

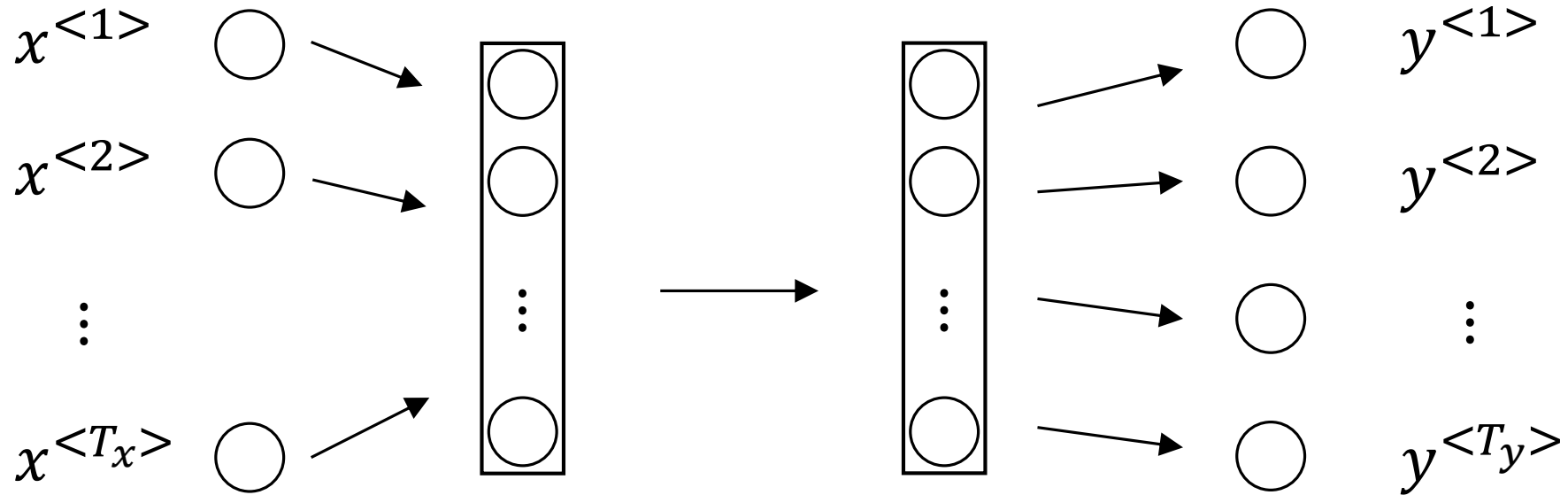


deeplearning.ai

Recurrent Neural Networks

Recurrent Neural Network Model

Why not a standard network?



Problems:

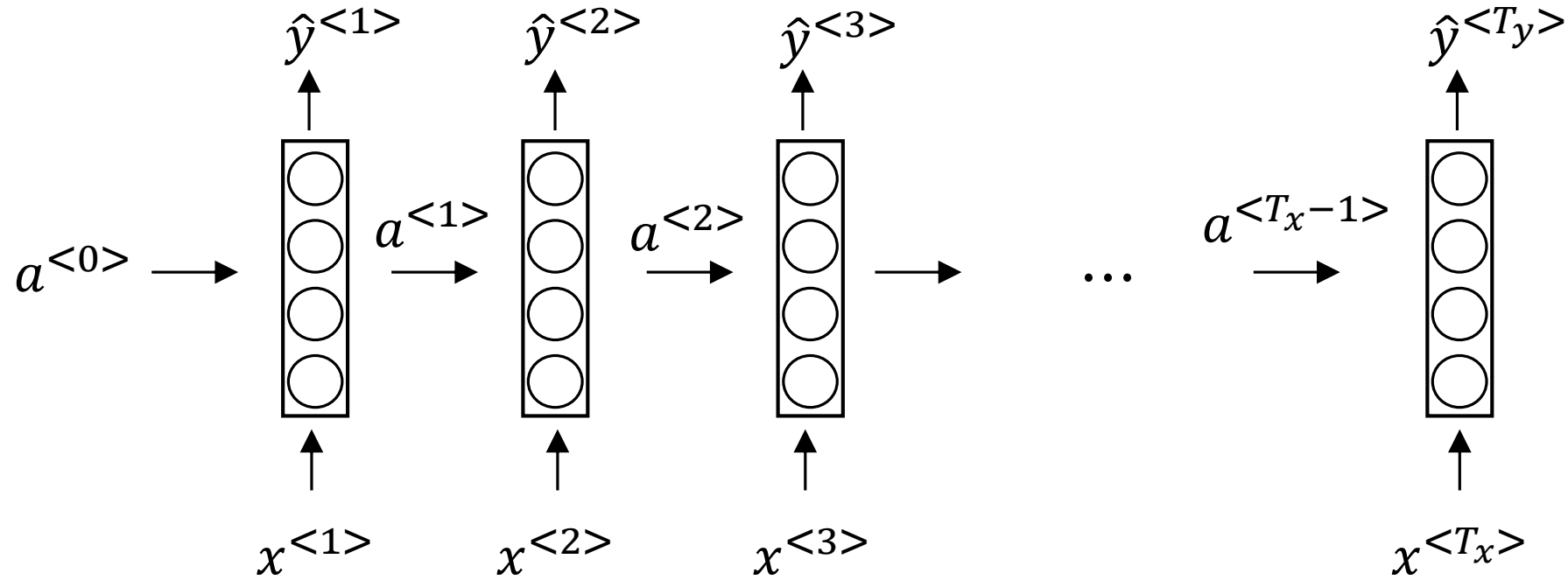
- Inputs, outputs can be different lengths in different examples.
- Doesn't share features learned across different positions of text.

Recurrent Neural Networks

He said, “Teddy Roosevelt was a great President.”

He said, “Teddy bears are on sale!”

Forward Propagation



Simplified RNN notation

$$a^{<t>} = g(W_{aa}a^{<t-1>} + W_{ax}x^{<t>} + b_a)$$

$$\hat{y}^{<t>} = g(W_{ya}a^{<t>} + b_y)$$