

$$J(\alpha, x, y) = \sum_{i=1}^n (h_{\alpha}(x_i) - y_i)^2 +$$

$$\lambda \sum_{l=1}^{n_l} \sum_{i=1}^{s_{l+1}} \sum_{j=1}^{s_l} \alpha_{ij}^{(l)}$$

\nwarrow # layers
 \swarrow nodes in $l+1$ layer
 \nwarrow nodes in l