

Assignment 1

Course: DSAA, Monsoon 2017 @ IIITS

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Problem 1.

<Describe the process of recording - file format conversions - matlab function used for reading and plotting the voice data>

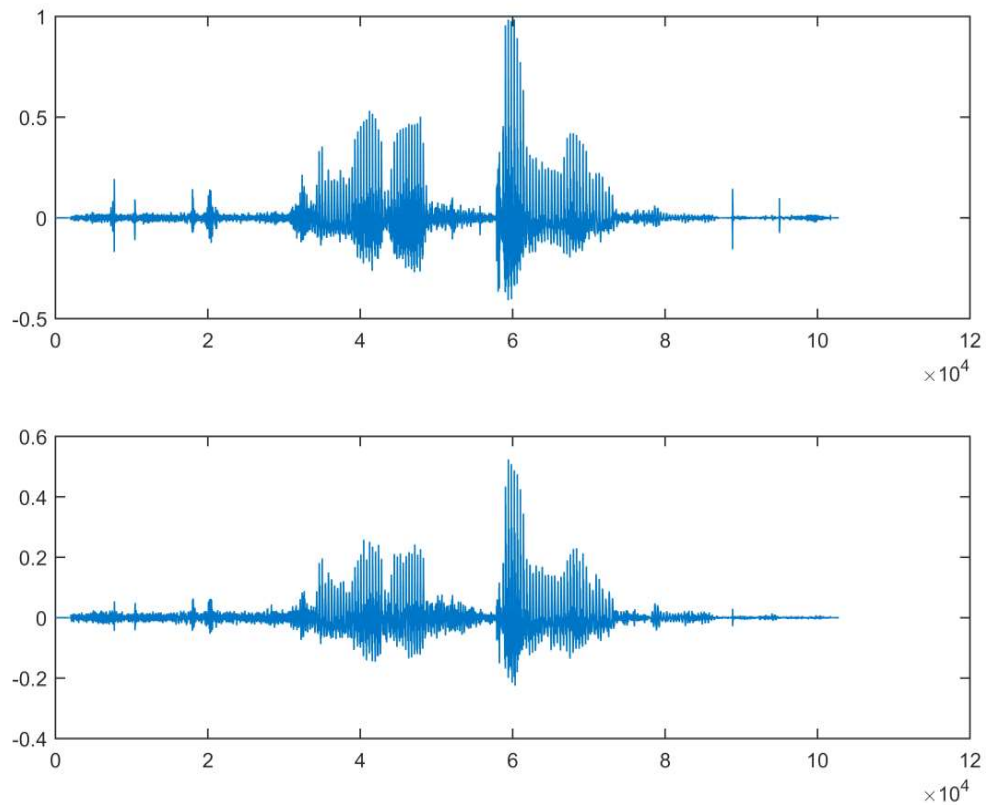
First I Recorded my voice using the YAMAHA CM500 Headset with Built In Microphone in my computer . Then I saved my recording as mp3 format . Then I converted the mp3 file to wav format using ZAMZAR online converter . Then I stored the audio file using a variable in Matlab using the audioread() command . Then i used the plot() and subplot(rows,coloumns,pos) commands to plot the audio file . Then the image is printed in high resolution using print -r500 -djpeg filename.jpg;

COMMANDS USED:-

```
>> m = audioread('anirudh.wav');  
>> subplot(2,1,1);  
>> plot(m(:,1));  
>> subplot(2,1,2);  
>> plot(m(:,2));  
>> print -r500 -djpeg 'C:\Users\Anirudh Kannan\Desktop\DSAA ASSIGNMENTS\1\anirudhname.jpg'
```

Copy the image here in the word file in high resolution

(r500) For this purpose use the command in matlab
print -r500 -djpeg myfilename1.jpg;



Describe any observations you have.

OBSERVATIONS:-

The Amplitude of the voice recorded is plotted against time . We have a high amplitude for a high pitch sound and a low amplitude (bump due to no input sounds and breaks in input) .

Problem 2.

<Describe the process of imaging - matlab function used for reading and displaying the image data>

First i took a picture of myself using Panasonic Eluga Ray Max (16MP) Camera .

Then move the .jpeg image to the current path or root directory .

Then read the image using imread() assigned to a variable ('x') . Then convert the image to

Grayscale using `rgb2gray(x)` and store it in another variable say ('y') . We can then get the histogram of the image using `imhist(y)`.

Then the image is printed in high resolution using `print -r500 -djpeg filename.jpg;`

Copy the image here in the word file in high resolution (r500)

For this purpose use the command in

matlab `print -r500 -djpeg`

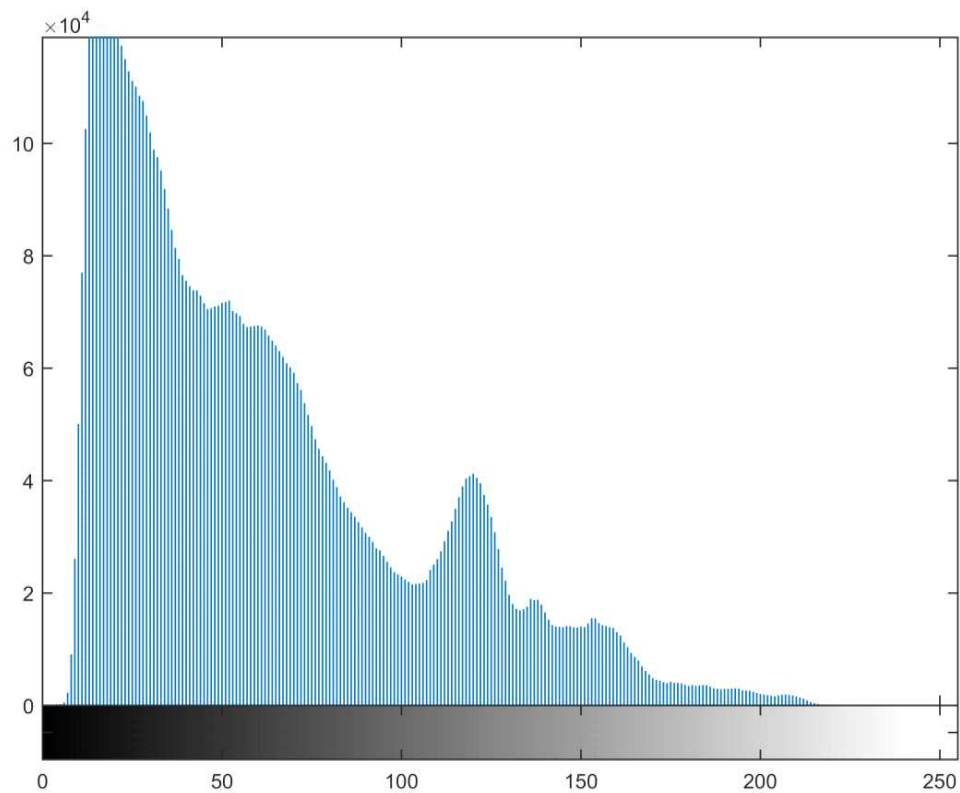
COMMANDS USED:-

```
>> a = imread('h1.jpg');  
>> s = rgb2gray(a);  
>> imhist(s);  
>> print -r500 -djpeg 'C:\Users  
\Anirudh Kannan\Desktop\DSAA  
ASSIGNMENTS\1\anirudhphoto.jpg'
```



myfilename2.jpg;





Describe any observations you have.

The image with all rgb shades is converted to gray . The histogram is a 2D graph with intensity of colour on the x-axis and in y axis is the percentage of that particular color in that picture .

Please answer the following question:

Describe what you have learnt in this assignment

In this assignment I have learnt some basics of MATLAB like some functions `imread()`, `audioread()`, `plot()`, `rgb2gray()`, `subplot()` etc . I have also learnt how to print a high resolution image in matlab .