



deeplearning.ai

# Recurrent Neural Networks

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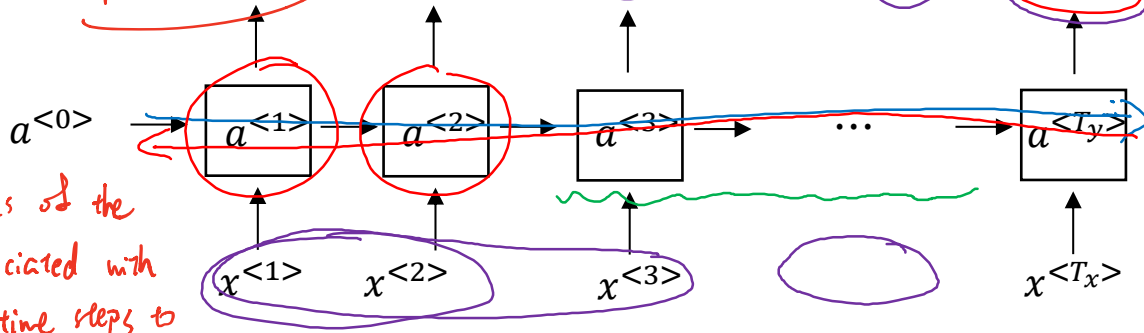
## Vanishing gradients with RNNs

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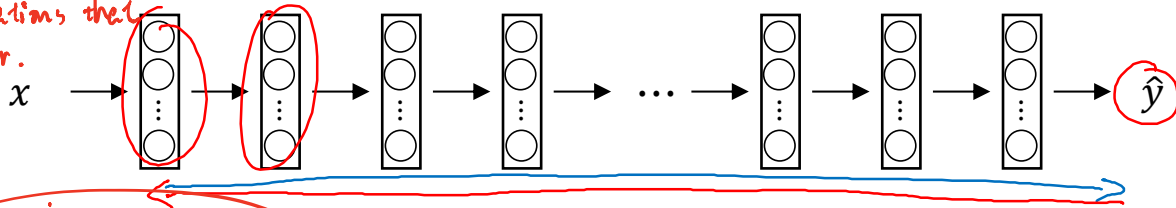
The basics RNN it's not very good at capturing very long-term dependencies

The cat, which already ate -----, The cats, wh -----

was full were full



the outputs of the errors associated with the later time steps to the computations that are earlier.



easier to spot  
Exploding gradients.

see NaN

solution

Gradient clipping

梯度裁剪 (threshold  $\rightarrow$  re-scale)

