

JAVA DIP - ENHANCING IMAGE CONTRAST

http://www.tutorialspoint.com/java_dip/enhancing_image_contrast.htm

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In this chapter learn how to enhance the contrast of an image using histogram equalization.

We use the **OpenCV** function **equalizeHist** method. It can be found under **Imgproc** package. Its syntax is given below:

```
Imgproc.equalizeHist(source, destination);
```

The parameters are described below:

Sr.No.	Parameters
1	Source It is 8-bit single channel source image.
2	Destination It is the destination image.

Apart from the equalizeHist method, there are other methods provided by the Imgproc class. They are described briefly:

Sr.No.	Method
1	cvtColorMatsrc, Matdst, intcode, intdstCn It converts an image from one color space to another.
2	dilateMatsrc, Matdst, Matkernel It dilates an image by using a specific structuring element.
3	equalizeHistMatsrc, Matdst It equalizes the histogram of a grayscale image.
4	filter2DMatsrc, Matdst, intdepth, Matkernel, Pointanchor, doubledelta It convolves an image with the kernel.
5	GaussianBlurMatsrc, Matdst, Sizeksize, doublesigmaX It blurs an image using a Gaussian filter.
6	

integral*Matsrc, Matsum*

It calculates the integral of an image.

Example

The following example demonstrates the use of `Imgproc` class to enhance contrast of an image:

```
import org.opencv.core.Core;
import org.opencv.core.Mat;
import org.opencv.highgui.Highgui;
import org.opencv.imgproc.Imgproc;

public class Main {

    static int width;
    static int height;
    static double alpha = 2;
    static double beta = 50;

    public static void main( String[] args ) {

        try {
            System.loadLibrary( Core.NATIVE_LIBRARY_NAME );
            Mat source = Highgui.imread("grayscale.jpg",
            Highgui.CV_LOAD_IMAGE_GRAYSCALE);
            Mat destination = new Mat(source.rows(),source.cols(),source.type());

            Imgproc.equalizeHist(source, destination);
            Highgui.imwrite("contrast.jpg", destination);

        }catch (Exception e) {
            System.out.println("error: " + e.getMessage());
        }
    }
}
```

Output

Original Image



Enhanced Contrast Image

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