

## Note on Python/np vectors:

$a = \text{np.random.randn}(5)$   
 $a.\text{shape} = (5,)$   
"rank 1 array" } Don't use

$a = \text{np.random.randn}(5,1)$   
 $a.\text{shape} = (5,1)$   
Col. vector } Use

$a = \text{np.random.randn}(1,5)$   
 $a.\text{shape} = (1,5)$   
Row vec. } Use

Also:

assert  $a.\text{shape} == (5,1)$

$a = a.\text{reshape}(5,1)$

## Wk 2 quiz notes

- A neuron computes a linear function followed by an activation function

- "Logistic loss":  $L^{(i)}(\hat{y}^{(i)}, y^{(i)}) = -y^{(i)} \log(\hat{y}^{(i)}) + (1-y^{(i)}) \log(1-\hat{y}^{(i)})$

-  $x.\text{img}.\text{reshape}(32*32*3, 1)$

-  $a = \begin{bmatrix} \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \end{bmatrix}, b = \begin{bmatrix} \cdot \\ \cdot \end{bmatrix} \begin{bmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{bmatrix} \mid a = \begin{bmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{bmatrix}, b = \begin{bmatrix} \cdot & \cdot \\ \cdot & \cdot \end{bmatrix}$