

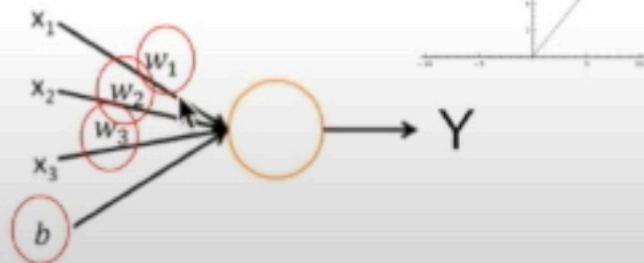
Artificial neuron can represent a motif

$$Y = F(x_1, x_2, x_3)$$

$$Z = w_1 \cdot x_1 + w_2 \cdot x_2 + w_3 \cdot x_3 + b$$

$$Y = h(Z)$$

parameters



Thresholded Motif Scores
 $\max(0, W \cdot x)$

0	0	2.0	0	0	0
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Motif match Scores
 $\text{sum}(W \cdot x)$

-2.2	-5.5	2.0	-4.3	-24	-17
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Scoring weights
 W

A	-5.7	-3.2	3.7	-3.2	3.7	0.6
C	0.5	-3.2	-3.2	-3.2	-3.2	-5.7
G	0.5	3.7	-3.2	-3.2	-3.2	-5.7
T	-5.7	-3.2	-3.2	3.7	-3.2	0.6

One-hot encoding (X)

Input sequence

