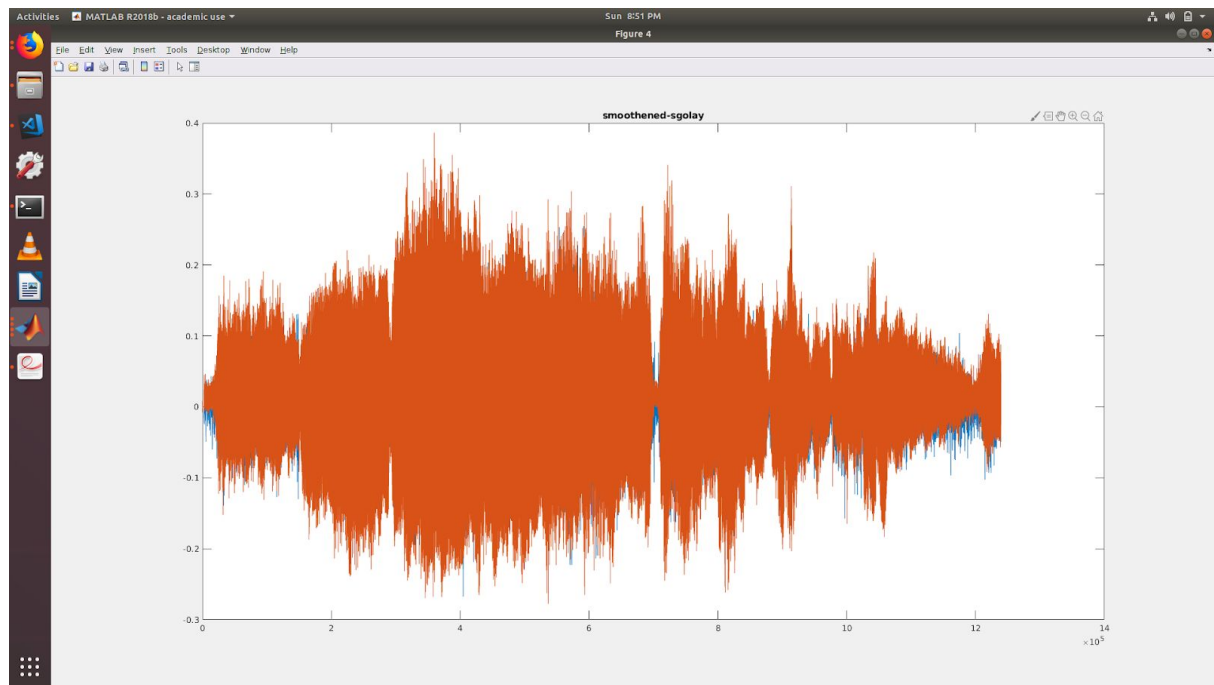
Original



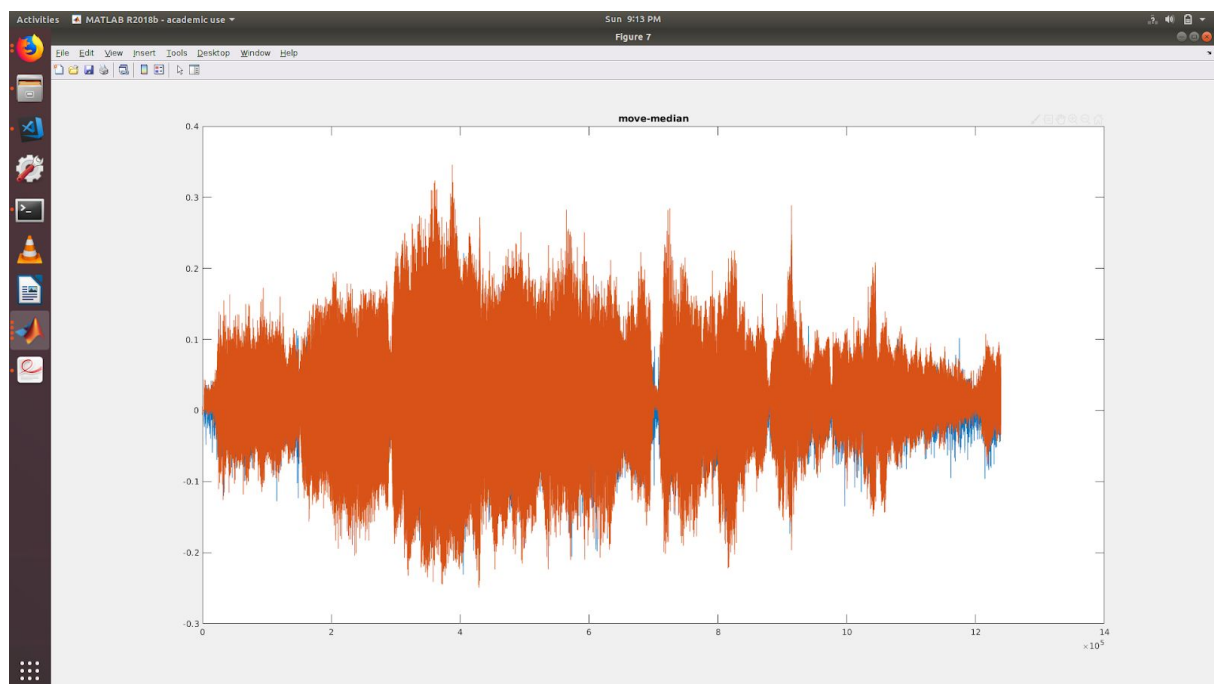
Using smoothdata



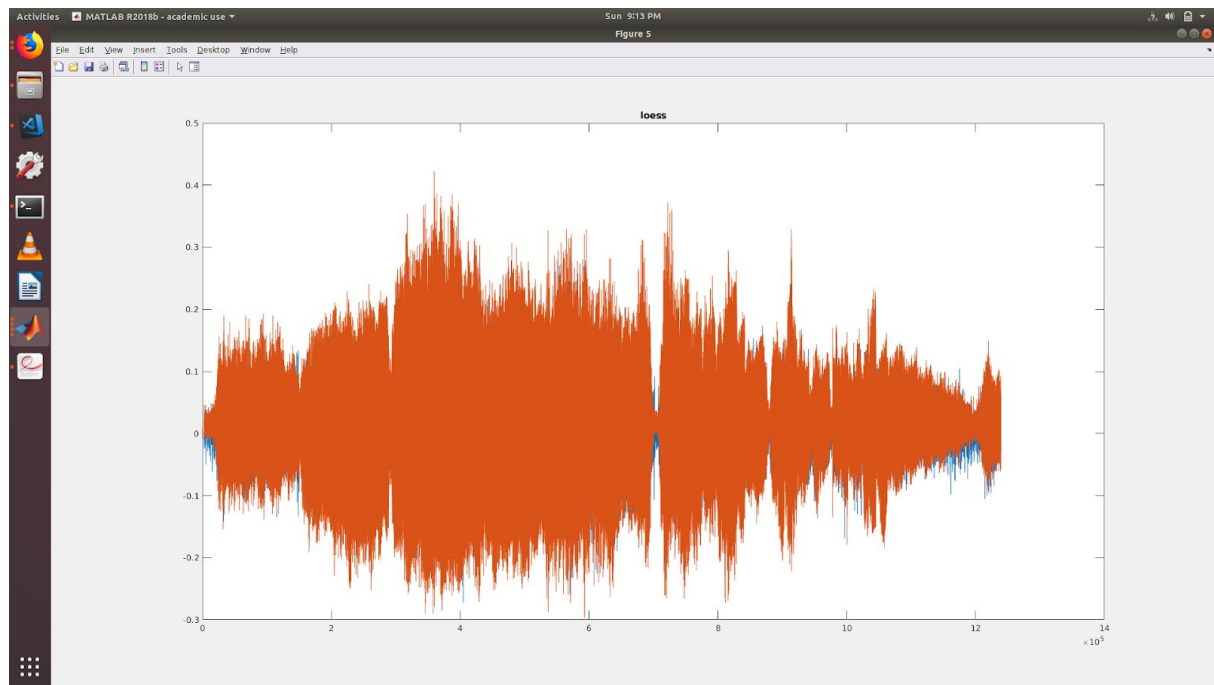
Using gaussian filter



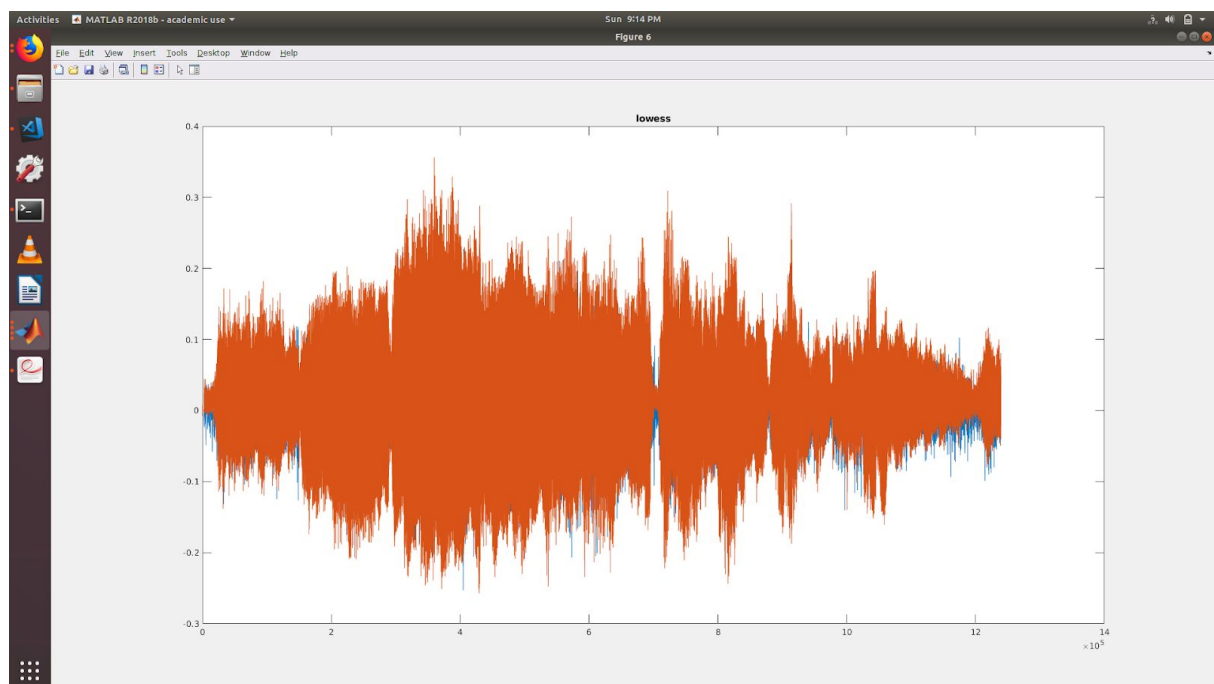
Using sgolay filter



MOve median filter



LOess filter



Lowess filter.

The loess filter gives the best result because it uses linear regression