

=====

Basic notation:

r - pixel value before transformation

s - pixel value after transformation

=====

Negative Transformation of an image

Formula:

If intensity levels are in range $[1, L - 1]$, then,

$$s = L - 1 - r \quad [\text{Here } L - 1 = 255 \text{ in our case }]$$

What are we doing here?

Reversing the intensity levels of an image (which results in image negative)

Why use negative?

Enhancing white or gray detail embedded in dark regions of an image, specially when the black areas are dominant in size.