

Assignment 2(6475 Comp. Photography)

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Function 1: **numberOfPixels**

This was a very easy function to compute, as it is already implemented as the .size of the nparray.

Function 2: **averagePixel**

Once again this can be easily computed by using the np.mean function available. The only thing I had to do was make sure the answer came out as an integer and not a float.

Function 3: **convertToBlackAndWhite**

Simply used a statement on the image that gave True for all intensities greater than 128. Then I made a new image of 0 with the same dimension as the image and put a 255 in all the Trues.

Input image



output image



Even though the input image looks black and white it is actually in 3 channels, so it was converted to a grayscale image using a cvopen function.

Function 4: averageTwoImages The important thing about this function is to make sure the size of the pixel was large enough to hold the sum of the two image values. Therefore,

the images were converted into uint16. After that, the two images were simply added and divided by 2.

Input images



output image

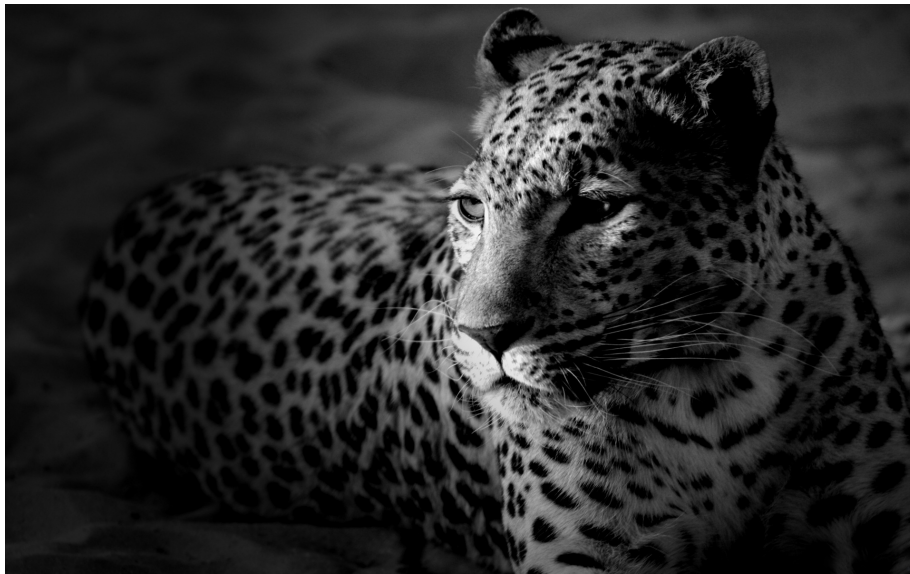


Function 5: **flipHorizontal**

I did this without any fancy libraries from cvopen. Since it was a horizontal flip that means we are flipping the image on the x axis which means all the y values will be flipped.

Therefore, the row values needed to be flipped. I iterated over half the value of the total number of rows and simply switched the coinciding values. Example: row0 switches with maxRow -1-0, row 1 switches with maxRow-1-1...etc.

Input image



output image

