FFT AND DCT FOR YALE DATASET

E/16/103

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FFT For Yale Dataset

Out of the 15 people in this dataset by considering an image of the first person

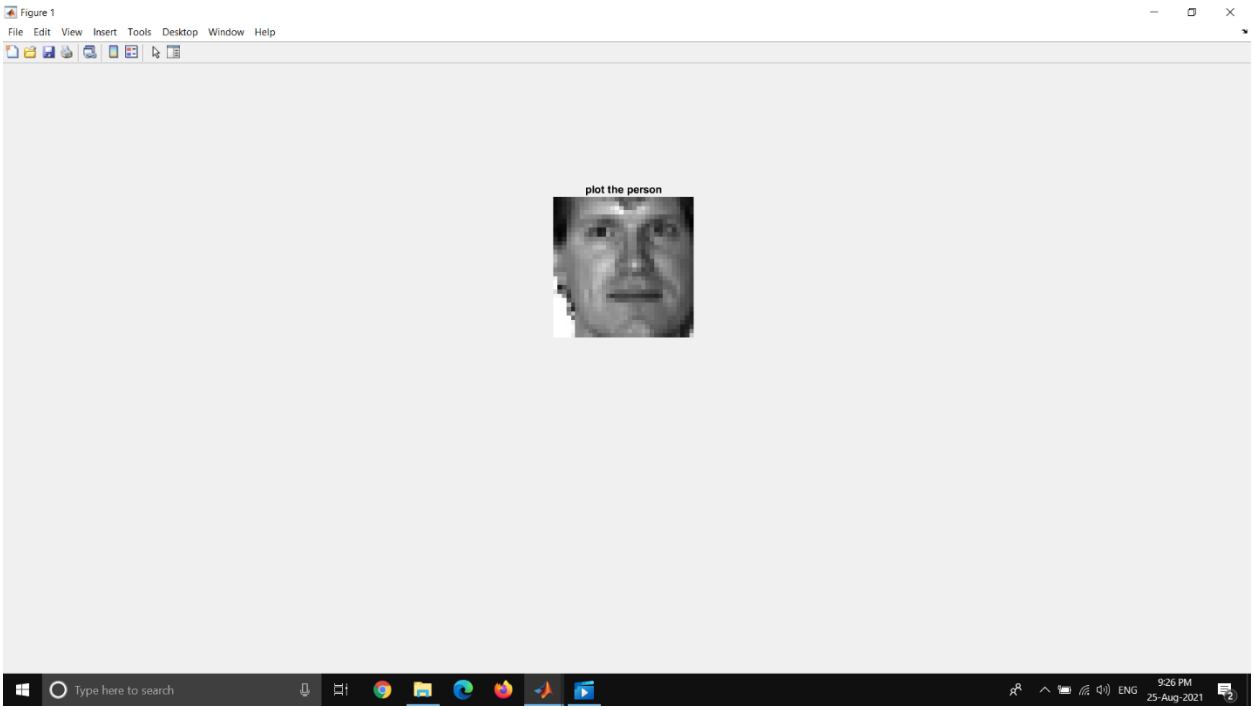

Figure 1 : Image of the person

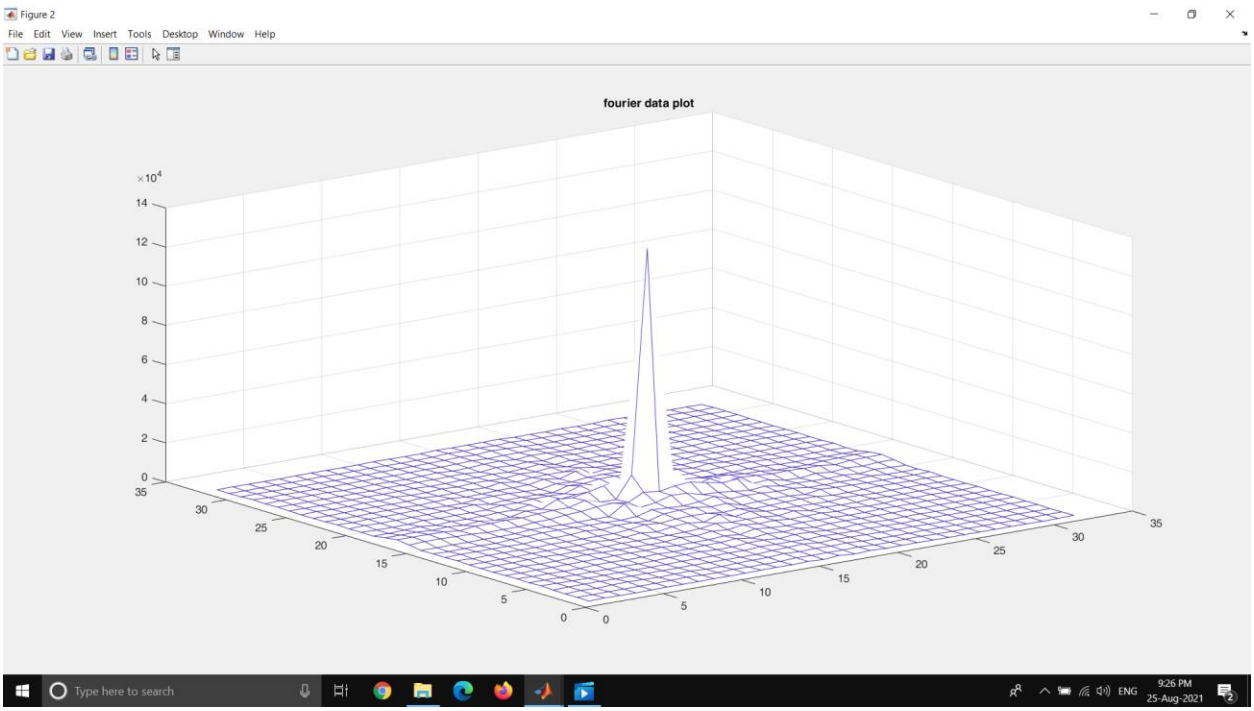

Figure 2 : 2D Fourier plot of the first person

By Applying a 28x28 low pass filter to get rid of the frequency components with low amplitude

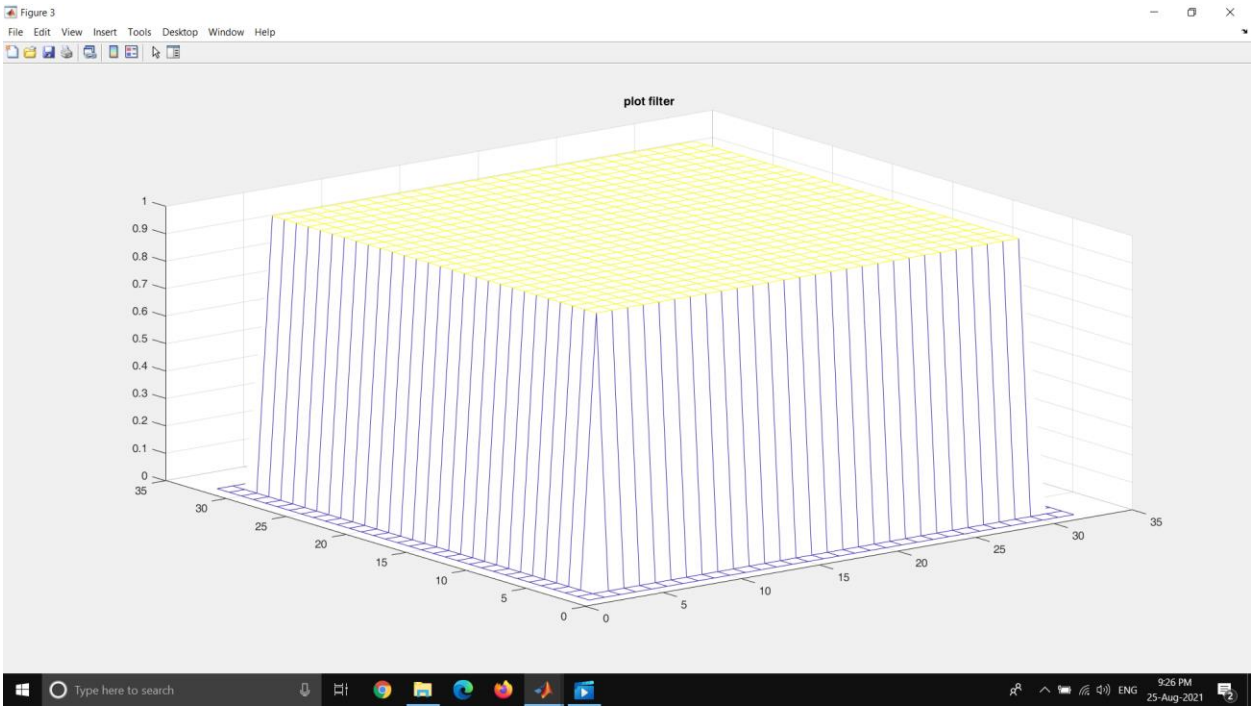

Figure 3 : 28x28 low pass filter

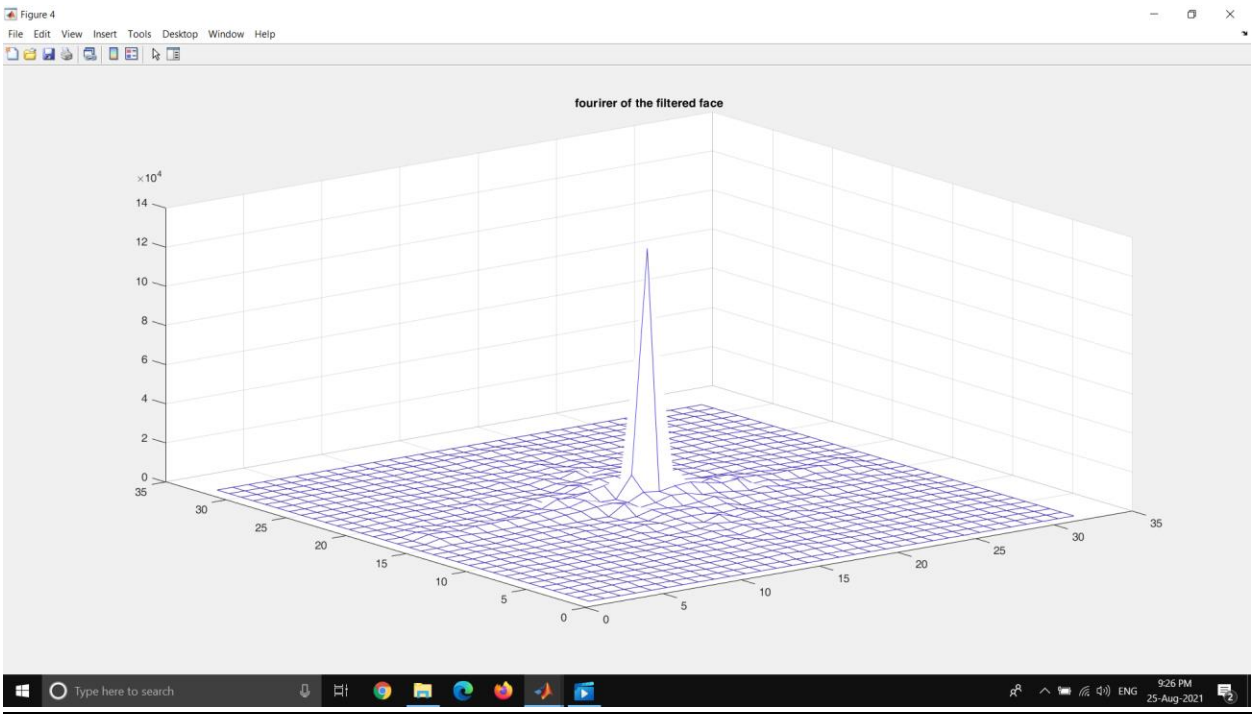

Figure 4:Fourier Plot of the signal after applying the low pass filter

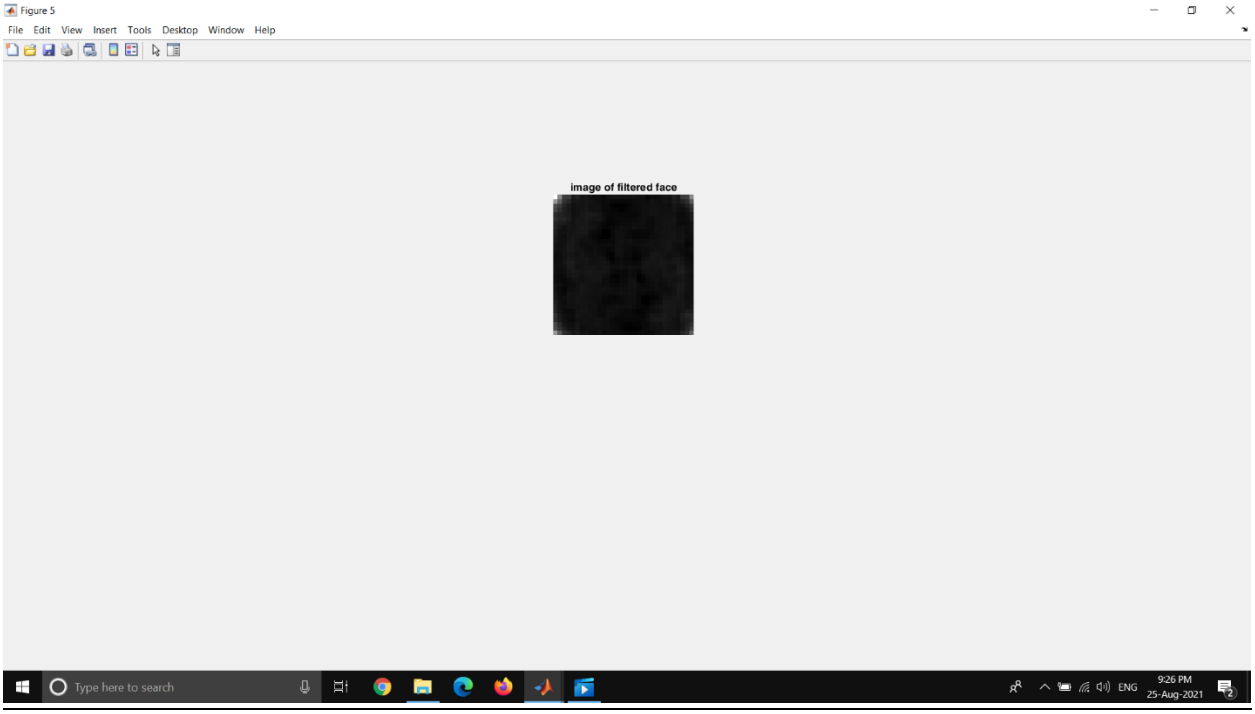

Figure 5 : Plot of the person after applying lowpass filter

16x16 Low Pass filter

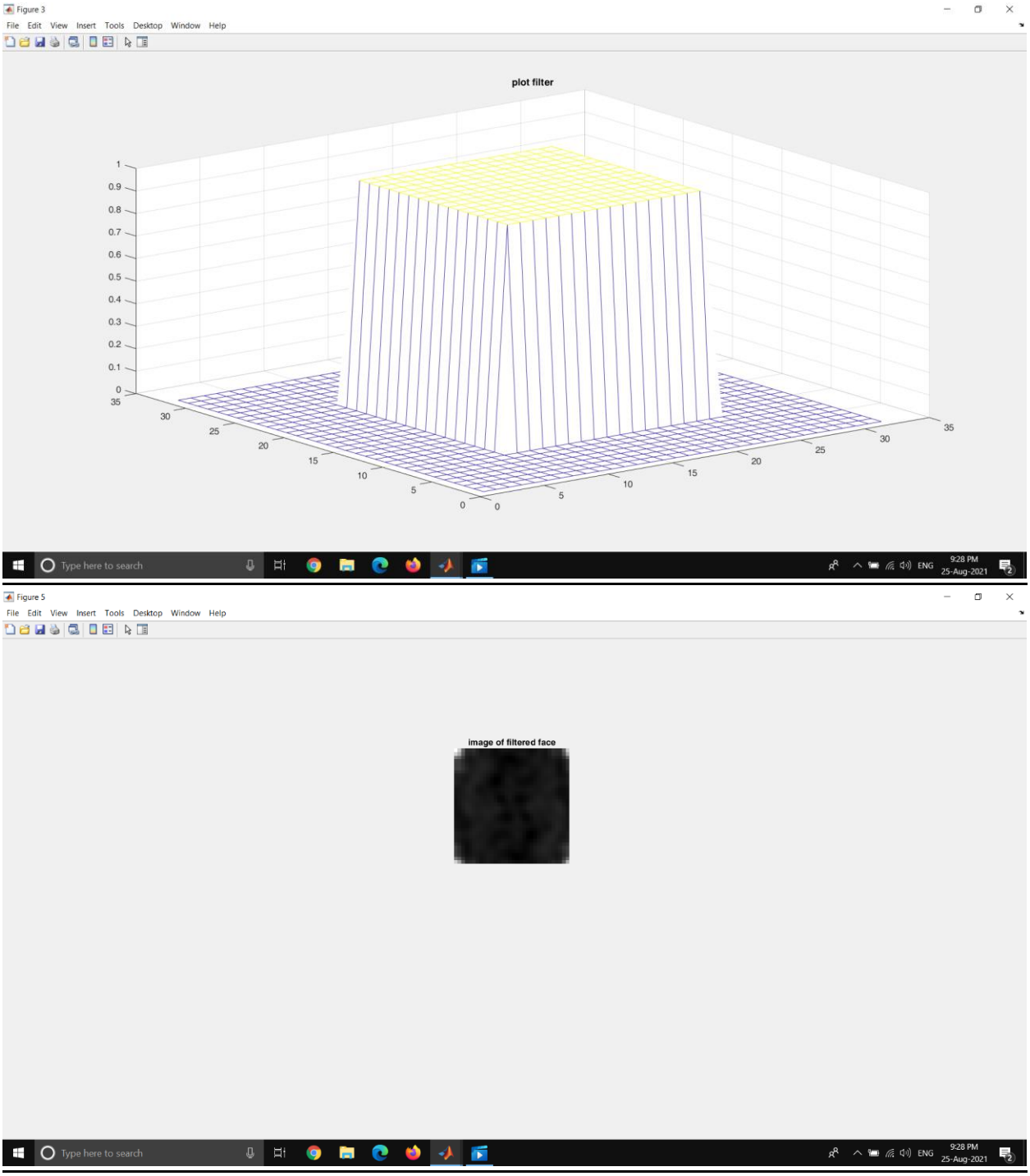

Figure 6 : 16x16 Low pass filter and the image after the low pass filter is applied

By Appliying Highpass filter to the signal

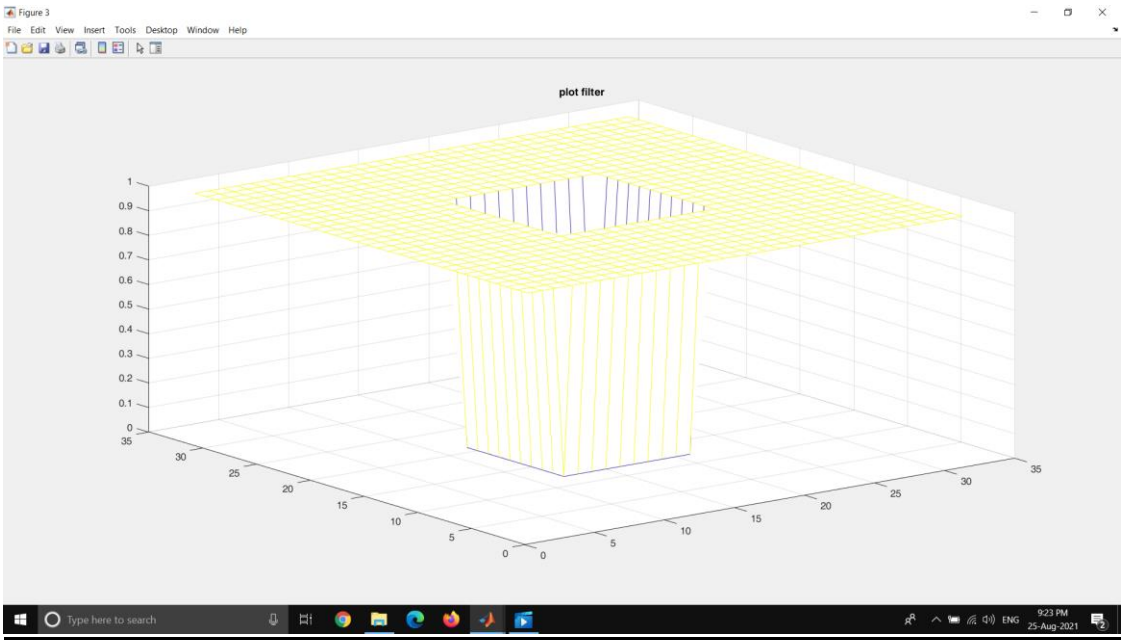

Figure 7 : Highpass filter 10x10

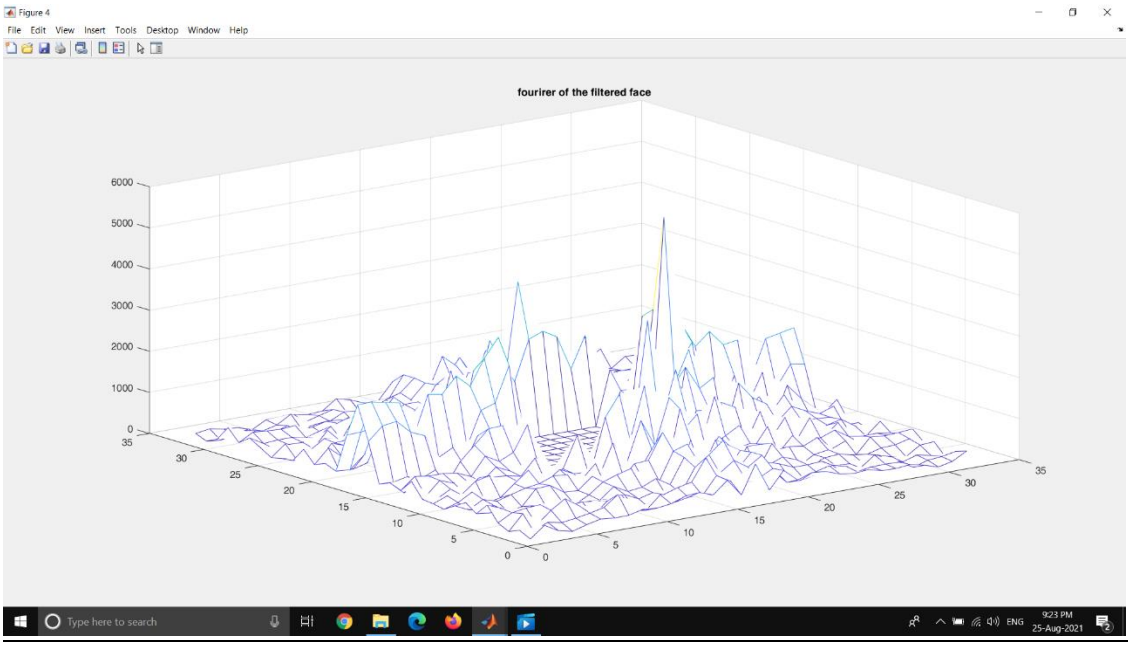

Figure 8 :Fourier plot After appliying the HP filter

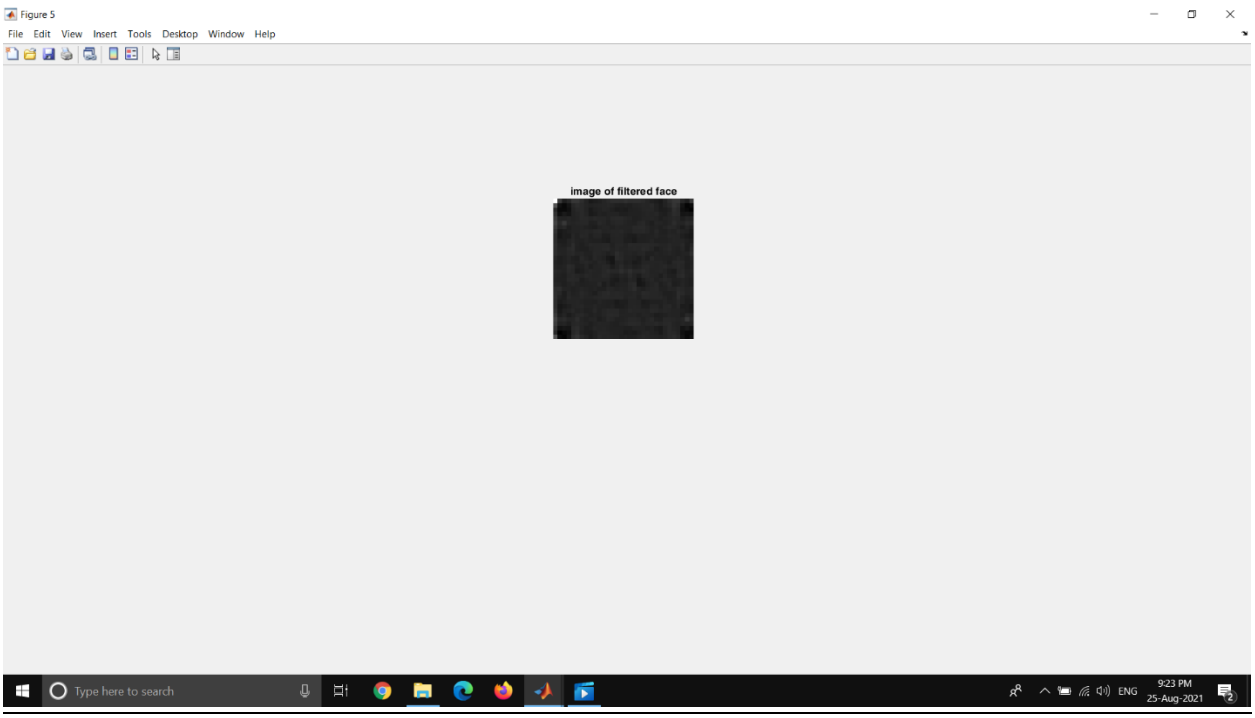

Figure 9 : Image after applying high pass filter

DISCRETE COSINE TRANSFORM (DCT)

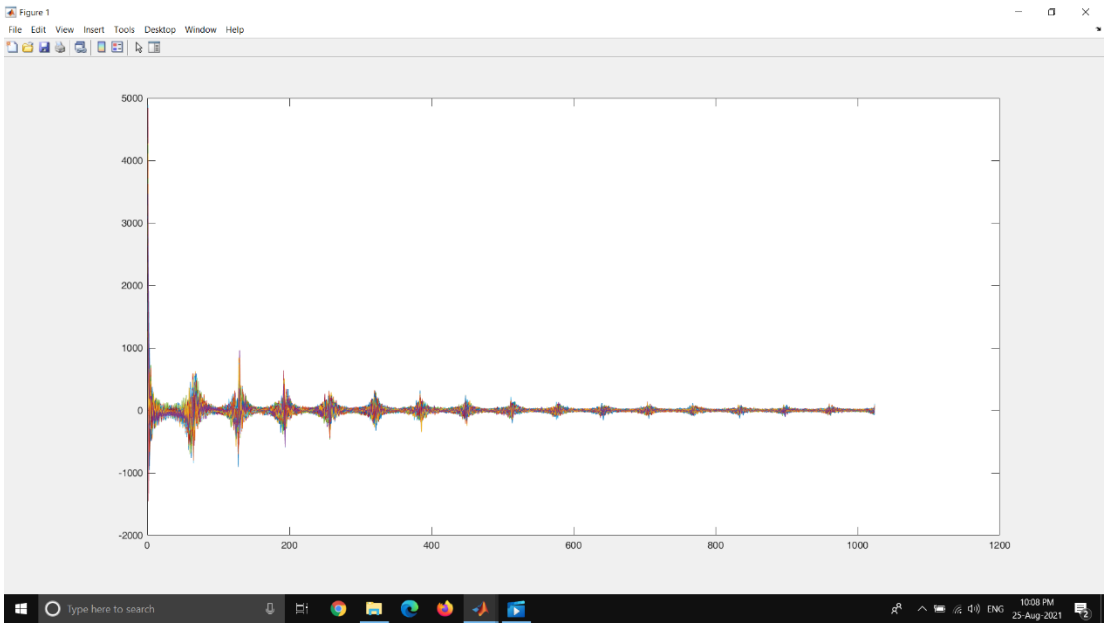

Figure 10 : DCT of Yale Dataset

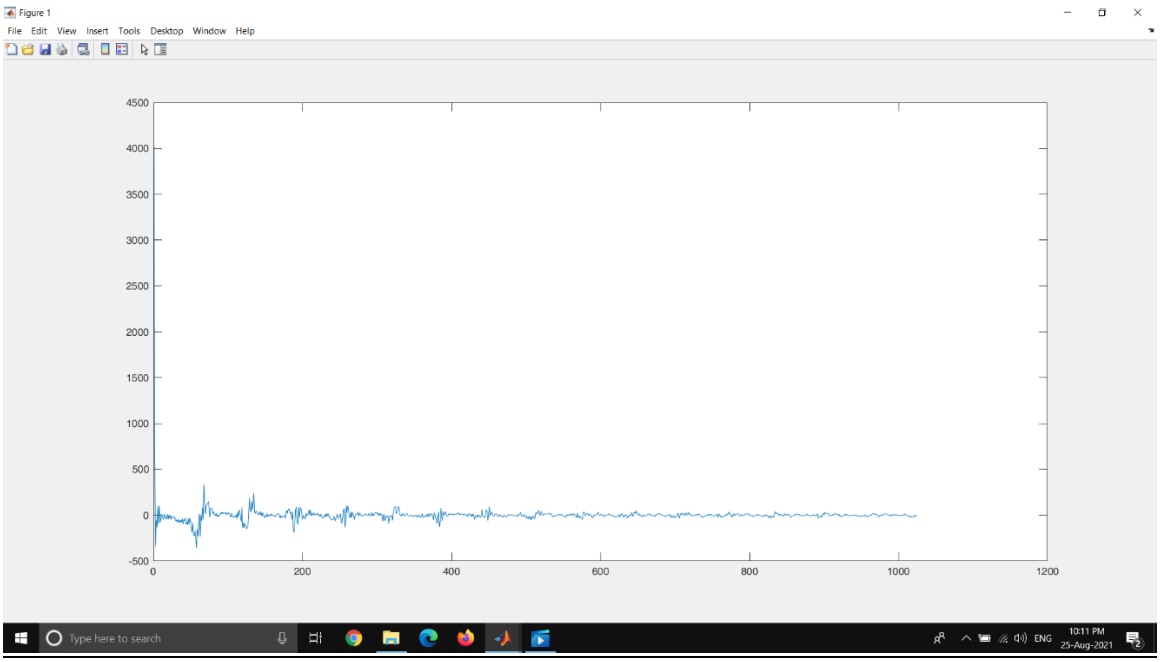

Figure 11 : DCT of the 1 person on yale dataset

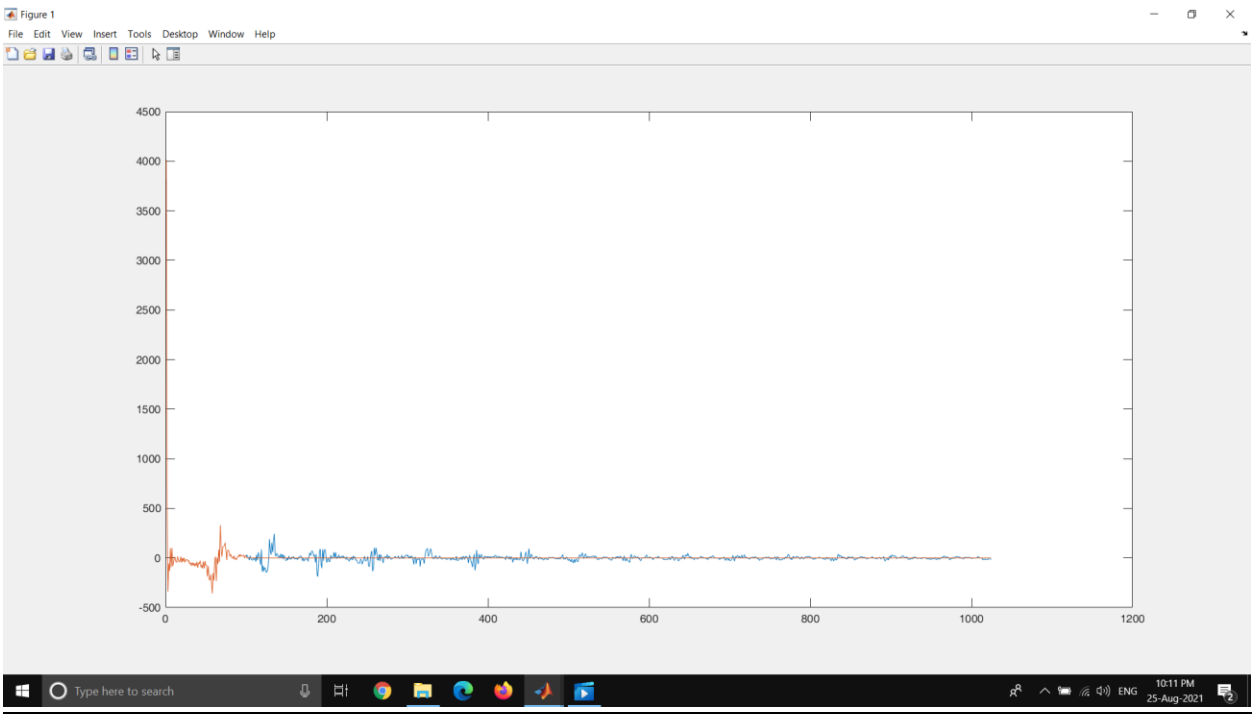

Figure 12 : By Considering first 500 on DCT

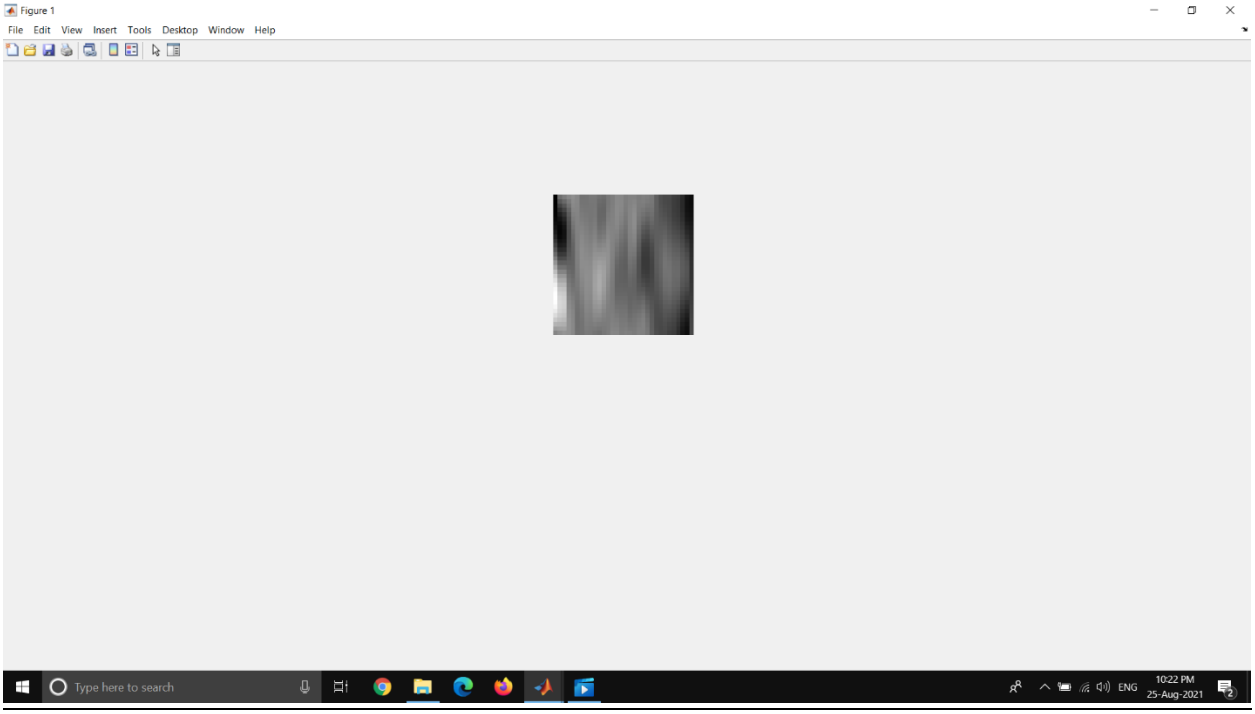

Figure 13 : Blurred image after considering only fisrt 100 DCT components

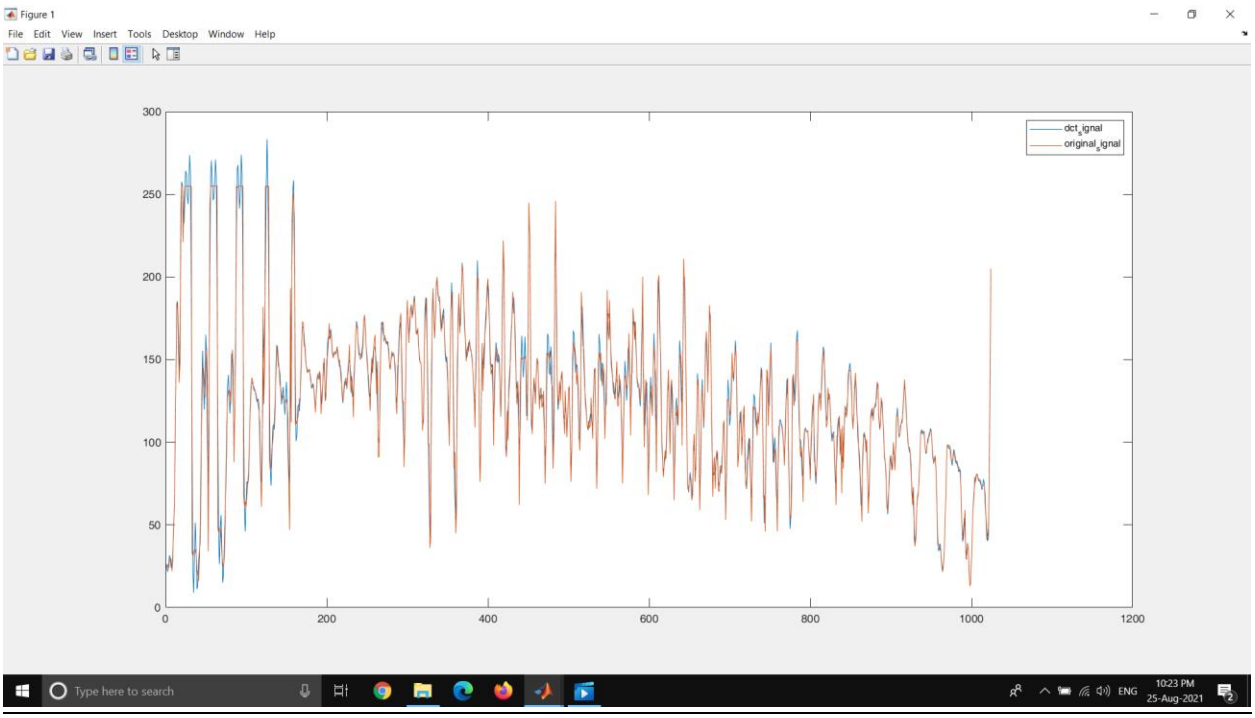

Figure 14 : Plot of the signal after considering first 500 data from DCT

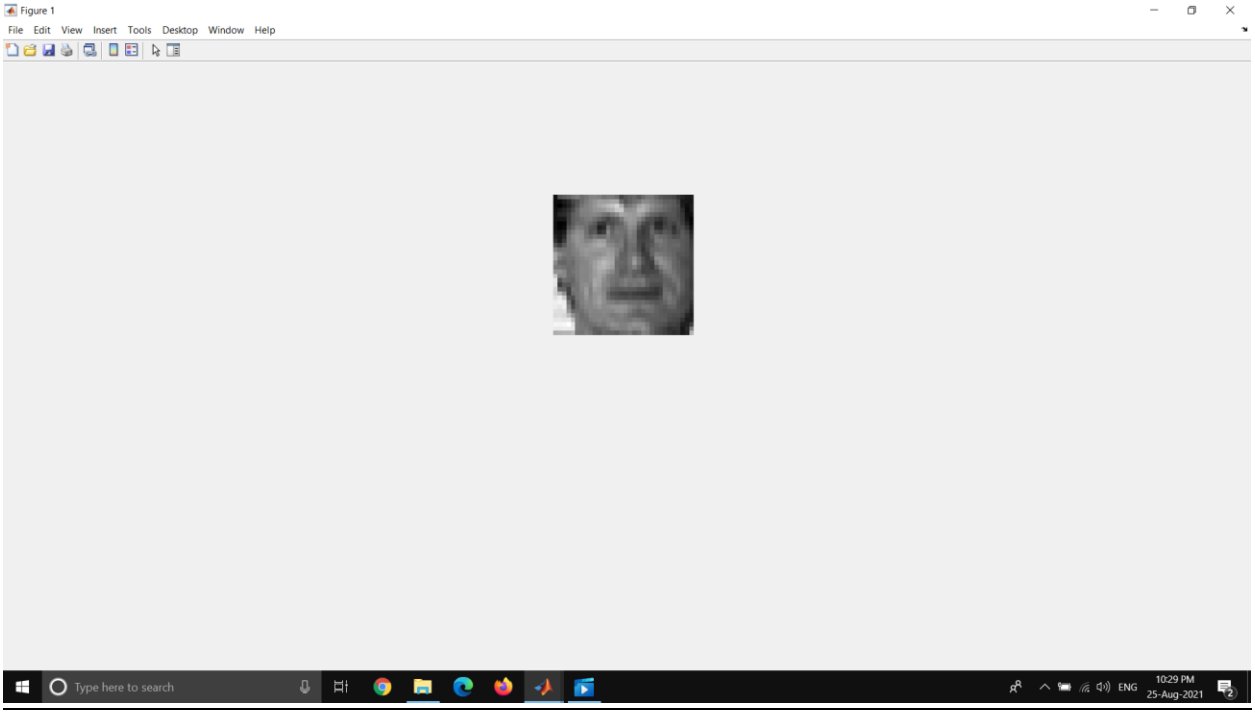

Figure 15: image after considering first 500 points from DCT