



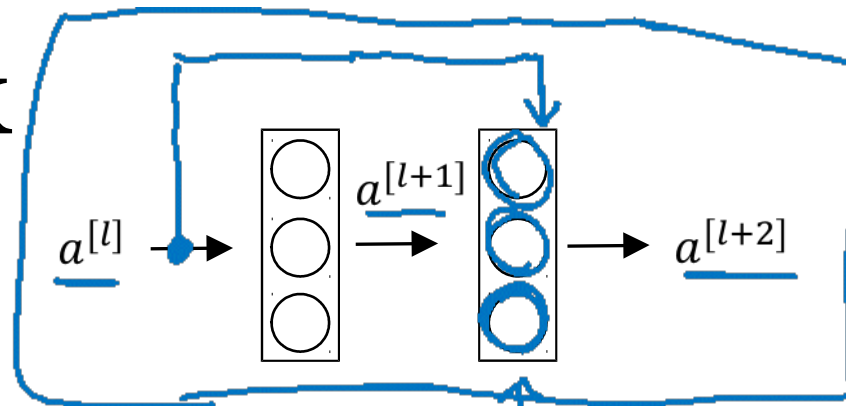
**deeplearning.ai**

# Case Studies

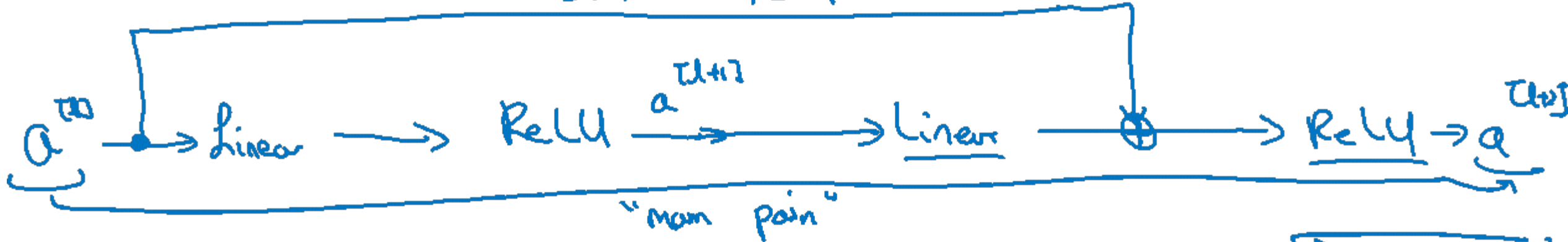
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Residual  
Networks  
(ResNets)

# Residual block



"short cut" / skip connection



$$z^{[l+1]} = W^{[l+1]} a^{[l]} + b^{[l+1]}$$

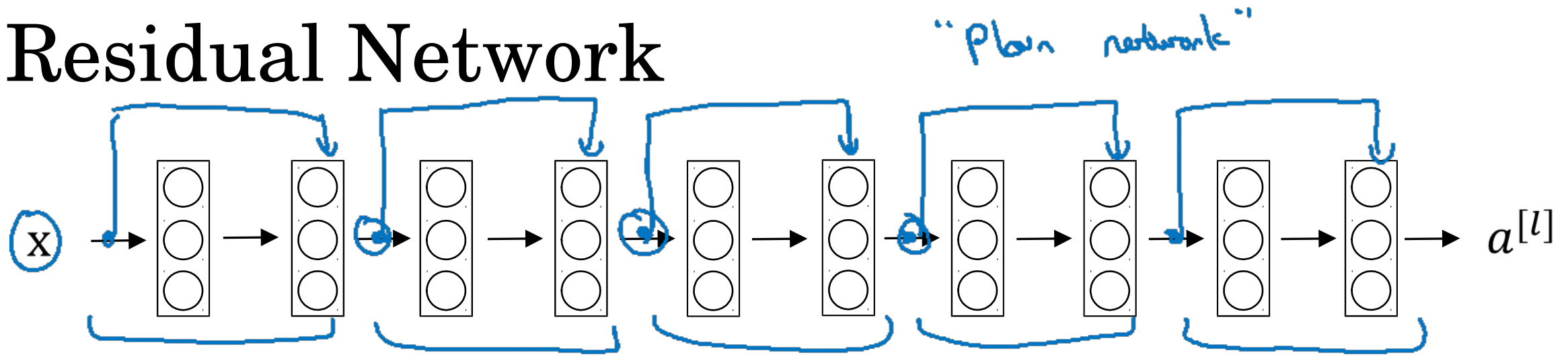
$$a^{[l+1]} = g(z^{[l+1]})$$

$$z^{[l+2]} = W^{[l+2]} a^{[l+1]} + b^{[l+2]}$$

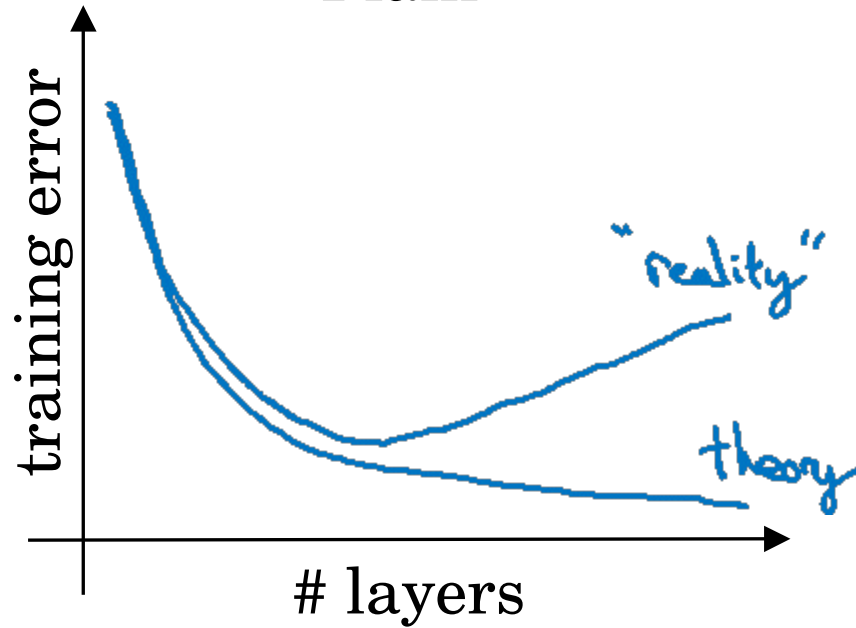
~~$$a^{[l+2]} = g(z^{[l+2]})$$~~

$$a^{[l+2]} = g(z^{[l+2]} + a^{[l]})$$

# Residual Network



Plain



ResNet

