**Gray Scaling**: This is the process of converting an image from the normal color. (RGB, CMYK, HSV) to shades of grayscale. It is between complete black and complete white.

**IMPORTANCE**

1. **Reduces model complexity**: working an RGB image you might have 10x10x3, pixels, hence, the input layer could be 300 input nodes, however, a grayscale image will have 100 input nodes.
2. **For it to work on other algorithms**: some algorithms are trained to work on gray-scaled images.
3. **Dimension reduction**: RGB images have 3 dimensions but grayscale images have just a single dimension.

**Contrast Stretching:** This is the measure of the range of an image. Thus, how stretched its intensities are.

Contrast = (Imax-Imin)/(Imax + Imin). This makes the image use the entire range of values available to them.

**High pass filters** give emphasis to higher frequencies on an image. Thus, as a threshold is introduced any pixels or contrast or frequencies that are above such threshold are preserved and those below it are attenuated.

**Low pass filters** allow low frequencies and filter out higher frequencies. That is, it attenuated the higher frequencies below a certain threshold. The kernel is the number of pixels considered during the blurring of the image.

<https://github.com/Mr-TalhaIlyas/Histogram-Equalization-and-Contrast-Stretching>

**Mr-TalhaIlyas (GitHub)**

<https://github.com/topics/contrast-stretching>