

Robótica Computacional

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Semana 3 – Detecção e Tracking

Leitura sugerida: Russel & Norvig, Cap.
20, seção 20.5

Tracking de objetos



https://www.youtube.com/watch?v=WyDcXtVb8_U

Detecção e tracking

Vídeo em: <https://www.pyimagesearch.com/2018/07/30/opencv-object-tracking/>

Problemas do tracking:

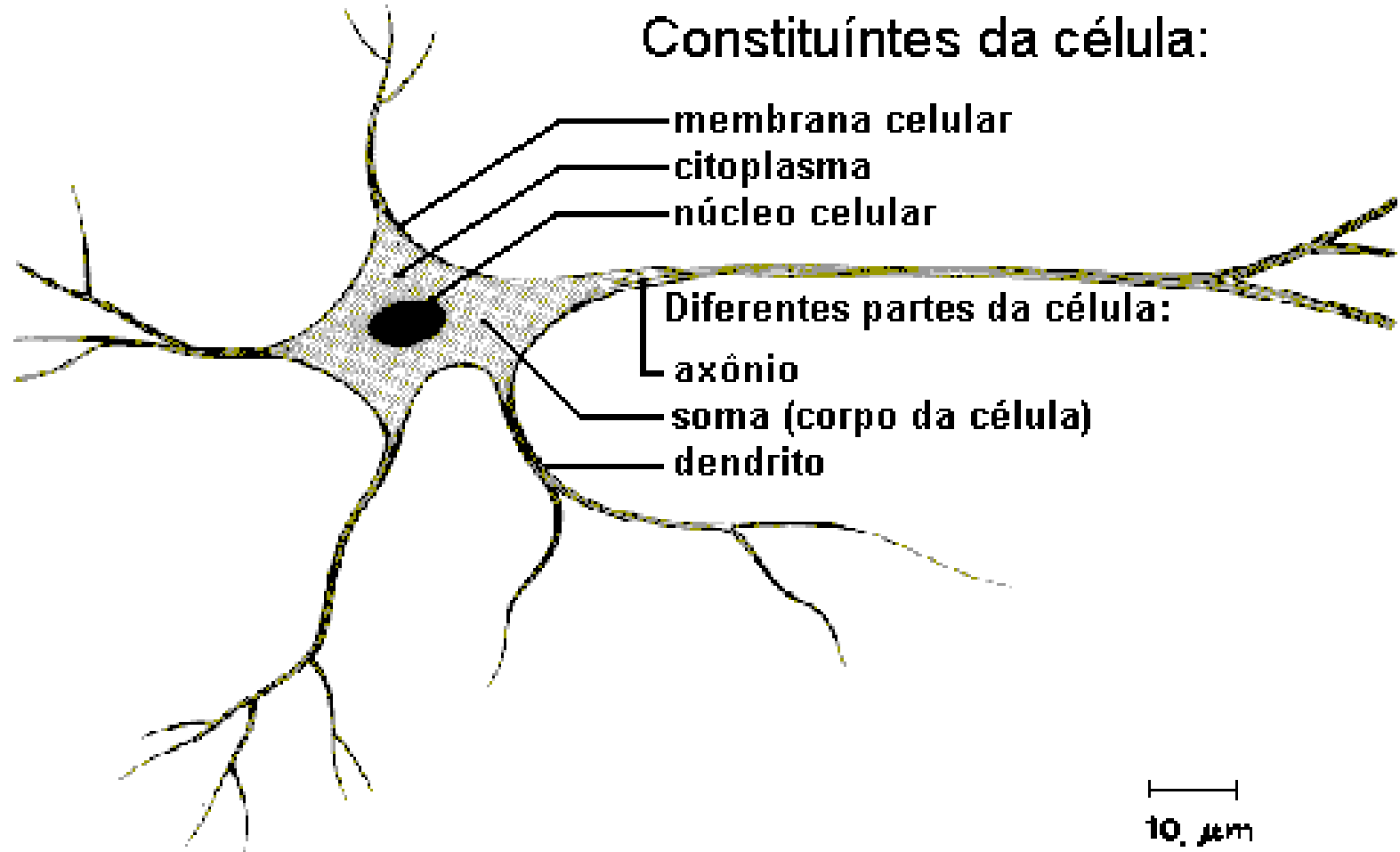
- Oclusão
- Duplicidade
- Mudança de perspectiva
- Movimento rápido

A detecção costuma ser mais lenta, mas é onde começa
Detecção hoje em dia -> Deep Learning

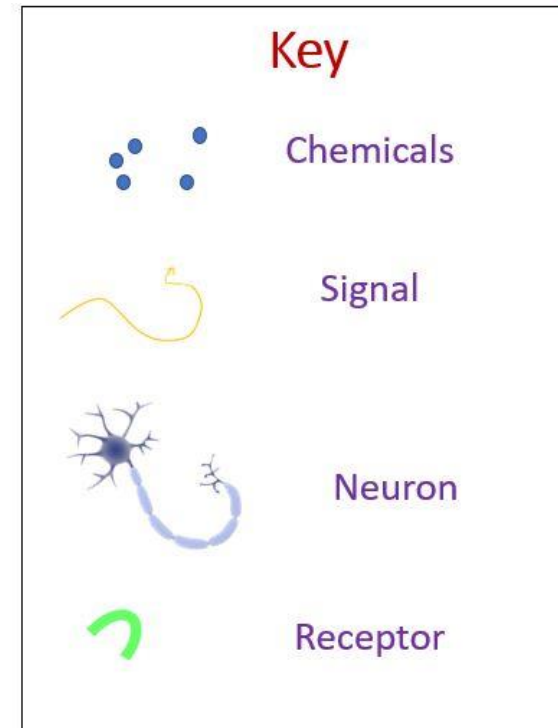
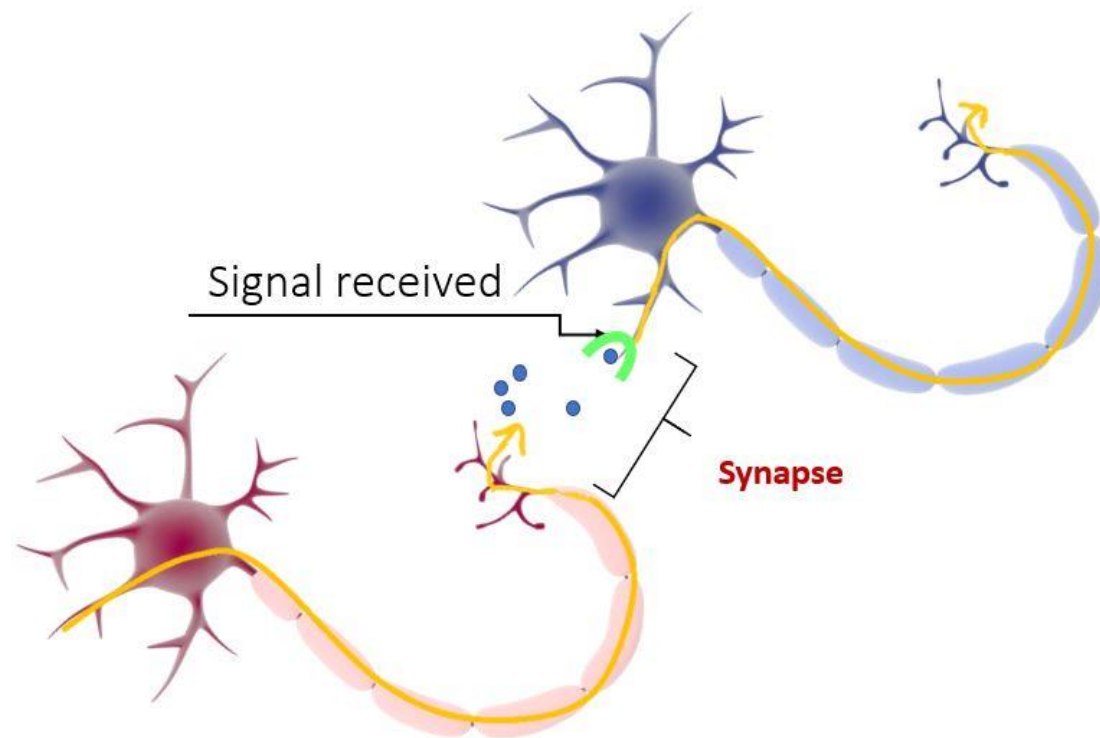
Detecção de dígitos – MNIST

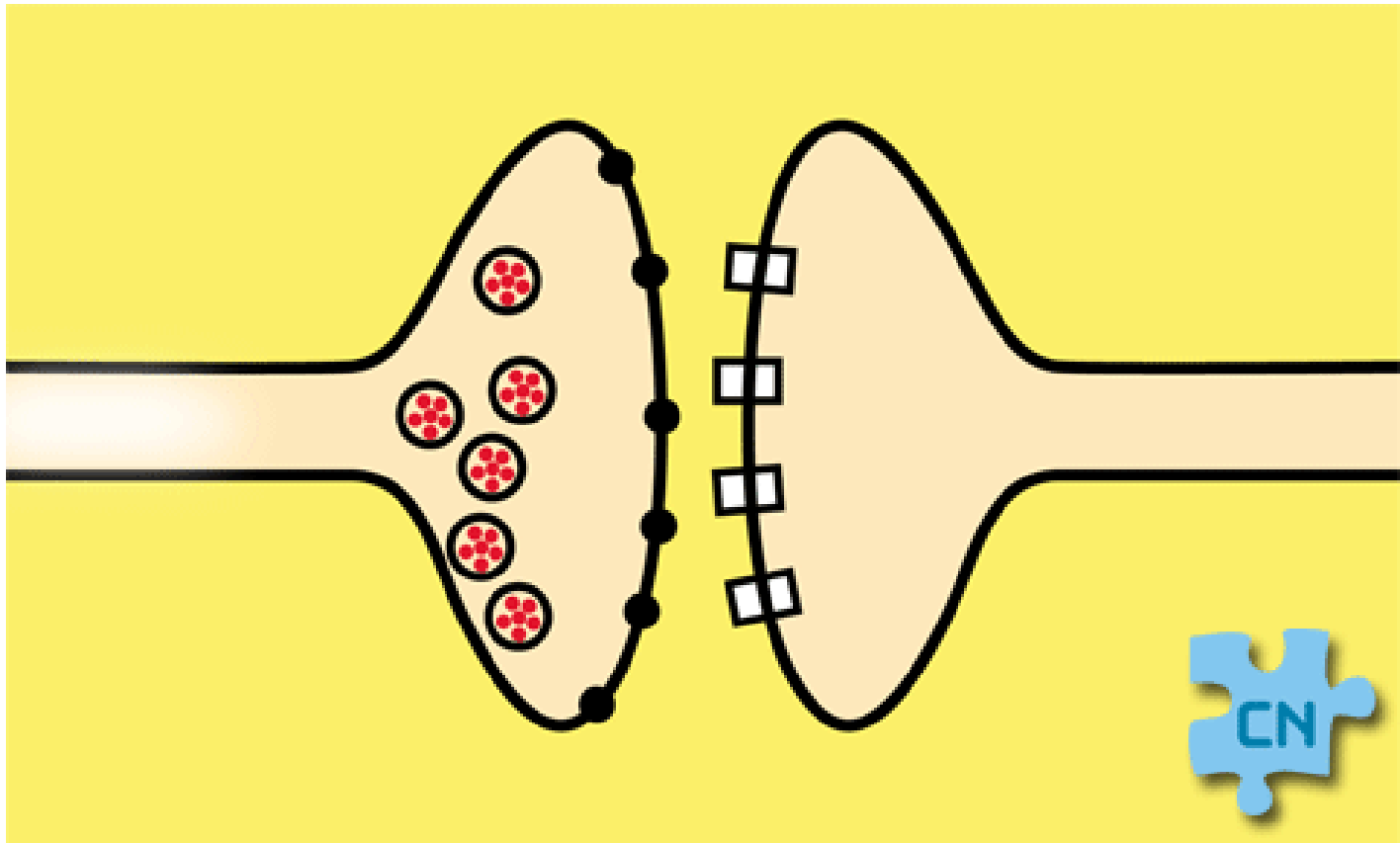


O neurônio biológico

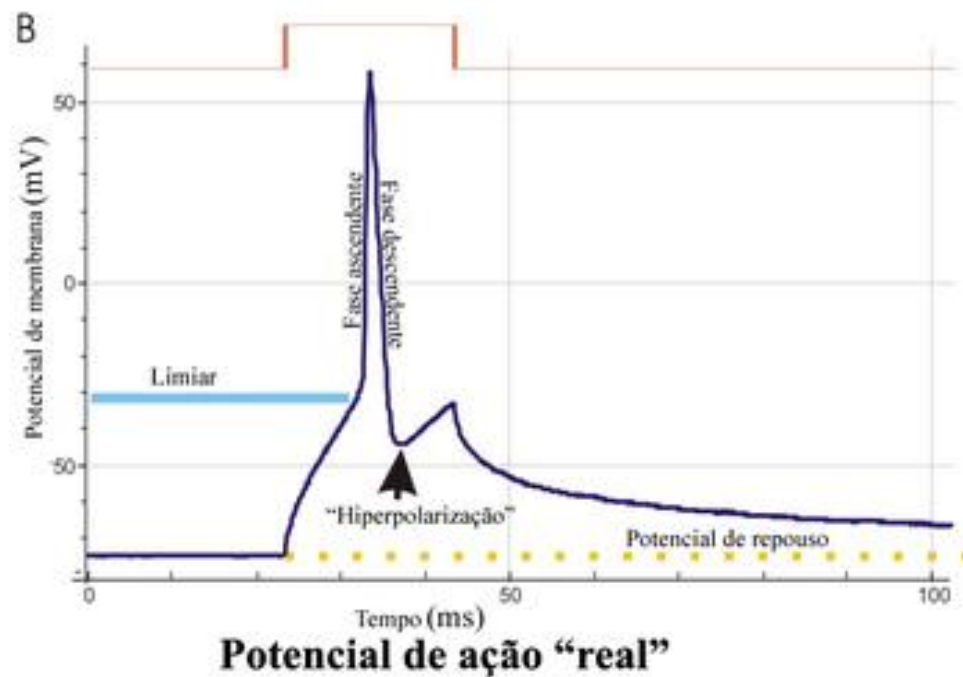
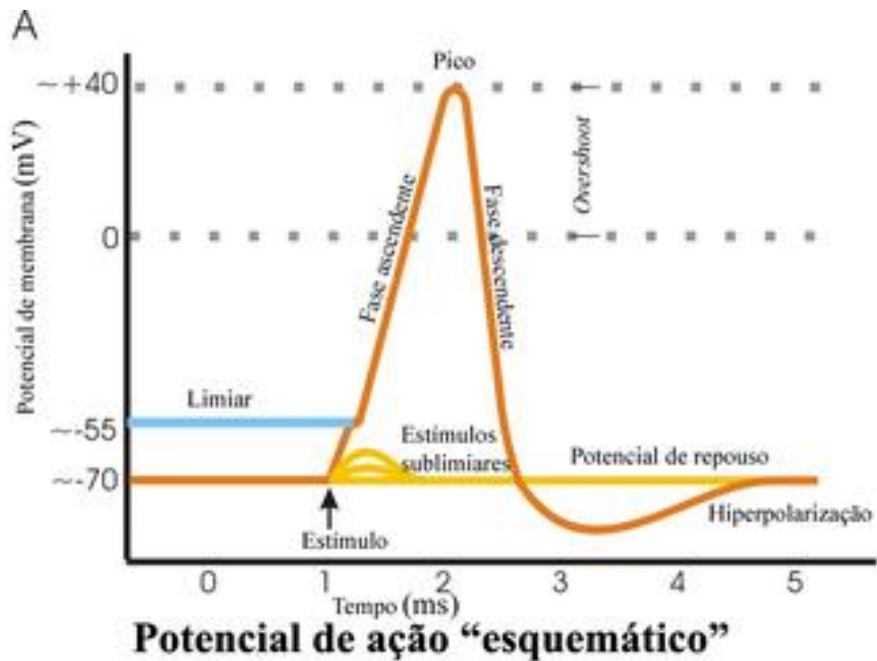


Conexão entre neurônios





<http://www.cerebronosso.bio.br/sinapses/>

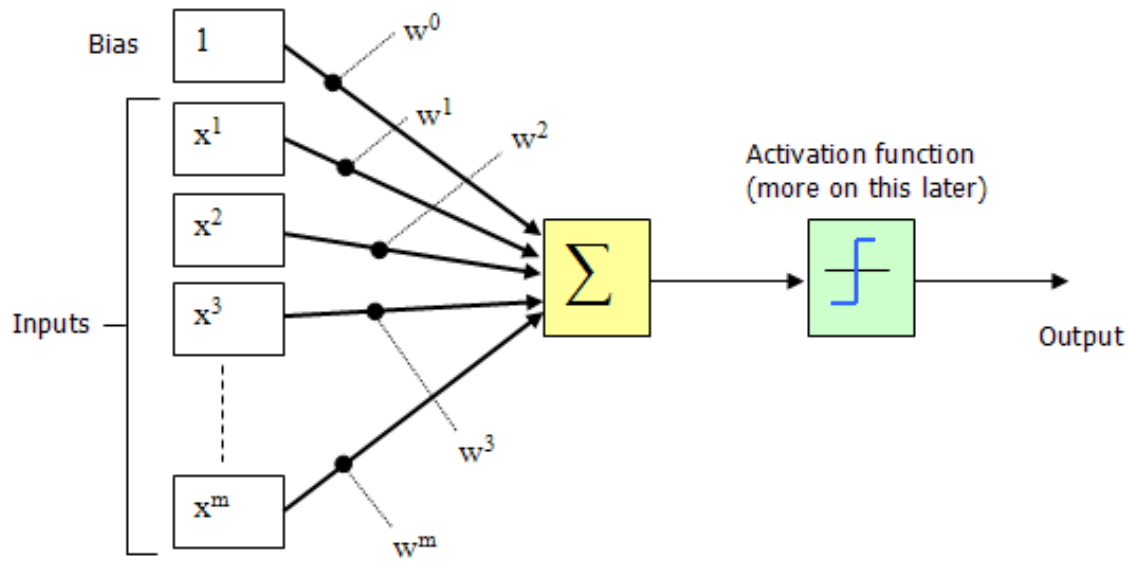


https://pt.wikipedia.org/wiki/Potencial_de_a%C3%A7%C3%A3o

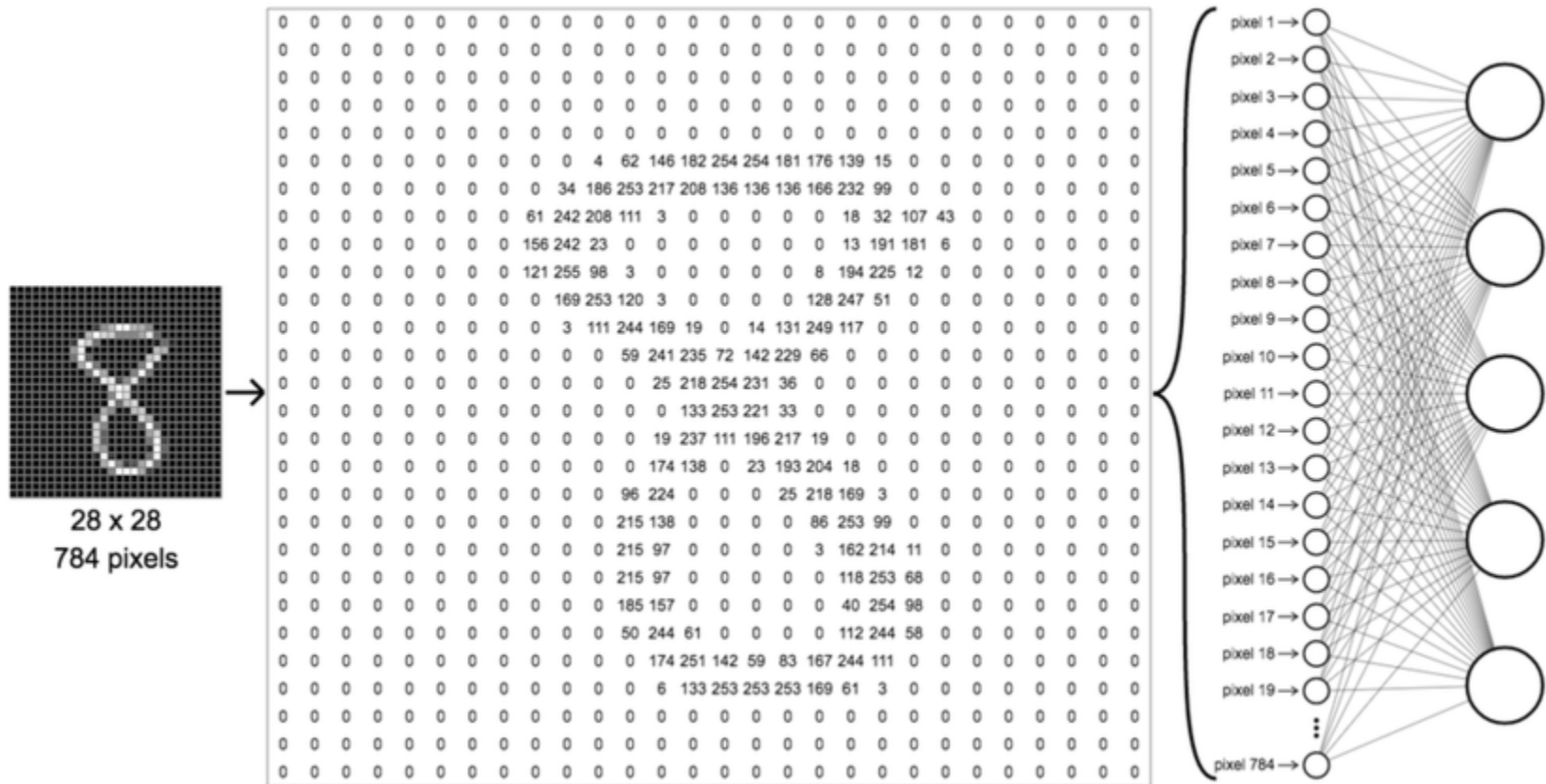
Neurônios de camundongo disparando:

<https://www.youtube.com/watch?v=W0gwrCIXx40>

Neurônio Artificial (McCulloch & Pitts)

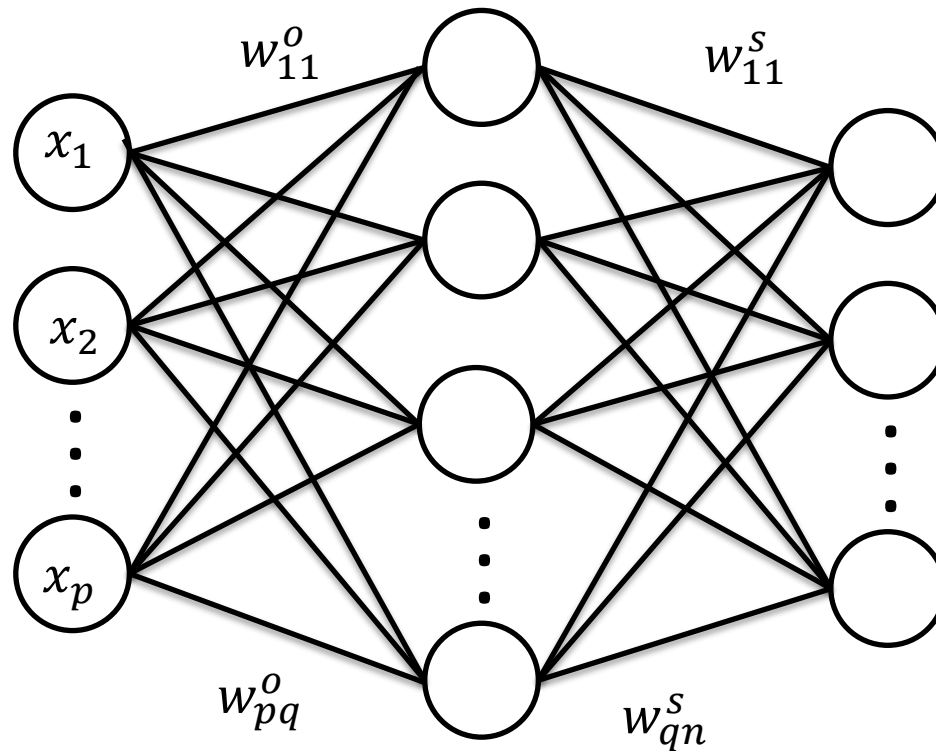


Múltiplas classes

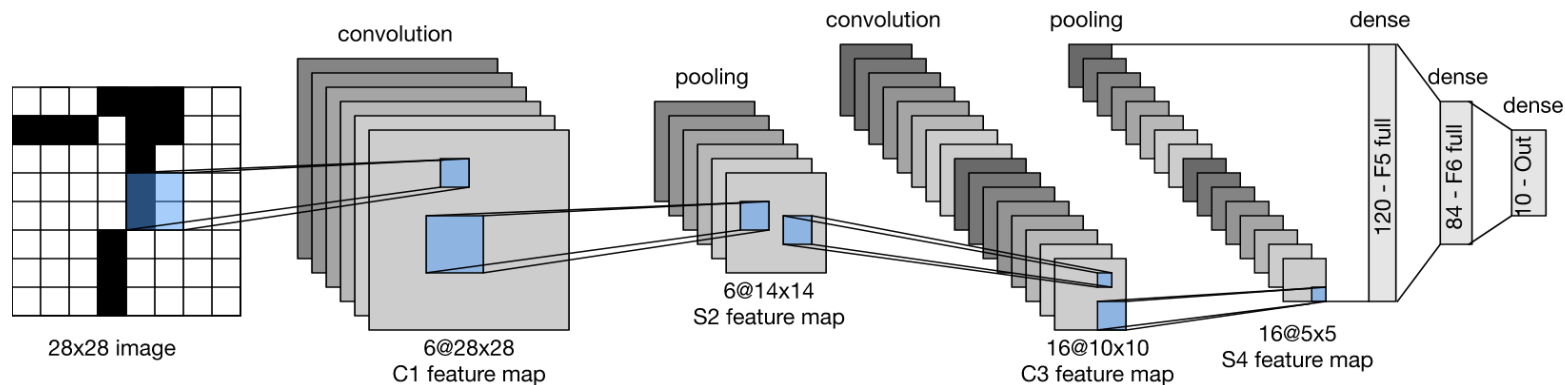


<https://twoearth.tistory.com/31>

Múltiplas camadas - MLP



Redes convolutivas



https://d2l.ai/chapter_convolutional-neural-networks/lenet.html

Visualização:

[An Interactive Node-Link Visualization of Convolutional Neural Networks \(adamharley.com\)](https://adamharley.com/)