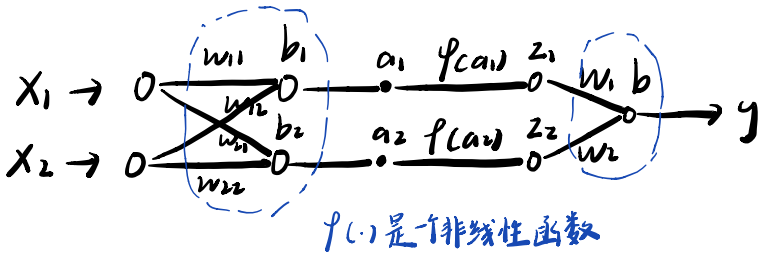
多层神经网络 (Multiple Layer Neural Networks)

$$X=\begin{bmatrix}x_1\\x_2\end{bmatrix}$$

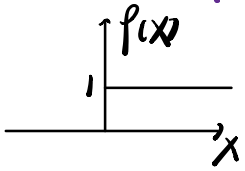


$f(\cdot)$是一个非线性函数

$$\begin{cases} a_1 = w_{11}\cdot x_1 + w_{12}\cdot x_2 + b_1 \\ a_2 = w_{21}\cdot x_1 + w_{22}\cdot x_2 + b_2 \\ z_1 = f(a_1) \\ z_2 = f(a_2) \\ y = w_1 z_1 + w_2 z_2 + b \end{cases}$$

$$y = w_1 f(w_{11}x_1 + w_{12}x_2 + b_1) + w_2 f(w_{21}x_1 + w_{22}x_2 + b_2) + b$$

非线性函数$f(x)$是什么？



(阶越函数)

↑可处理所有非线性模型