Practical 7 : Introduction to Multidimensional image processing

Image Reading and interpretation

Download Cones.jpg Image of size MxNx3 (the image of the mid-term exam)

Reshape the image to a matrix of MxN rows and 3 columns
Draw the 3D points cloud of the image
Which color is more represented in that image

Histogram creation

Right an algorithm that ask the image to find the frequency of each 3D row (pixel)
When the frequency is find, remove those pixels from the image and continue with the other pixels until there is no pixels to consider
Plot the corresponding histogram

What is your opinion about this histogram and compared to the 3D points cloud

Image segmentation

Carry out an edge detection on each Channel of
Fusion the three edges detection to get the final detection on the 3D image
Is the result consistant compared to the individual edge detection
Superimpose the edges detected individually on each channel and then the fuse ones on the gray level image
Conclude