

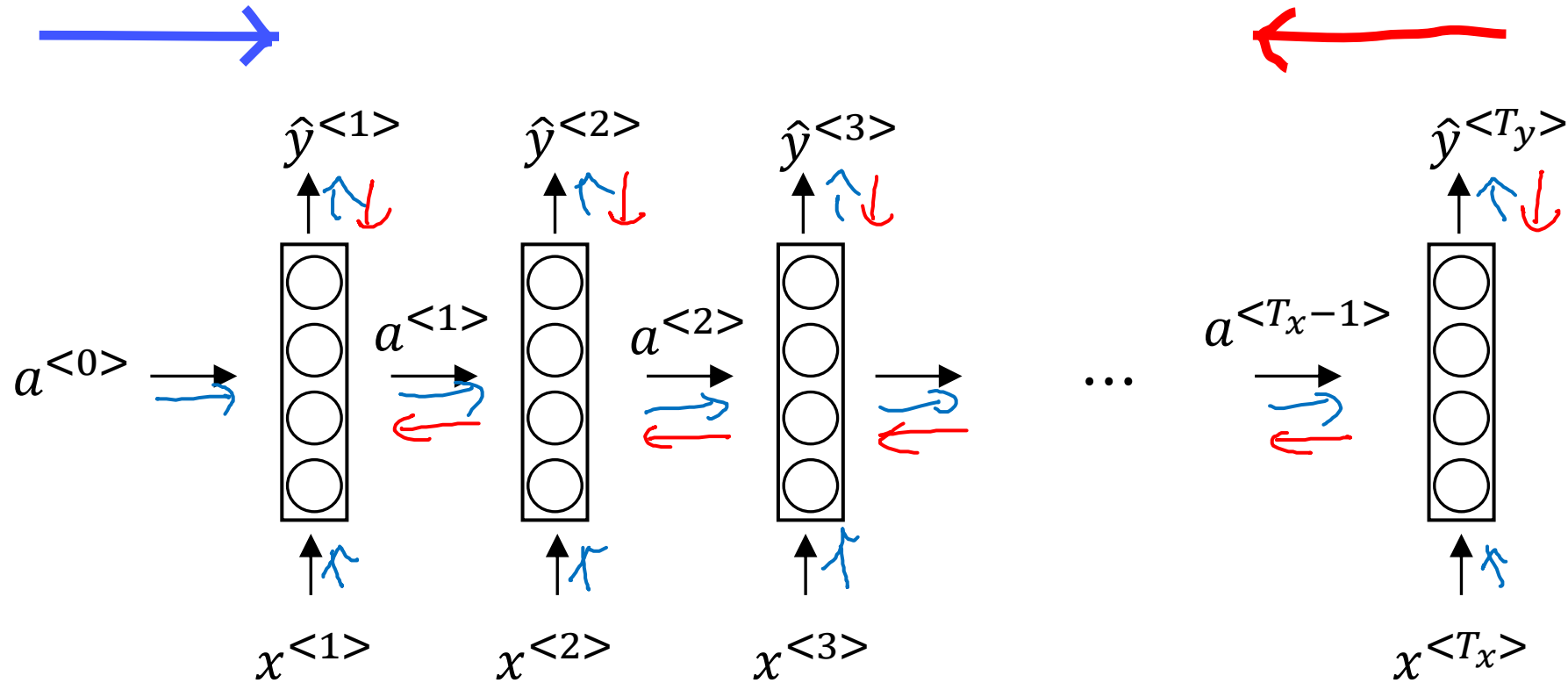


deeplearning.ai

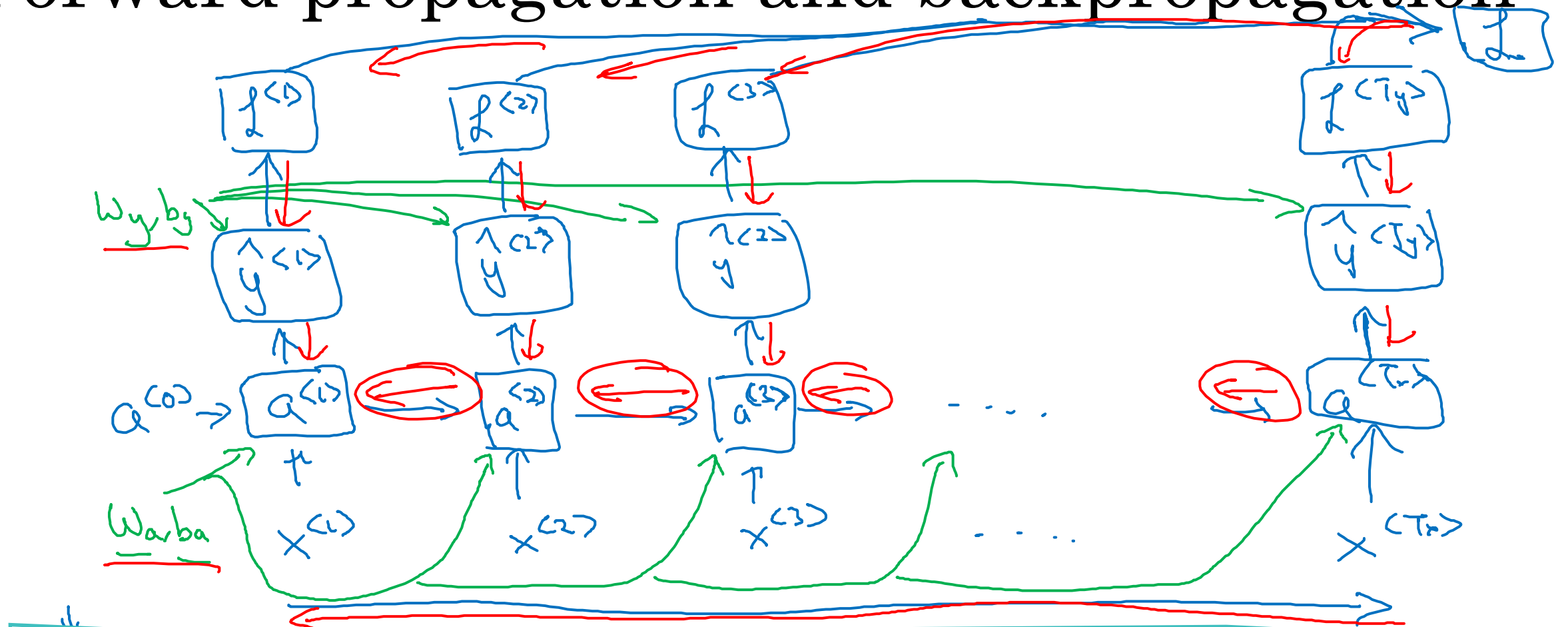
Recurrent Neural Networks

Backpropagation through time

Forward propagation and backpropagation



Forward propagation and backpropagation



$$\mathcal{L}^{(t)}(\hat{y}^{(t)}, y^{(t)}) = -y^{(t)} \log \hat{y}^{(t)} - (1 - y^{(t)}) \log (1 - \hat{y}^{(t)})$$

Individual
Lost Function

$$\mathcal{L}(\hat{y}, y) = \sum_{t=1}^T \mathcal{L}^{(t)}(\hat{y}^{(t)}, y^{(t)})$$

Overall Lost Function

Backpropagation through time