

function

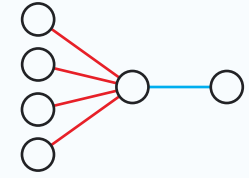
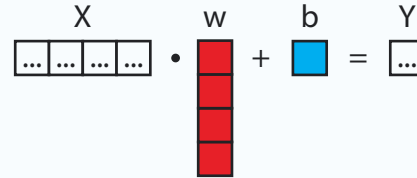
matrices

neural representation

linear
regression

$$Y = f(X, w, b)$$

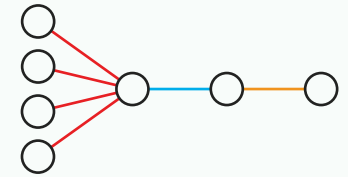
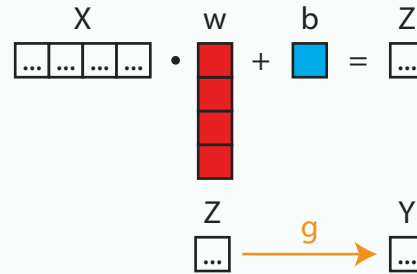
$$f(X, w, b) = X \cdot w + b$$

logistic
regression
(classification)

$$Z = f(X, w, b)$$

$$Y = g(Z)$$

$$g(x) = \frac{1}{1 + e^{-x}}$$

deep net
regressor

$$Z = \tanh(h(X, w_1, b_1))$$

$$Y = \text{ReLu}(h(Z, w_2, b_2))$$

$$h(X, w, b) = X \cdot w + b$$

$$\text{ReLu}(x) = \max(x, 0)$$

