



deeplearning.ai

# Neural Style Transfer

---

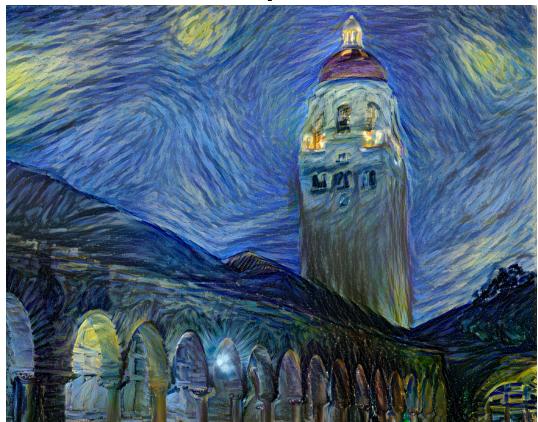
## Cost function

# Neural style transfer cost function



Content C

Style S



Generated image G

$$J(G) = \alpha J_{\text{Content}}(C, G)$$

$$+ \beta J_{\text{Style}}(S, G)$$

# Find the generated image G

1. Initiate G randomly

$$G: \underbrace{100 \times 100}_{\text{---}} \times \underbrace{3}_{\text{---}} \xrightarrow{\text{RGB}}$$

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

$$G_t := G - \frac{\partial}{\partial G} J(G)$$

