# Neural Nets are crazy cool

## Some fancy subtitle
## in 2 lines maybe

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# Outline

# An artificial neuron !

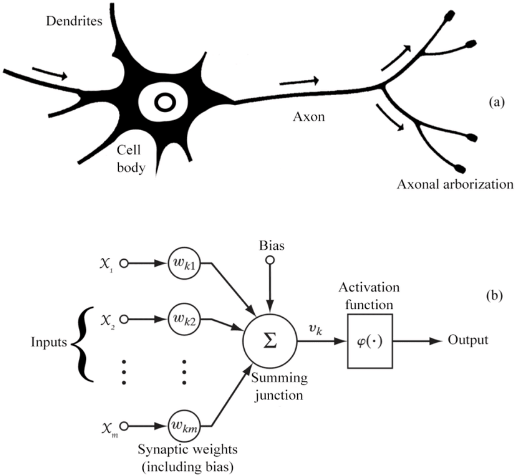
# The McCulloch-Pitts Model

- This is the first point
    - This is a second hierarchy point
- Here's the second point
- And a third point

## The equation of a Neural Network

The equation gouverning neuron $k$ is :

$$\text{Output}_k = \varphi\left(\sum_{1}^{m} x_i w_{ki} + \text{Bias}\right)$$



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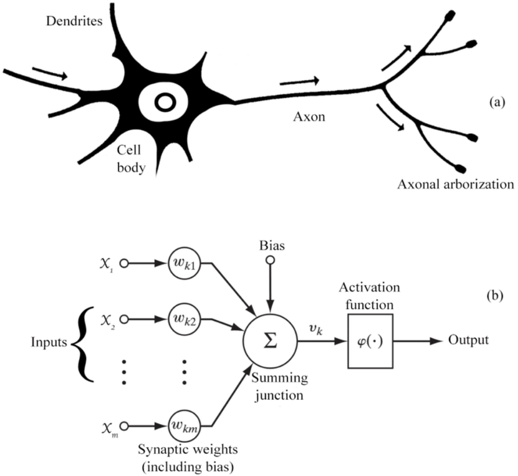

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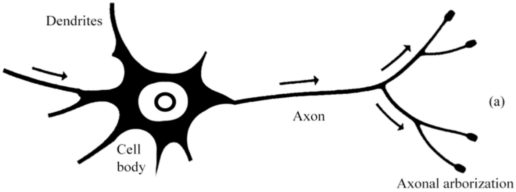


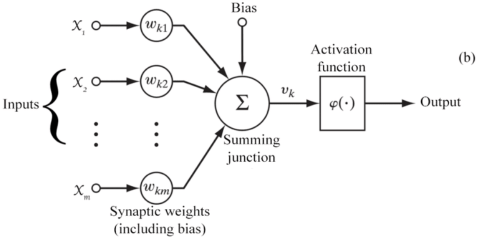

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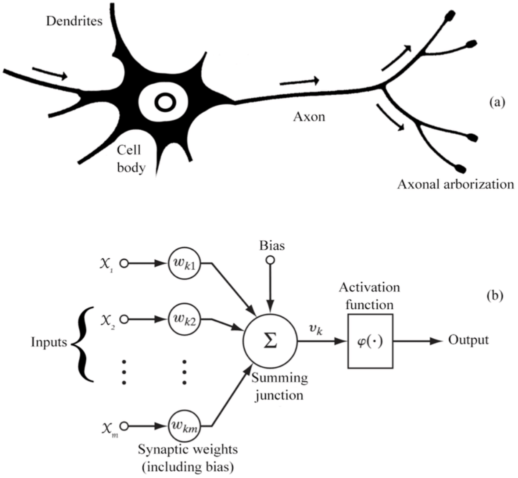

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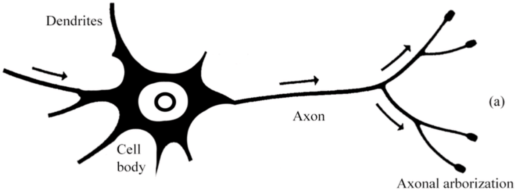


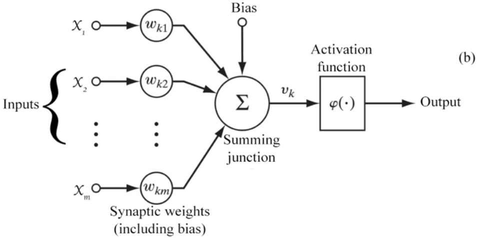

**Algorithm 1** Hyper symple Backprop

For a sample $(x_n, y_n^*)$, propagate the input $x_n$ through the network to compute the outputs $(v_{i_1}, \dots, v_{i_{|V|}})$ (in topological order).

Compute the loss $\mathcal{L}_n := \mathcal{L}(v_{i_{|V|}}, y_n^*)$ and its gradient.

$$\frac{\partial \mathcal{L}_n}{\partial v_{i_{|V|}}}. \tag{1}$$

**for** $j \in |V|, \dots, 1$ **do**

$$\frac{\partial \mathcal{L}_n}{\partial w_j} = \frac{\partial \mathcal{L}_n}{\partial v_{i_{|V|}}} \prod_{k=j+1}^{|V|} \frac{\partial v_{i_k}}{\partial v_{i_{k-1}}} \frac{\partial v_{i_j}}{\partial w_j}. \tag{2}$$

where $w_j$ refers to the weights in node $i_j$.

**end for**

# Other aspects of the template

# Blocks!

**This is a Block**

This is the primary colour

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**This is an Example Block**

This is derived from the primary colour

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**This is an Alert Block**

This is also derived from the primary colour