



deeplearning.ai

Neural Style Transfer

Cost function

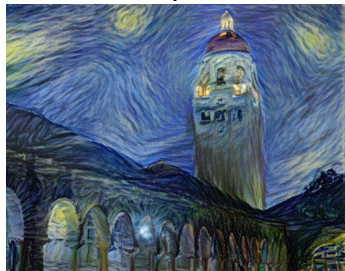
Neural style transfer cost function



Content C



Style S



Generated image G



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

Find the generated image G

- ## 1. Initiate G randomly

G: $\underline{100} \times \underline{100} \times \underline{3}$

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

$$G := G - \frac{d}{2G} J(G)$$

