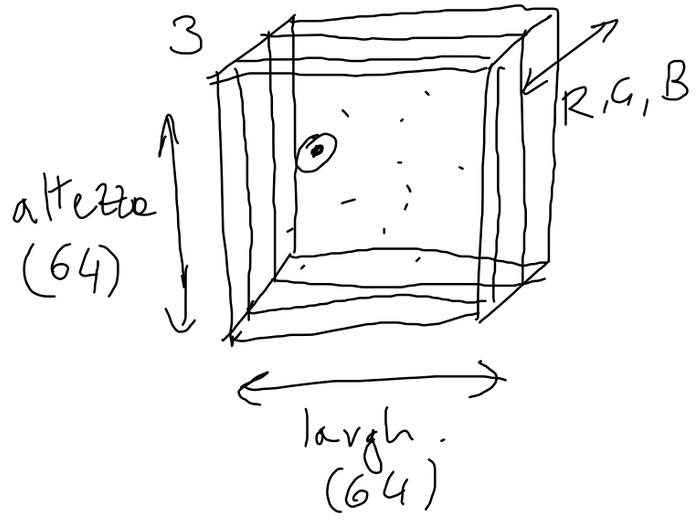
Immagini :



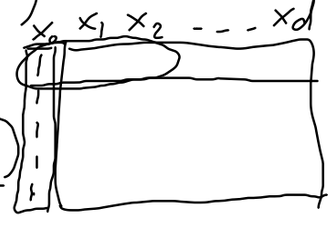
$64 \times 64 \times 3$

(12288)

X_{train} (209 immagini)

$\mathbb{R}^{209 \times 12288}$

$\mathbb{R}^{209 \times 12289}$



$X_{train.shape} = (209, 64, 64, 3)$

4-dimensionale

X_{test} (50 immagini)

$X_{test.shape} = (50, 64, 64, 3)$

$x \in \mathbb{R}^d$

$\mathbb{R}^{m \times d}$

2-dimensionale $(209, 64 \times 64 \times 3)$

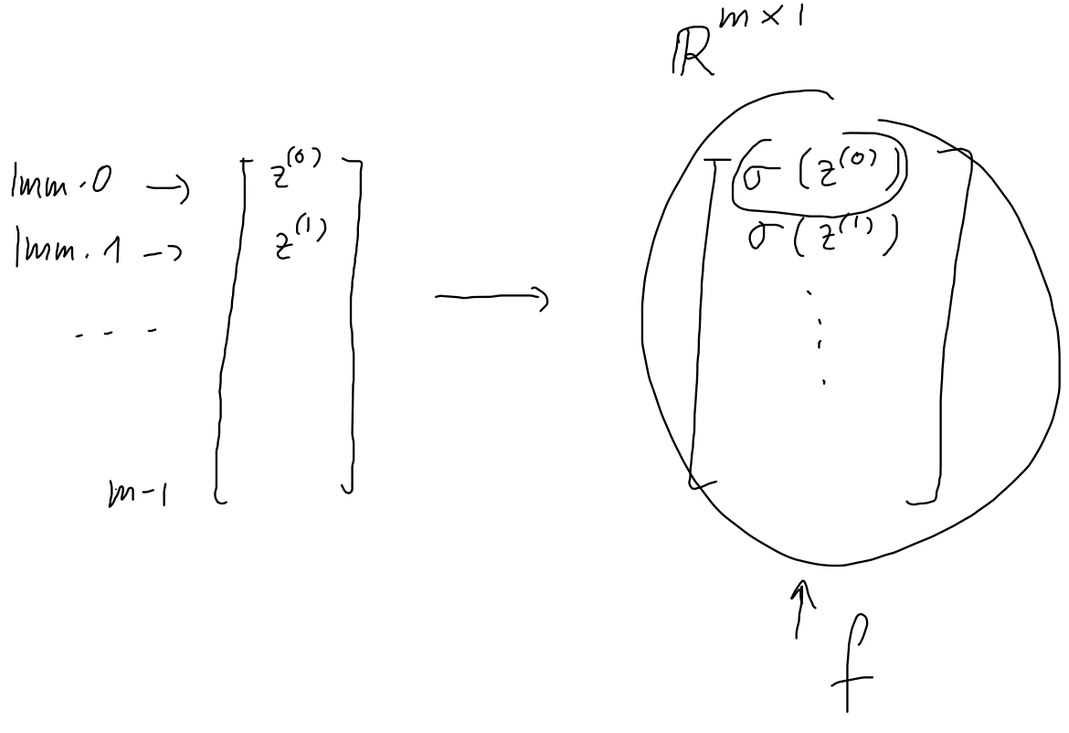
index

$x \in \mathbb{R}^{d+1} \rightsquigarrow w^T x \in \mathbb{R} \rightsquigarrow \sigma(w^T x) \in \mathbb{R}$

$(w \in \mathbb{R}^{(d+1)\times 1})$

$X \in \mathbb{R}^{m\times(d+1)} \rightsquigarrow Xw = z \rightsquigarrow \sigma(z) \in \mathbb{R}^m$

$\sigma(z) = \sigma(Xw)$



$\overset{?}{\geq} 1/2$

$\overset{?}{\geq} 1/2$

$\hat{y}$

$\begin{bmatrix} 0/1 \\ 0/1 \\ \vdots \\ \vdots \end{bmatrix}$