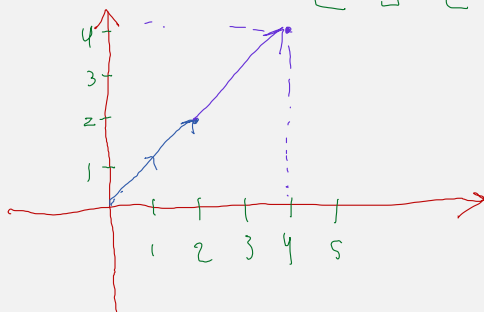It involves multiplying vector by a scalar, resulting in a vector where each component is scaled by the vector.
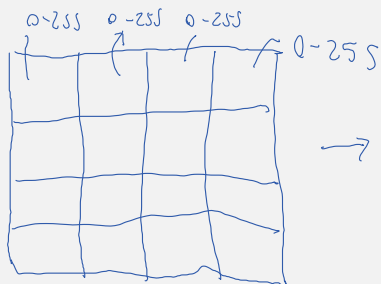
$$A = \begin{bmatrix} 3 \\ 5 \\ 7 \end{bmatrix} \quad C = 4 \quad CA = 4 \cdot \begin{bmatrix} 3 \\ 5 \\ 7 \end{bmatrix} = \begin{bmatrix} 12 \\ 20 \\ 28 \end{bmatrix}$$

$$A = \begin{bmatrix} 2 \\ 2 \end{bmatrix} \quad C = 2$$
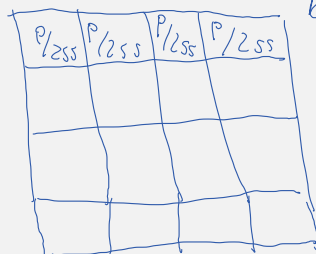
Normalization And Standardization

Scaling data → units   RGB

0-255   0-255   0-255

0-255

→ Image Processing → Normalize Pixel

[0-1]

$P/255$ $P/255$ $P/255$ $P/255$

divide each
pixel by 255

Machine Learning

Height (cm) = [160, 170, 180]   Scale*Height = 0.01 [160, 170, 180] = [1.6, 1.7, 1.8]

Scale (to meters) = 0.01