

Video Capture

0
1
2
3

↑
index
دوس

path
file

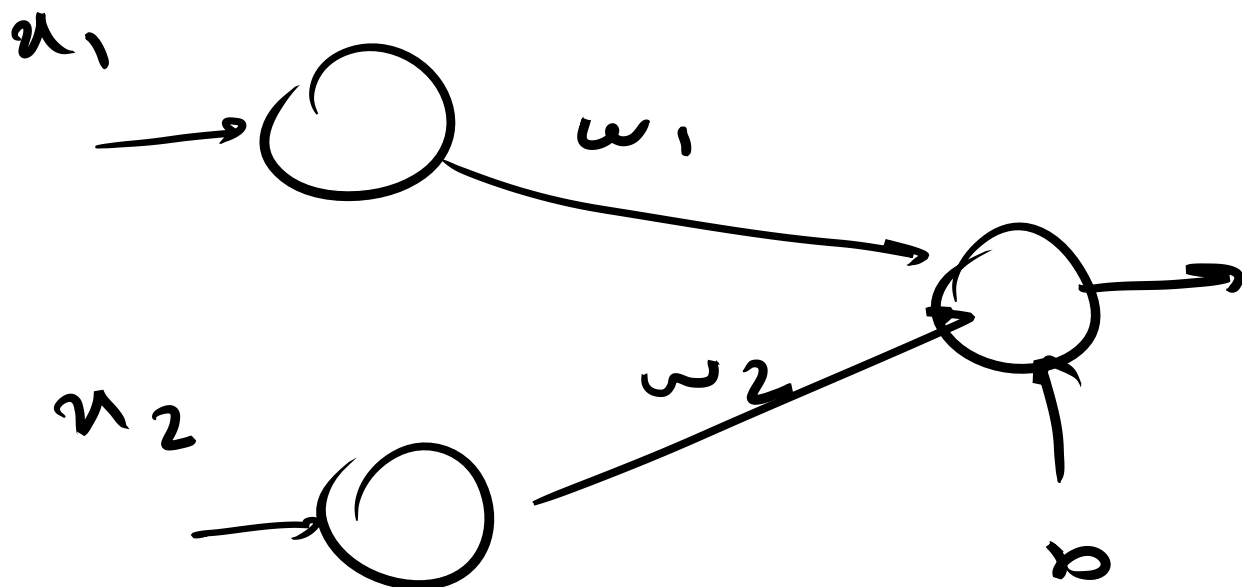
↑
دوس

Camera Story

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دوس

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دوس

سید علی



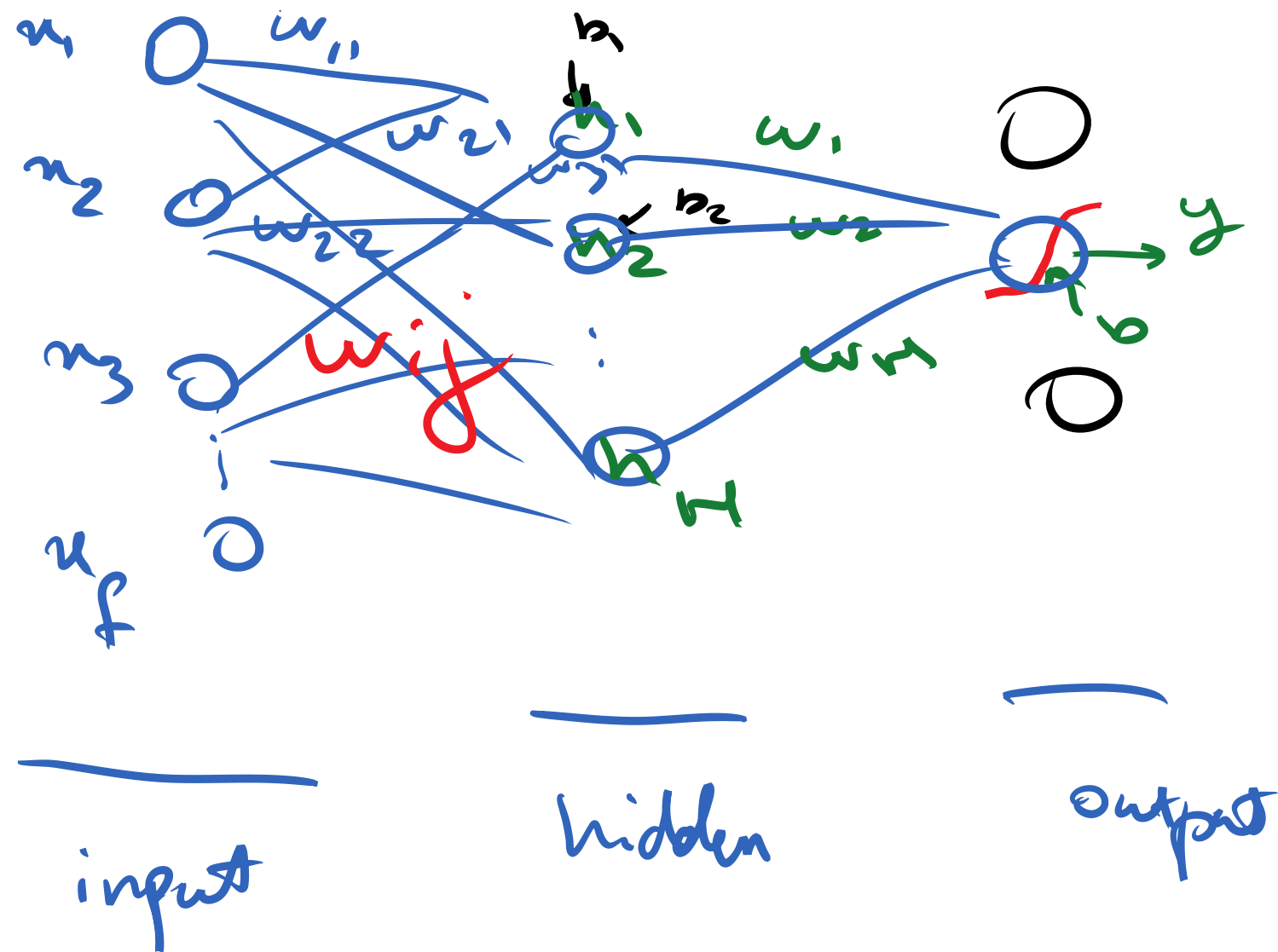
$$y = w_1 x_1 + w_2 x_2 + b$$

w_1 w_2 b

x_1	x_2	y
1	4	5
2	3	6
1	1	3

$$w_n = w_0 - \alpha E$$

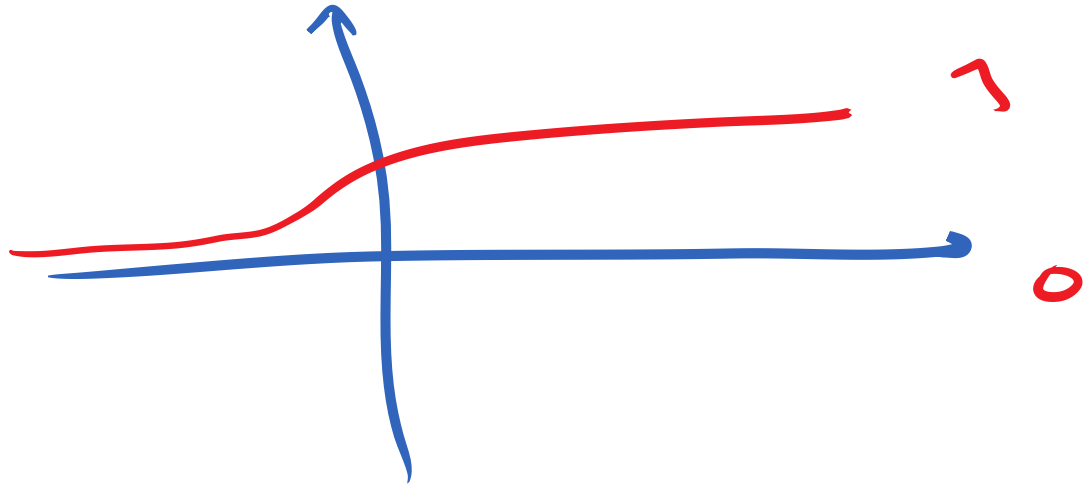
MLP



0	0	1
0	1	0
1	0	0

$y = \text{Sigmoidal}$ (دوطرف)

\tanh



۲ طرفه

صیغه طایفه

$$n_1 = w_{11}n_1 + w_{21}n_2 + w_{31}n_3 + \dots + w_{p1}n_p + b_1$$

$$n_i = \sum_{i=1}^p w_{i1}n_i + b_1$$

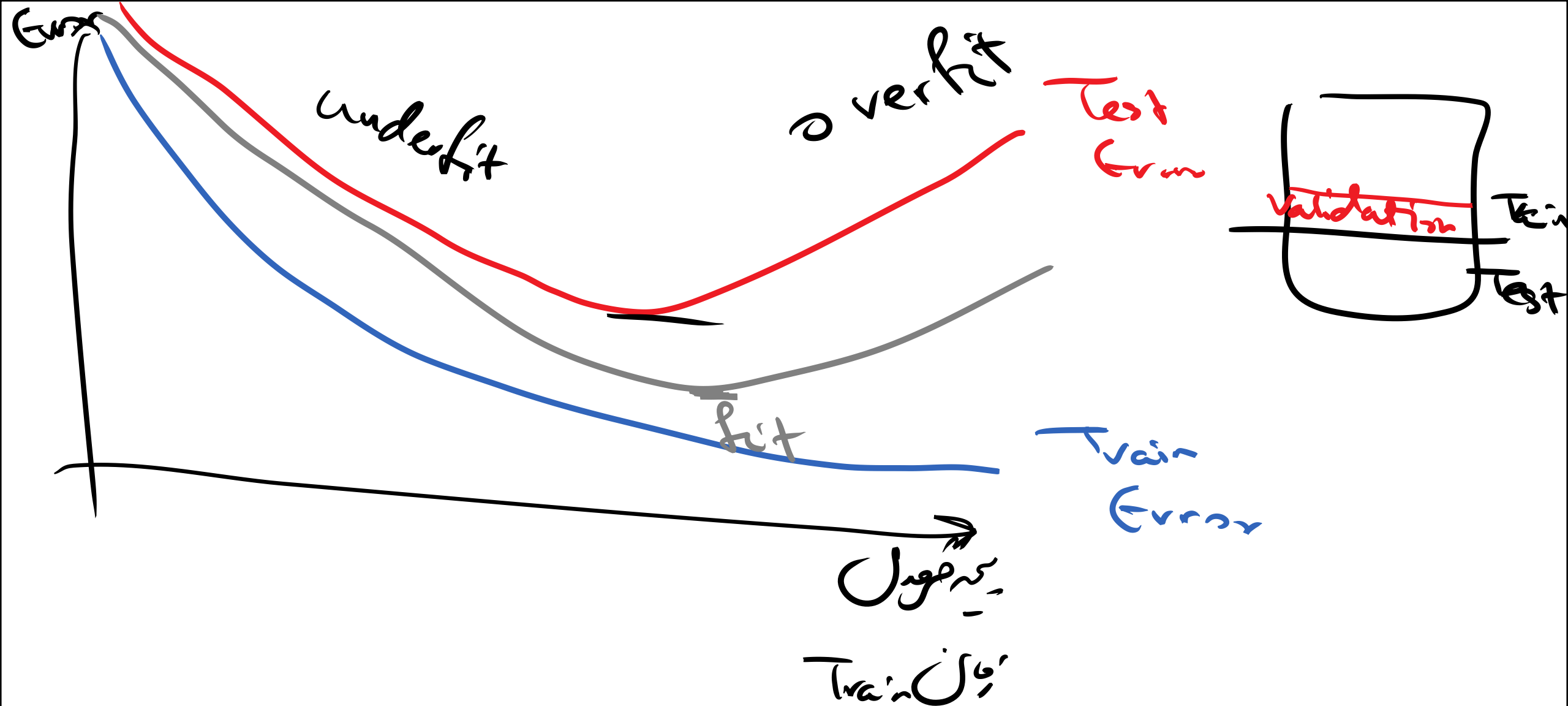
$$h_j = \text{AF} \left(\sum_{i=1}^p w_{ji}n_i + b_j \right)$$

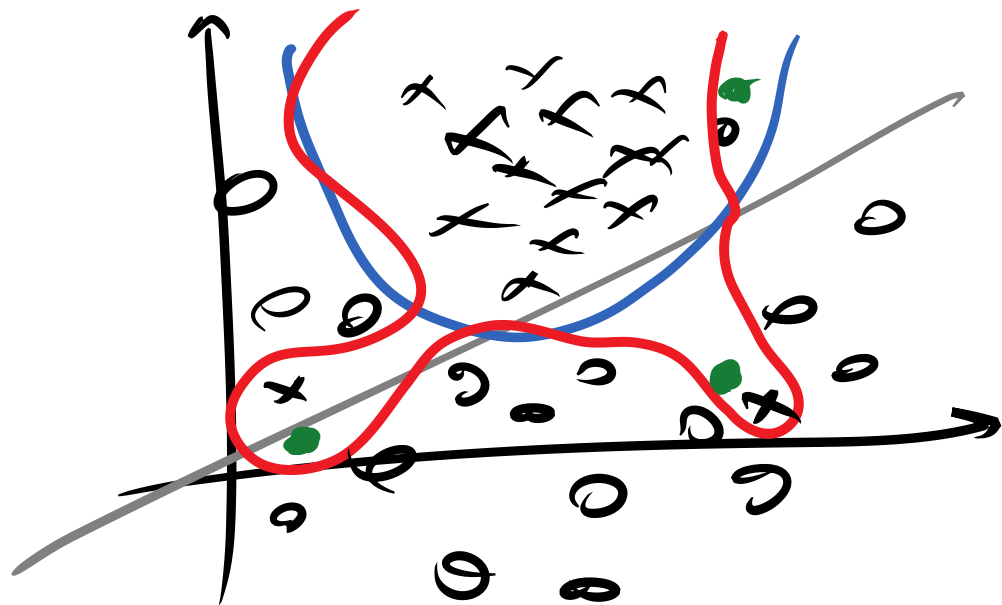
$$y = \text{AF}_2 \left(\sum_{j=1}^n w_{ji}(h_j) + b \right)$$

Loss function \rightarrow MSE

Sparse BCE
classification

y_{in}	1	4	3	1	2	3	4
	\vdots	\vdots	\vdots				
y_{pred}	1.2	4.3	2.6	2	2	1	1





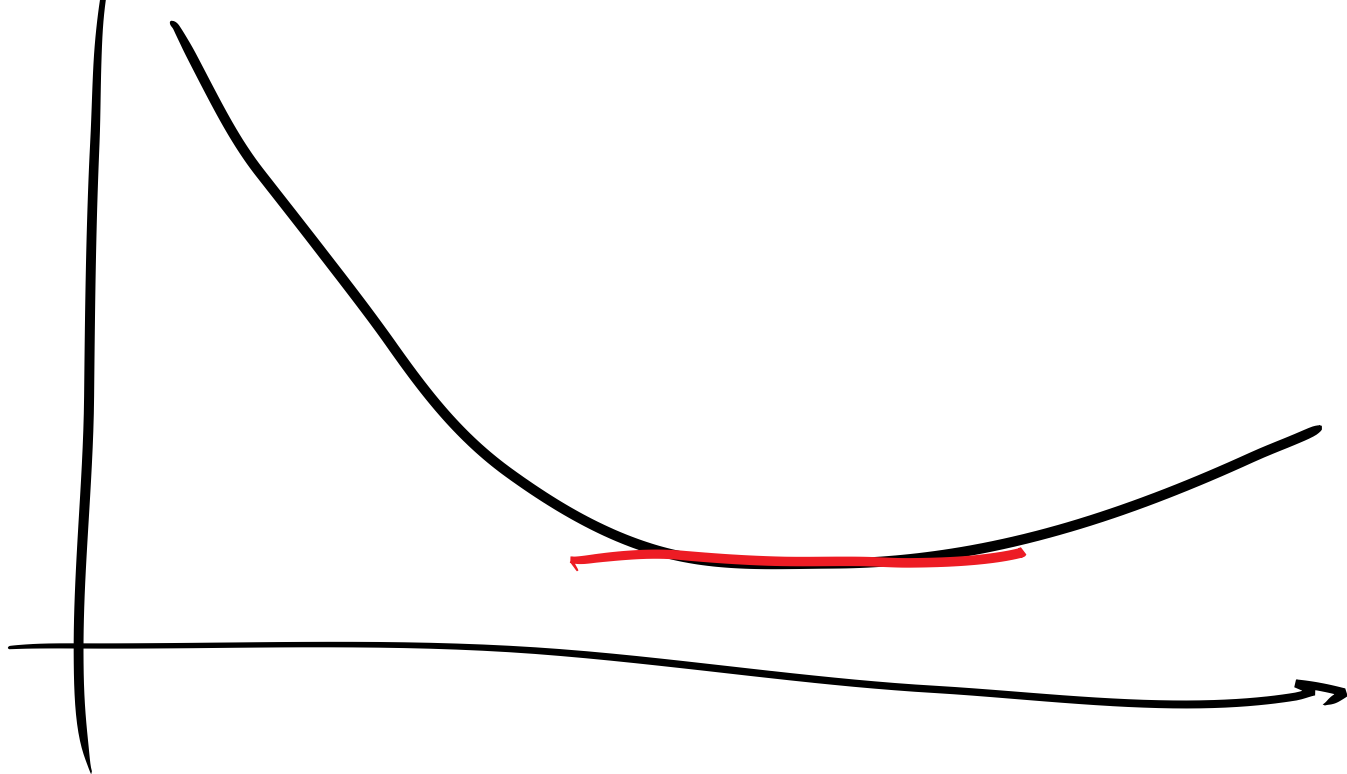
$$\lim_{n \rightarrow 8} \frac{1}{n-8} = \infty$$

$$\lim_{n \rightarrow 5} \frac{1}{n-5} = \infty$$

overfit

$$w_N = w_0 - \eta \frac{\partial L}{\partial w}$$

Loss



GD



Batch \nearrow \nearrow \hat{w} , overfit
Size \searrow

\nwarrow \hat{w} , underfit, $R_{\text{ave}} \uparrow$

batch size .

SGD
Adam \ Optimizer .

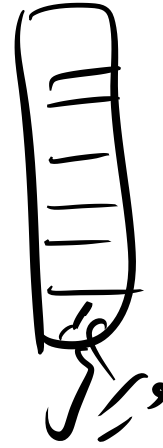
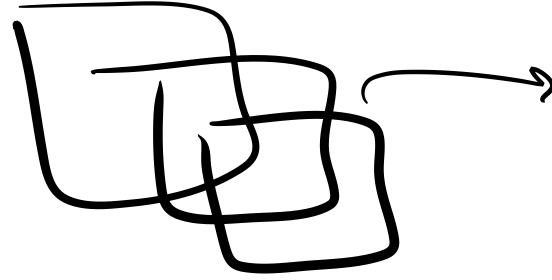
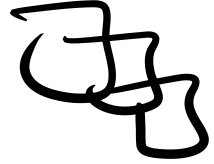
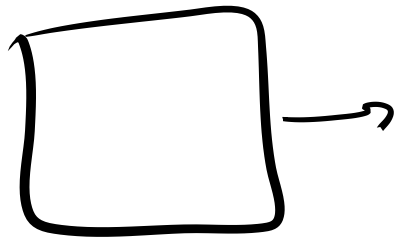
hidden layers .

hidden size n .

weights .

Yan Lucare

mnist



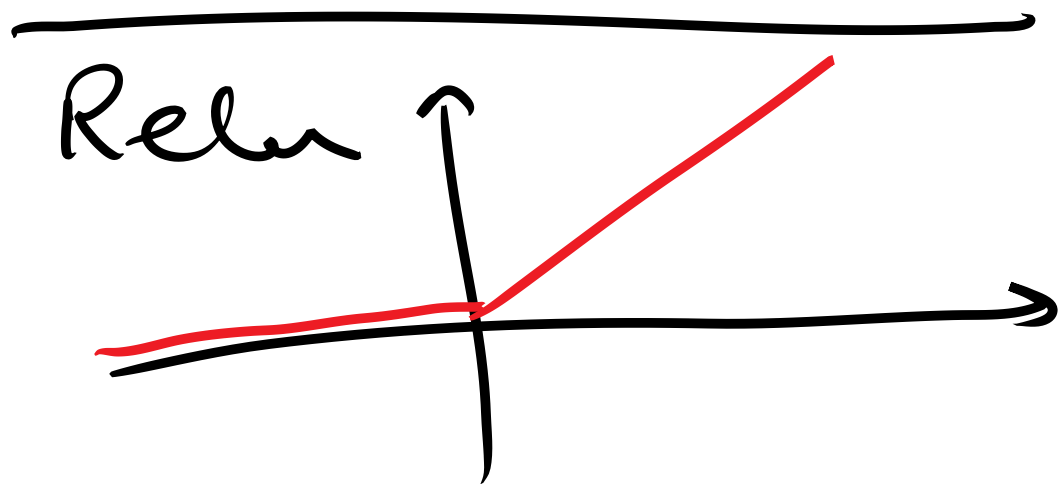
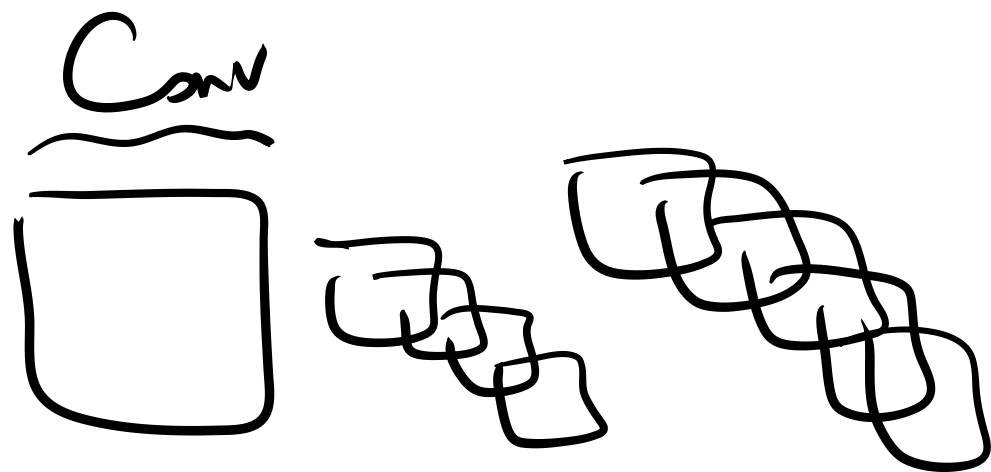
~LP

2012 AlexNet

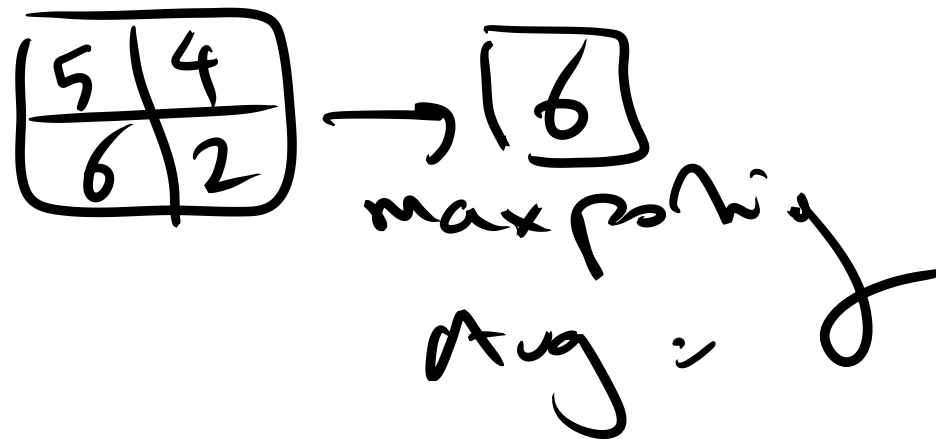
imageNet

CNN

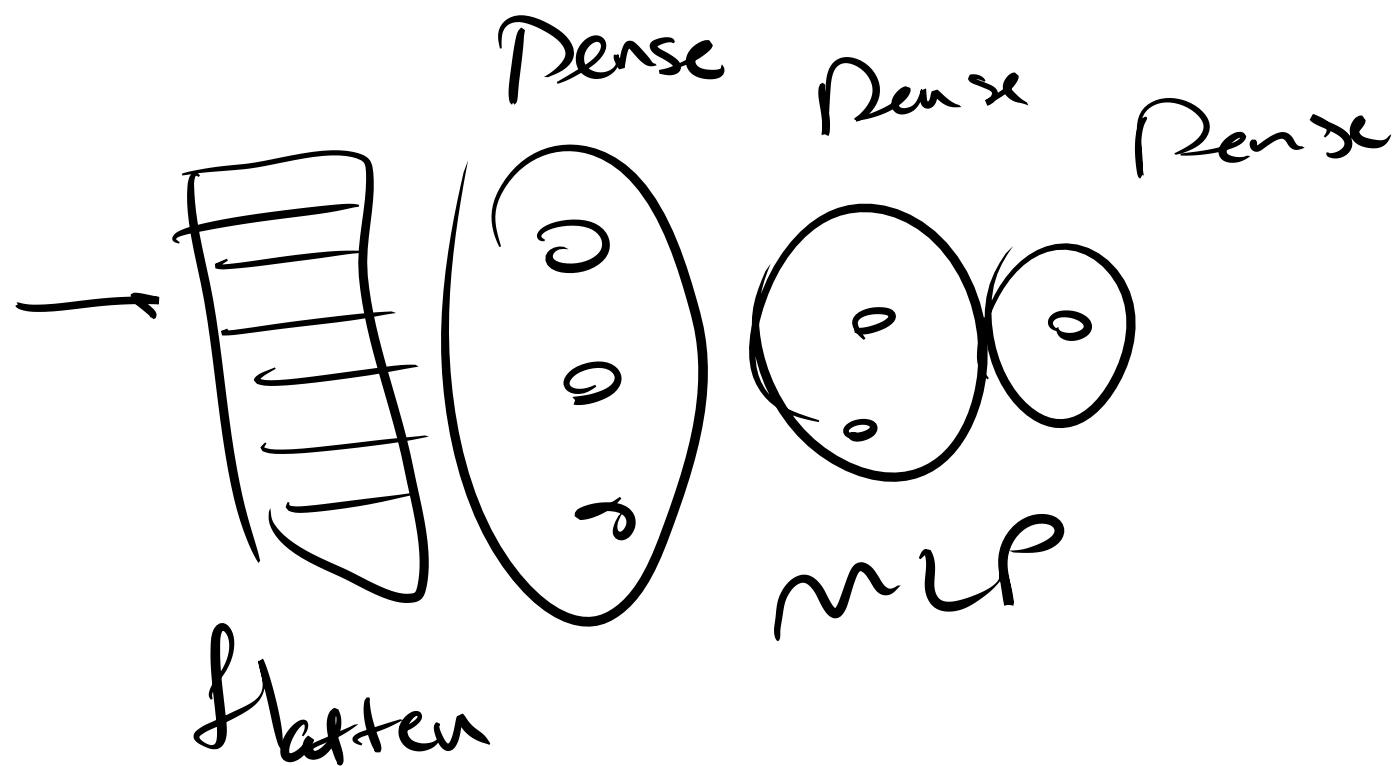
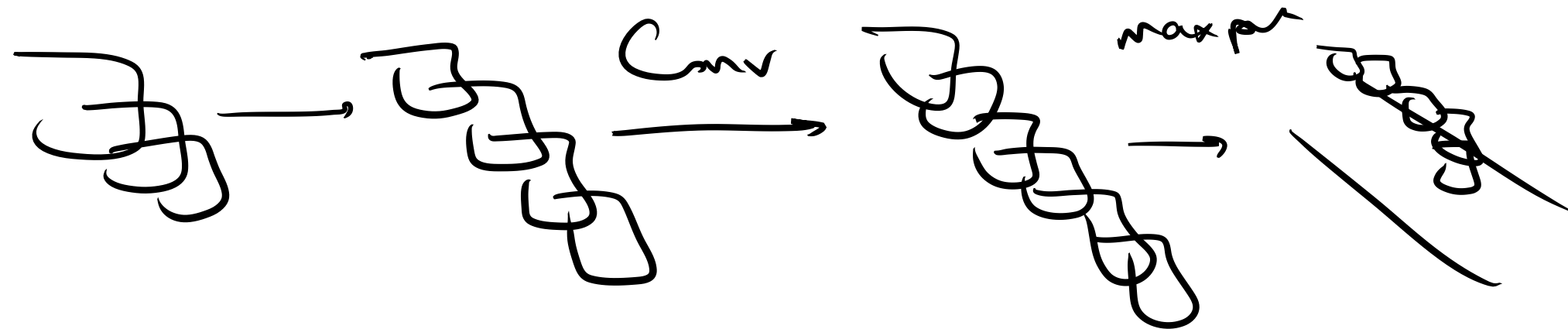
GT x 9-

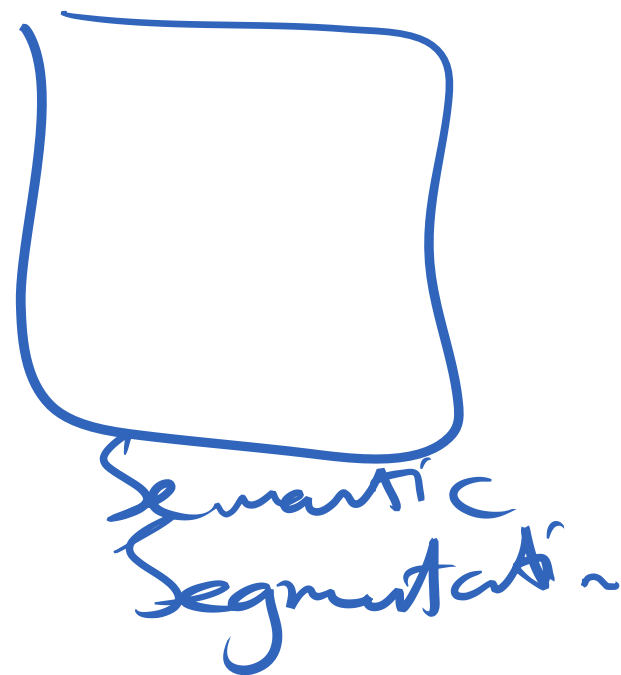
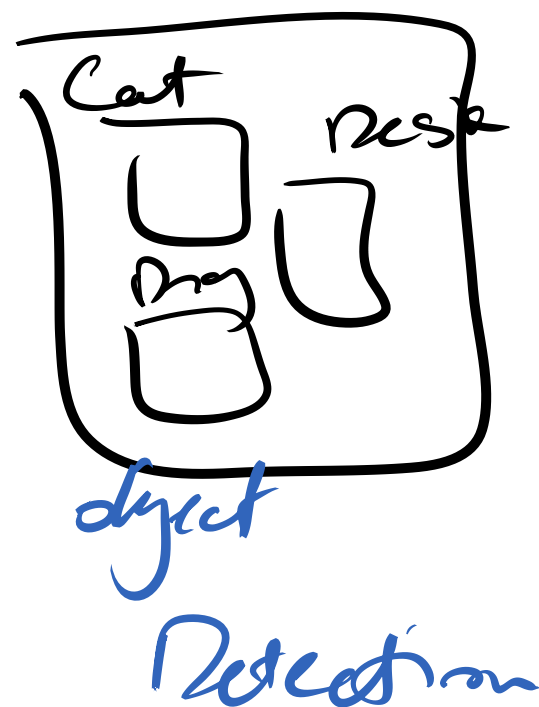


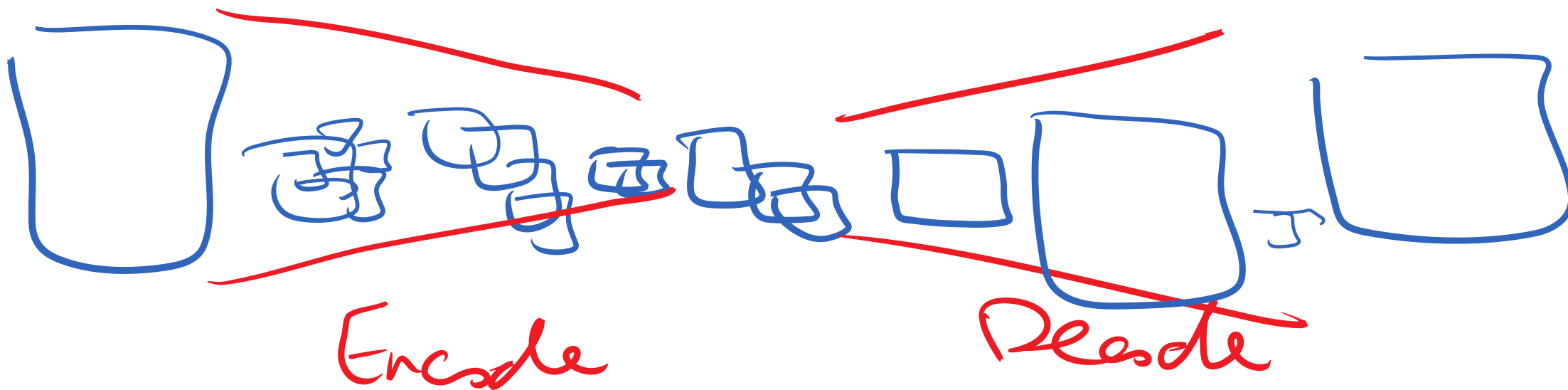
pooling



Batch Normalization







AE

GAN

