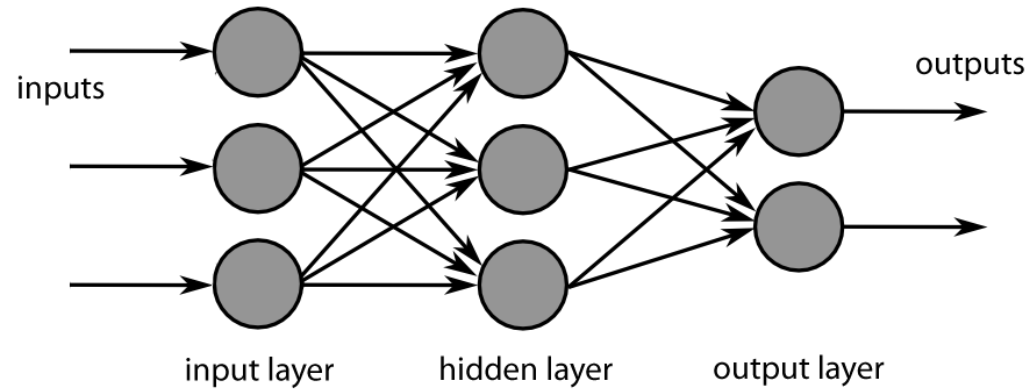
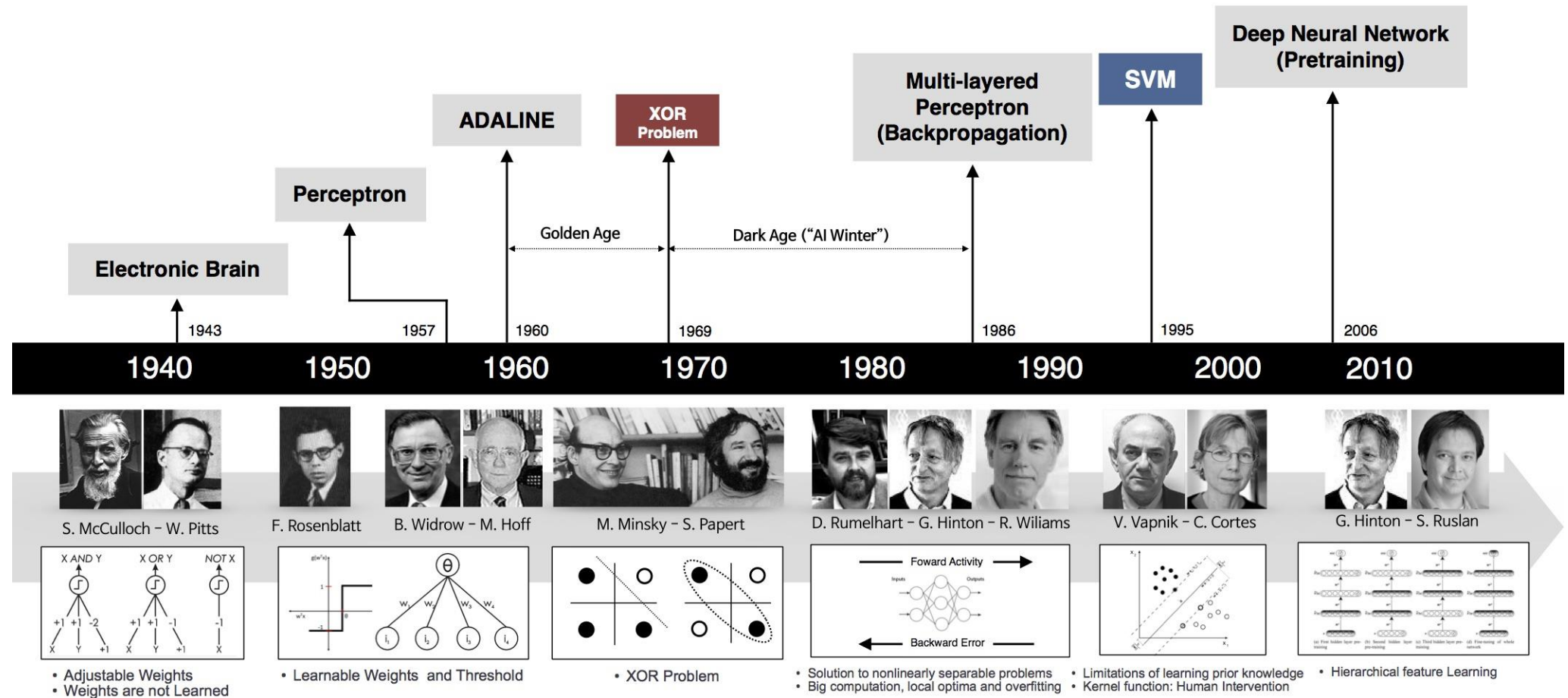


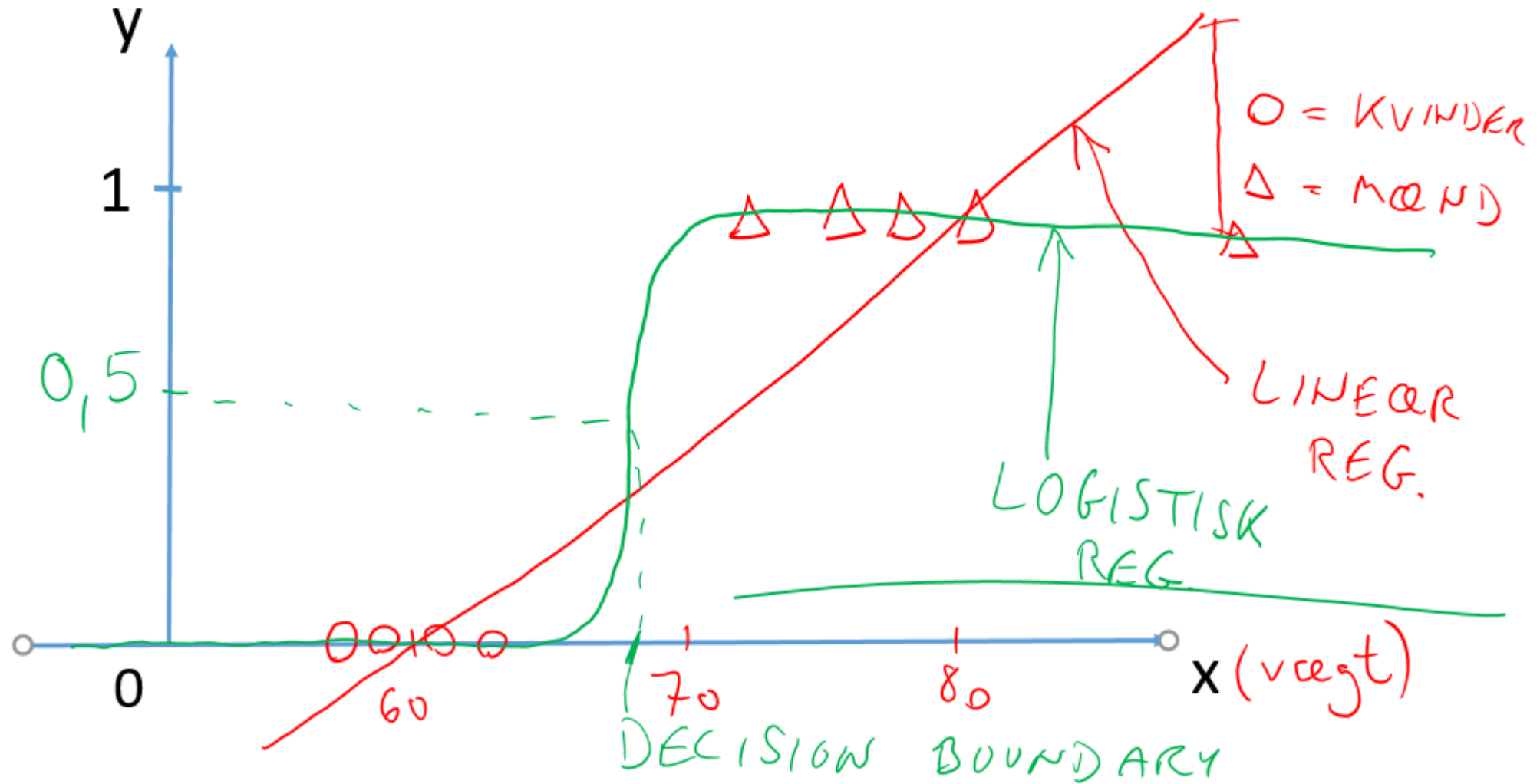
Artificial Neural Networks



Historien..



Logistisk regression - recap



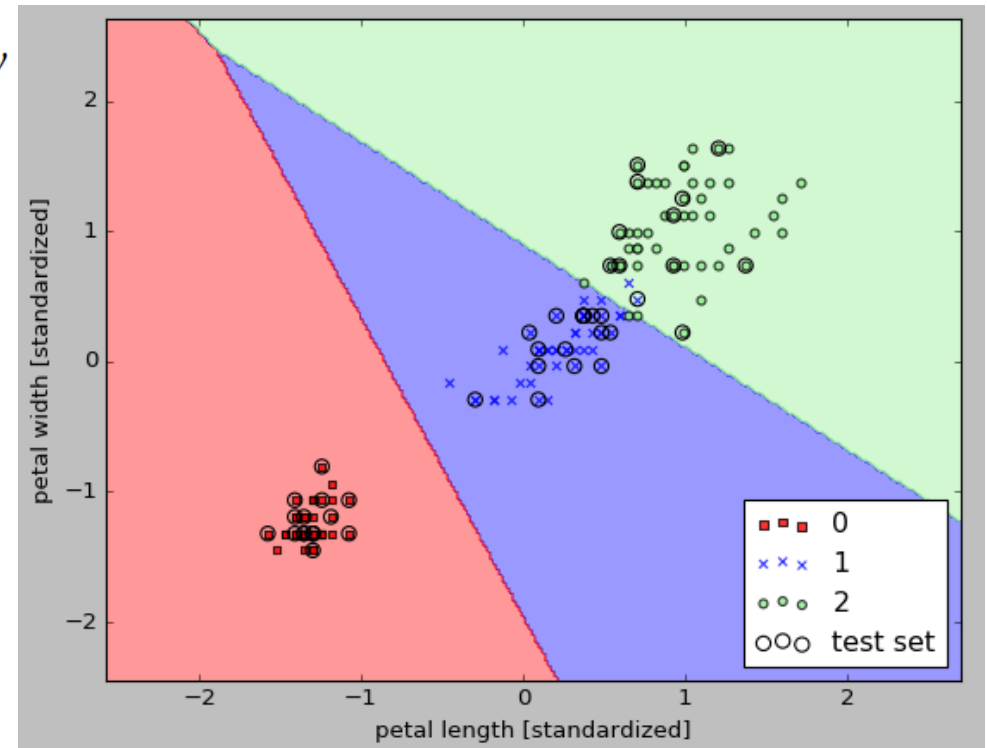
Logistisk regression - recap

Equation 4-13. Logistic Regression model estimated probability

$$\hat{p} = h_{\theta}(\mathbf{x}) = \sigma(\mathbf{x}^T \boldsymbol{\theta})$$

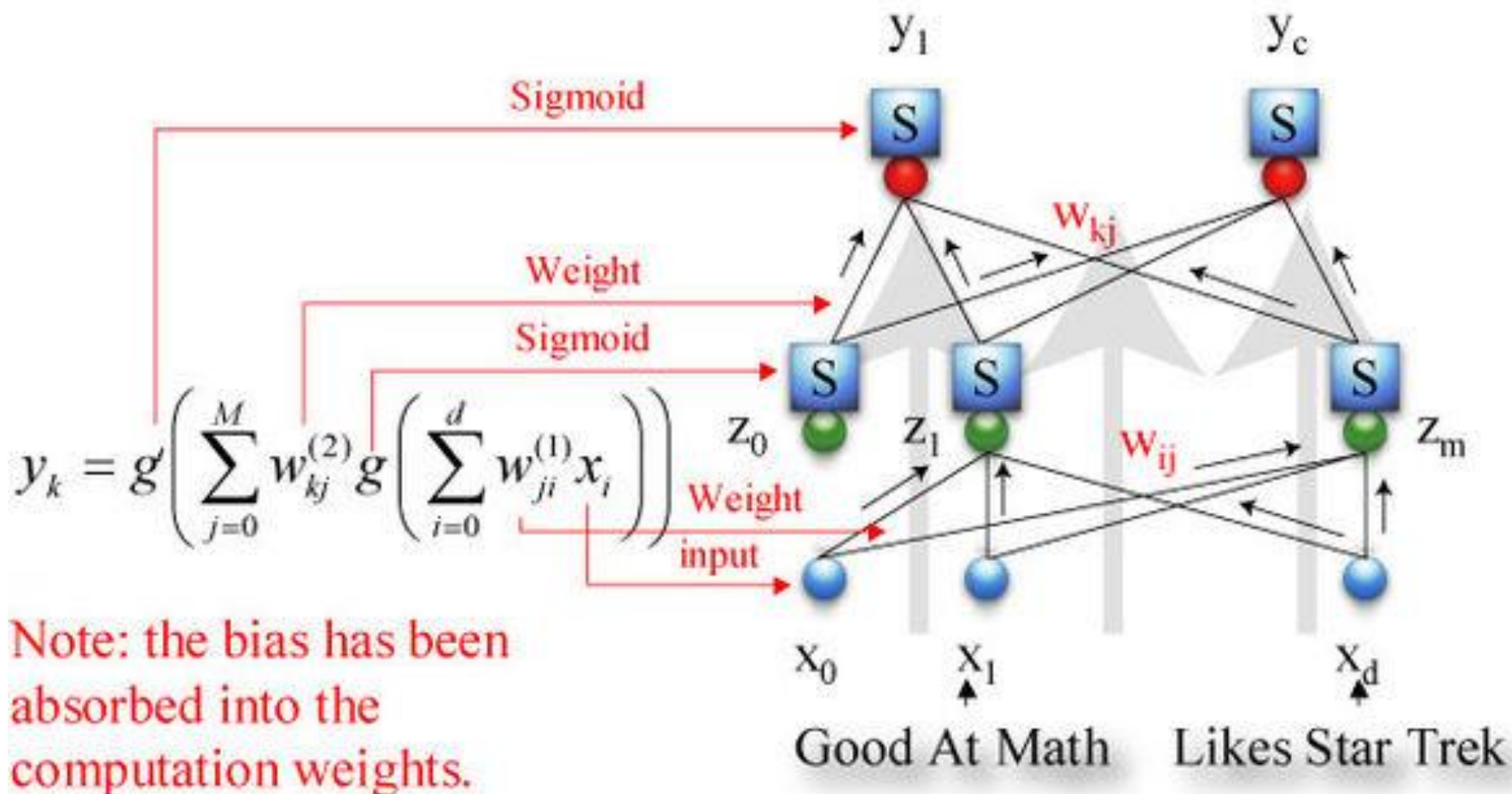
Equation 4-14. Logistic function

$$\sigma(t) = \frac{1}{1 + \exp(-t)}$$

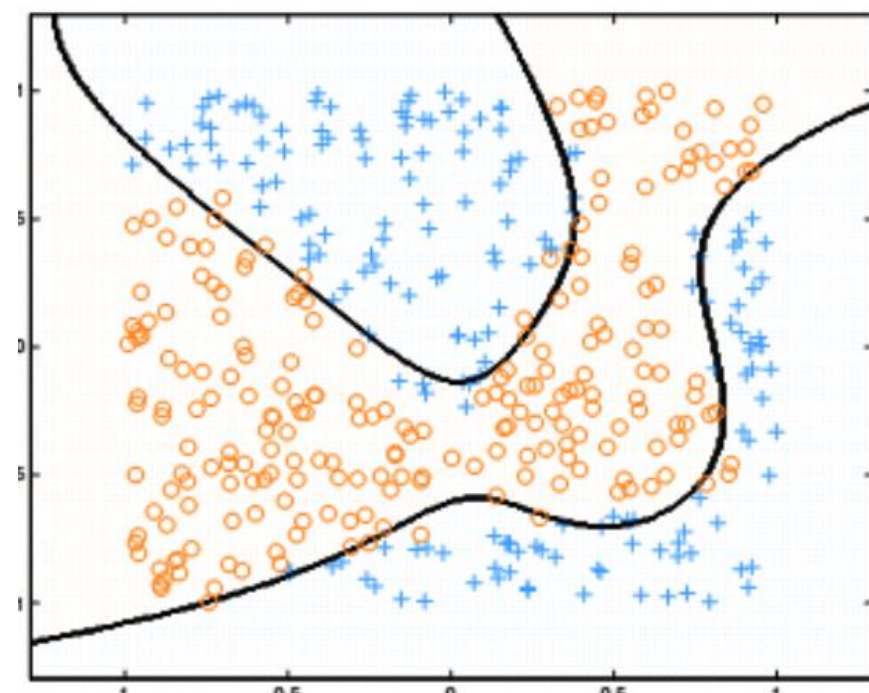
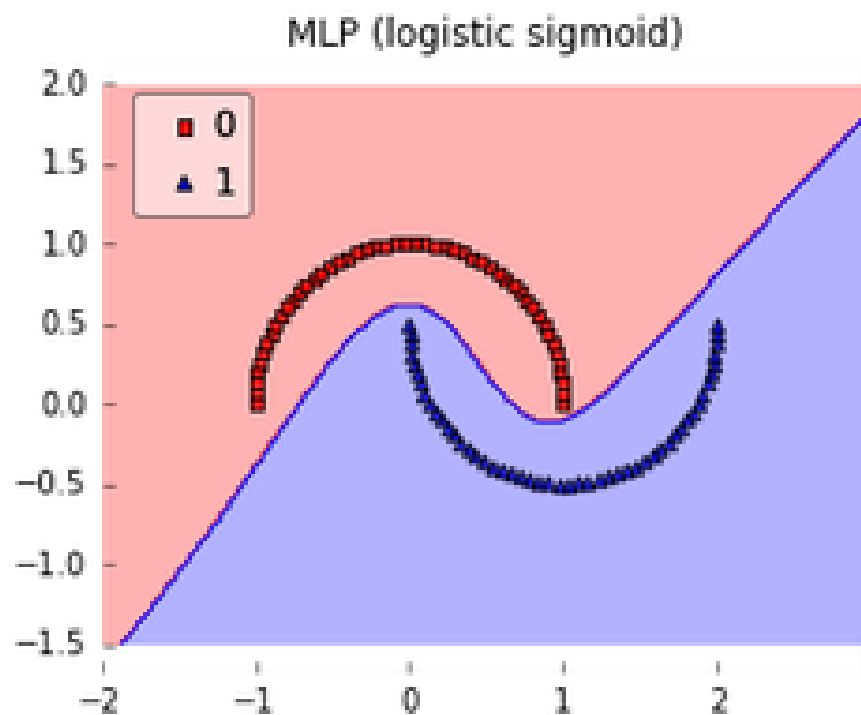


Lineær classifier

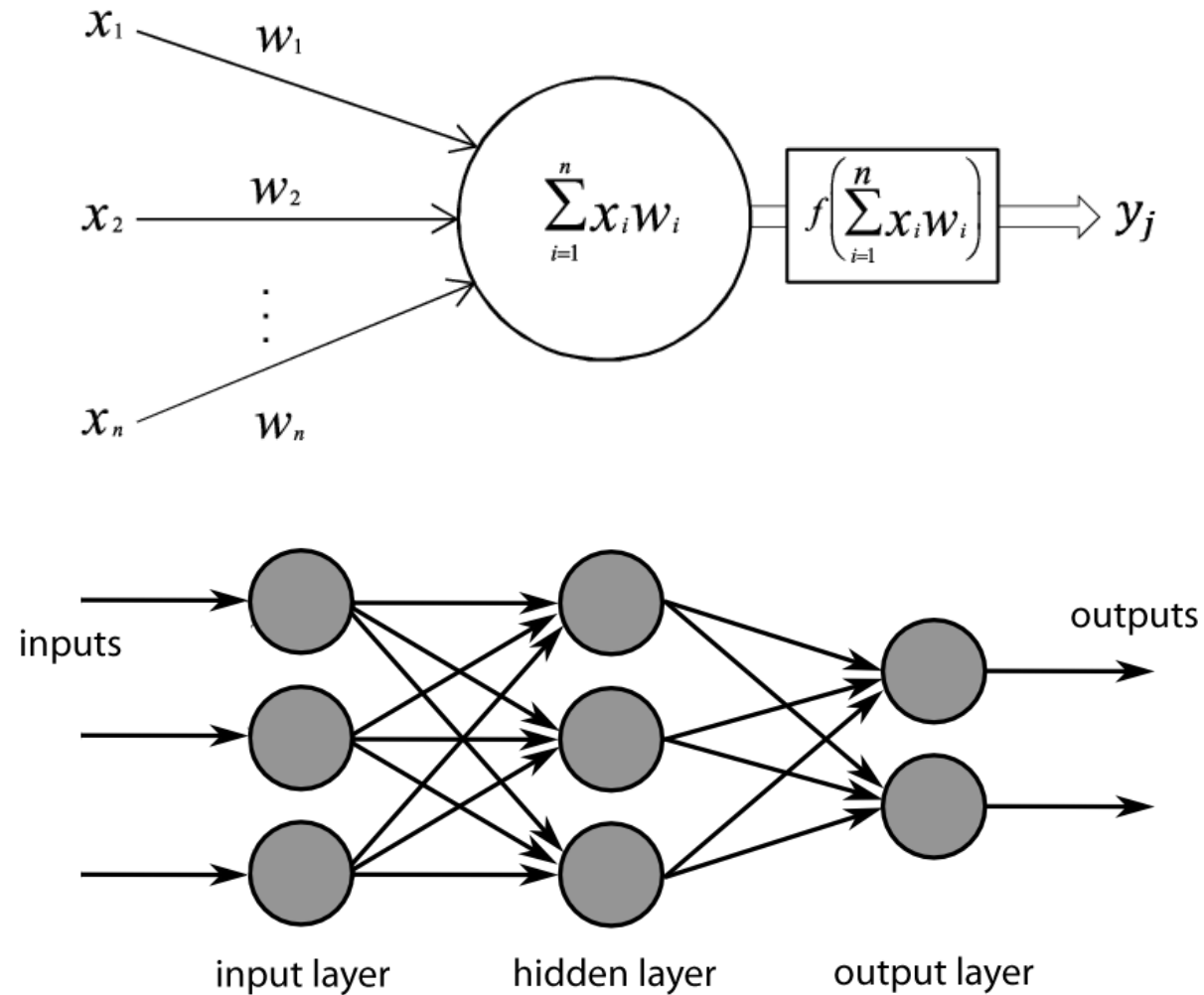
Multi-layer perceptron (alm. 2 lags)



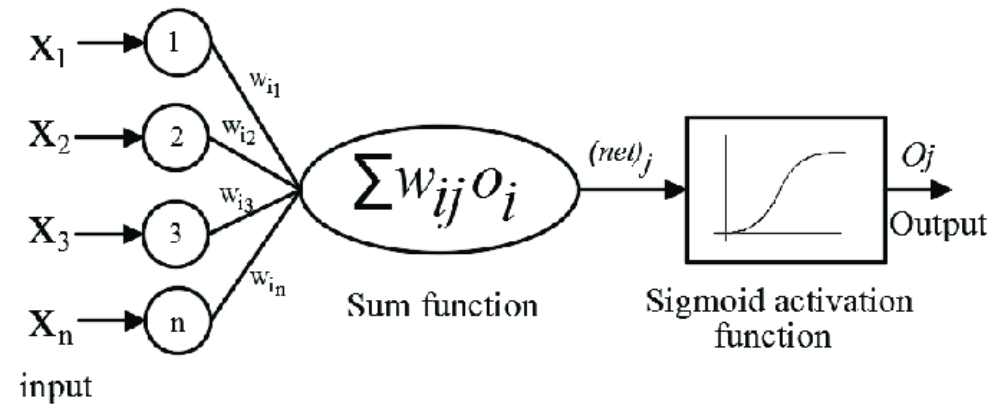
Decision boundary



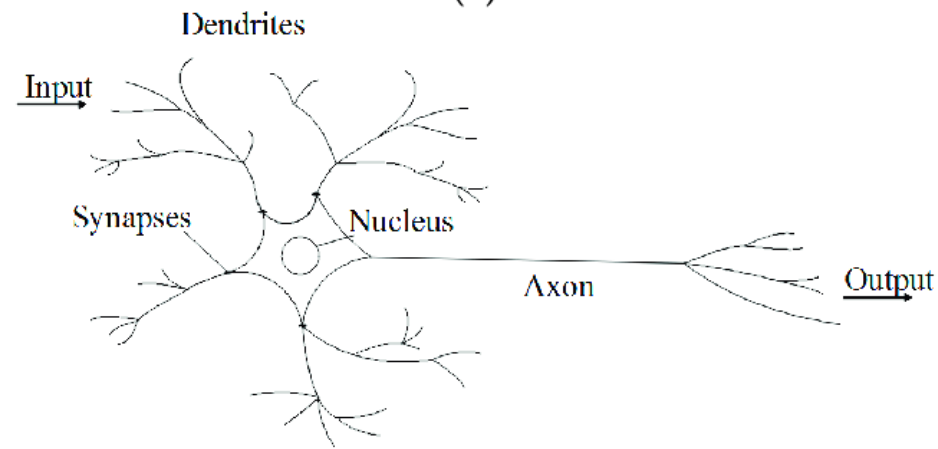
Grafisk repræsentation



Lidt historie igen..

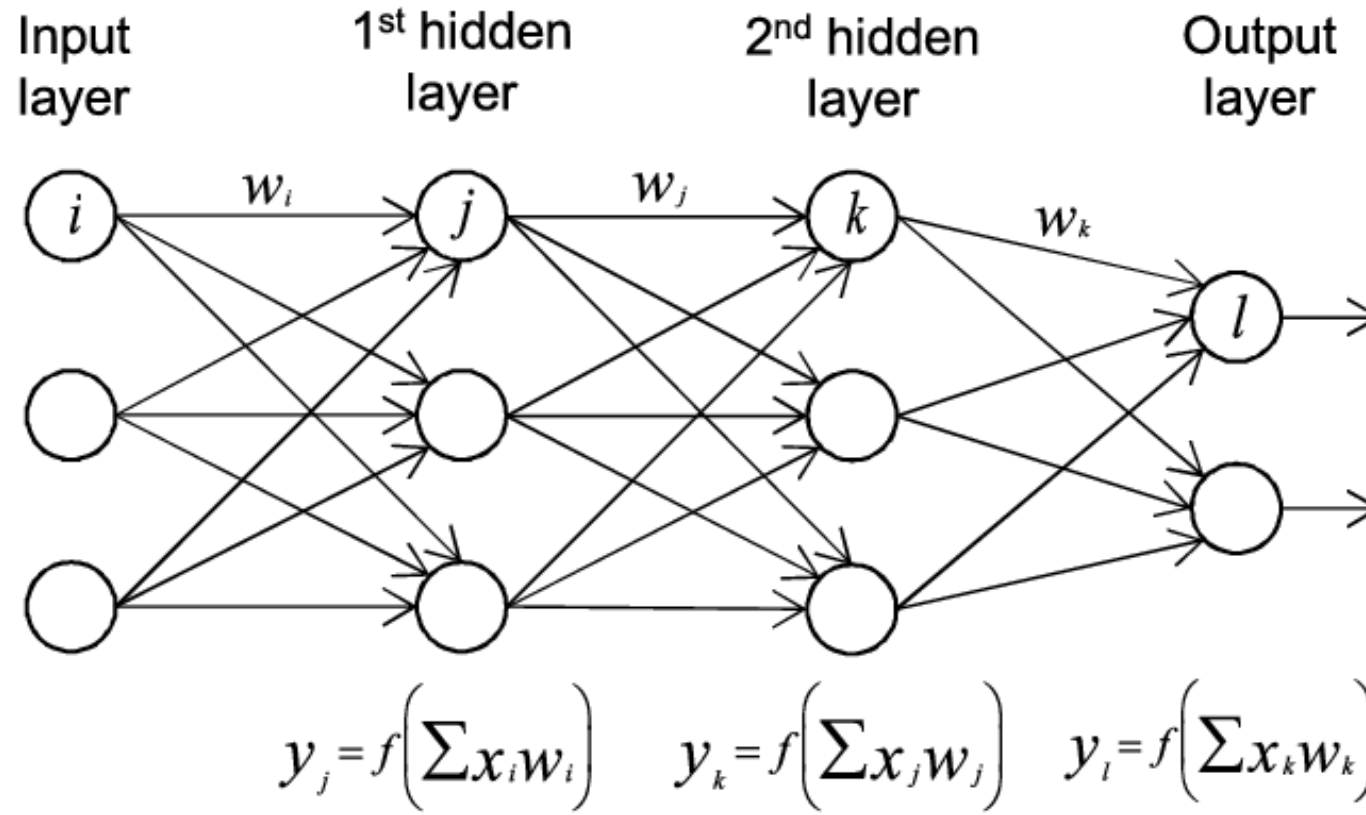


(a)



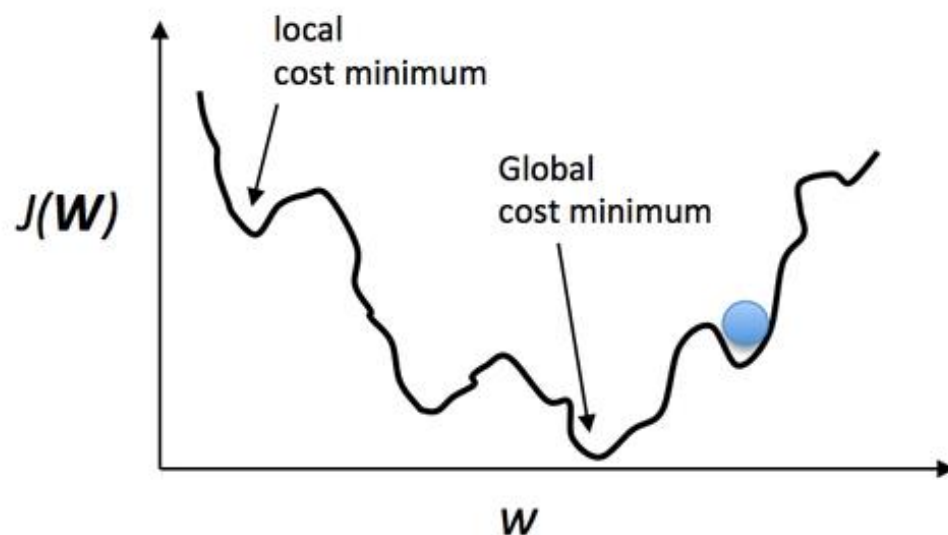
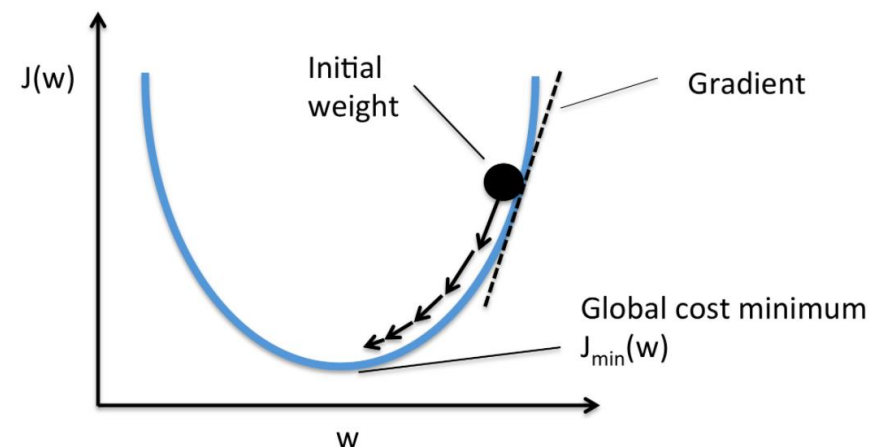
(b)

Grafisk repræsentation



Learning / training

- Regression – samme cost function som linear regression, MSE
- Klassifikation – fx. cross-entropy error function
- Samme princip med minimering af cost function som tidligere..



Backpropagation

- "Trick" til lettere at beregne gradient af cost function
- Kan sammenlignes med FFT til udregning af DFT