Neural Style Transfer
NeuralArt - Stylize your Image

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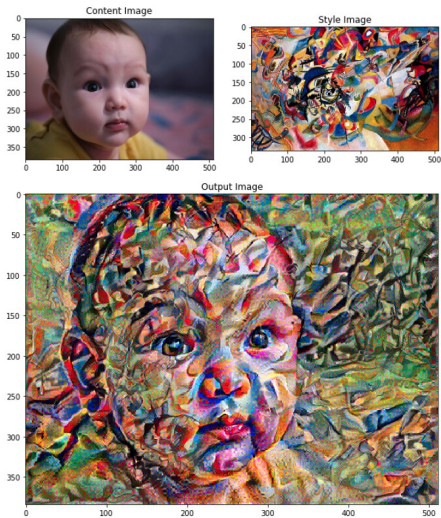
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Overview

Our project aims to stylize image by implementing A Neural Algorithm of Artistic Style paper by Leon A. Gatys, Alexander S. Ecker and Matthias Bethge.

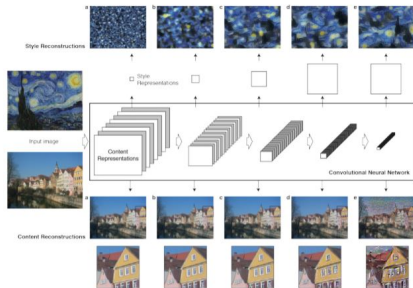https://arxiv.org/pdf/1508.06576.pdf

What is Neural Style Transfer?

- Neural Style Transfer is an optimization technique.
- Input:
  - Content image
  - Style reference image
- Output:
  - Stylized image: looks like the content image, but painted in the style of the style reference image.

Example

Explanation

Key Finding

The representations of content and style in the Convolutional Neural Network are separable.

Technical Stack

- Keras
- Tensorflow
- NumPy
- SciPy
- Matplotlib
- Flask

Status and Statistics

- Project completed.
- Total number of commits: 210
- Total lines of code: 1122

Learnings

- Version Control System.
- Presentation using Beamer.
- Convolutional Neural Networks.
- HTML, CSS and JavaScript.

Difficulties Faced

- The program was taking lot of time to output stylized image.
- Allocating space for user images.

Future Extensions

- Apply neural style transfer algorithm on videos.
- Edit photos of different formats.
- Photo editor- image enhancement, image manipulation, crop, rotate etc.

Thank You!