Applying Style Transfer

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Module Overview

Introduce and understand neural style transfer

Implementation of a neural style transfer system

Discuss additional learning tools and next steps for further learning
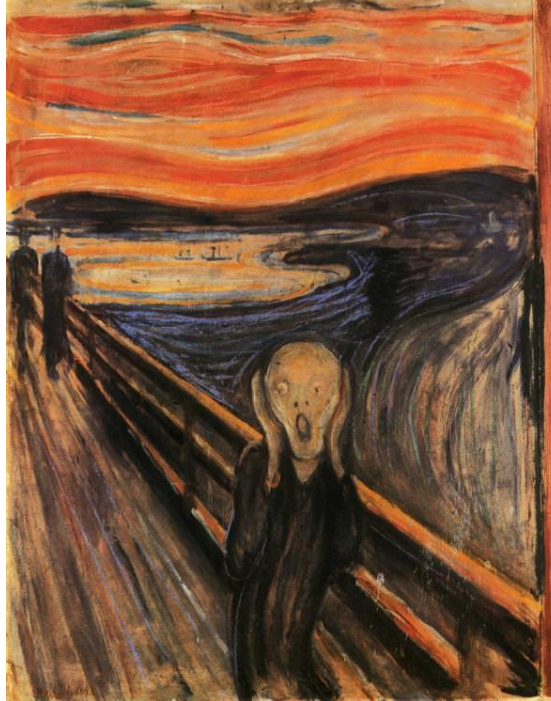
Understanding Neural Style Transfer

Neural Style Transfer

A process to manipulate images or videos to adopt the appearance or visual style of another image.
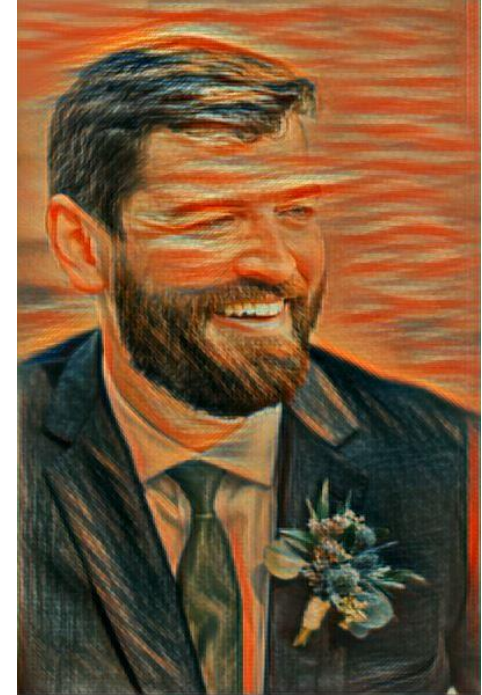
Neural Style Transfer

Input Image
(Content Image)

Style Image

Output Image

Neural Style Transfer Papers

A Neural Algorithm of Artistic Style
Gatys et al. (2015)

Perceptual Losses for Real-Time Style Transfer and Super-Resolution
Johnson et al. (2016)

Instance Normalization: The Missing Ingredient for Fast Stylization
Ulyanov et al. (2017)

Implementing Neural Style Transfer

Further Learning and Next Steps

Alternative Image Processing Tools

Scikit-Image	**PIL**
Numpy	**SciPY**

Further Learning

OpenCV website (opencv.org)

- Tutorials, videos, documentation

Pluralsight courses

- Building Image Processing Applications Using scikit-image

- Implementing Image Recognition Systems with TensorFlow

- Getting Started with OpenCV in .NET

Summary

Introduced and learned the fundamentals of image processing and OpenCV

Introduced image comparison methods

Learned to identify image features

Introduced image classification systems

Implemented object detection methods

Implemented neural style transfer

Discussed additional learning tools and next steps for further learning