



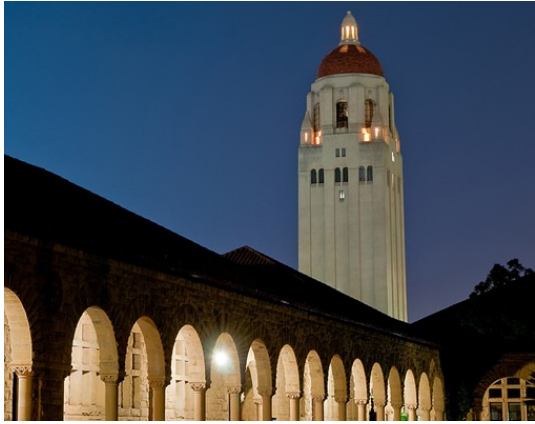
**deeplearning.ai**

# Neural Style Transfer

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## Cost function

# Neural style transfer cost function



Content C

Style S



Generated image G

$$\mathcal{J}(G) = \alpha \mathcal{J}_{\text{content}}(C, G) + \beta \mathcal{J}_{\text{style}}(S, G)$$

# Find the generated image $G$

1. Initiate  $G$  randomly

$G$ :  $100 \times 100 \times 3$

↑  
RGB

2. Use gradient descent to minimize  $J(G)$

$$G := G - \frac{d}{dG} J(G)$$

