

StyleUp

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What is this project about?

Neural Style Transfer



Source : Depth-aware Neural Style Transfer

Why we chose it?

- Helps to blend two images
- Wide customer usage
- Interesting research area

Technologies, Model and Algorithm Used

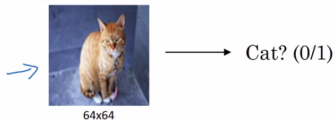
- Deep Learning
- VGG-19 Model trained on ImageNet
- Deep Neural Style Transfer Algorithm using Photorealism Regularization

- An aid to Architects and Interior Designers
- Crime Investigation
- Style Augmentation

- Computer Vision Problems
- Convolution Operation
- One Layer of Convolution Neural Network

Computer Vision Problems

Image Classification



Object detection



Neural Style Transfer



Andrew Ng

Source : Deep Learning Specialization-Andrew NG

Deep Learning on large images



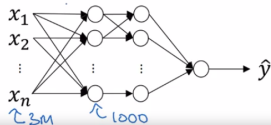
64x64x3

→ Cat? (0/1)

12288



1000x1000x3
= 3 million



Andrew Ng

Source : Deep Learning Specialization-Andrew NG

Convolution Operation

$$3 \times 1 + 1 \times 1 + 2 \times 1 + 0 \times 0 + 5 \times 0 + 7 \times 0 + 1 \times -1 + 8 \times -1 + 2 \times -1 = -5$$

3	<u>0</u>	<u>1</u>	<u>2</u>	<u>7</u>	<u>4</u>
1	<u>5</u>	<u>8</u>	<u>9</u>	<u>3</u>	<u>1</u>
2	<u>7</u>	<u>2</u>	<u>5</u>	<u>1</u>	<u>3</u>
0	1	3	1	7	8
4	2	1	6	2	8
2	4	5	2	3	9

6x6

"convolution"
*

1	0	-1
1	0	-1
1	0	-1

3x3
filter

=

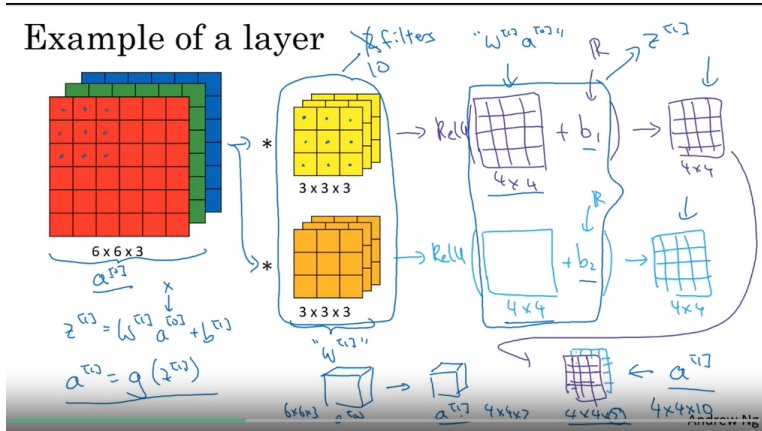
<u>-5</u>	<u>-4</u>	0	<u>8</u>
<u>-10</u>	<u>-2</u>	2	<u>3</u>
0	-2	-4	-7
-3	-2	-3	<u>-16</u>

4x4

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Source : Deep Learning Specialization-Andrew NG

Evaluating One Layer



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updated 22 minutes ago

Link for CNN

#1 · opened 23 minutes ago by Sajal Agrawal 📅 Jun 25, 2019



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