DIP Project Proposal

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Artistic Style Transfer

Introduction

The topic for our project is Style-Transfer. Style-Transfer is a technique of re-styling images based on migrating the style from a given image to the content of another image such that the new image is artistically a mixture of the two. Traditionally CNNs(Convolutional Neural-Networks have been used for Style-Transfer. However, as part of our project we plan to implement a technique which primarily uses image-processing paradigms to obtain results which are comparable to those obtained with a CNN.

The paper which we would be implementing is
M. Elad, P. Milanfar, Style-Transfer via Texture-Synthesis, Google Research, September 21, 2016.

Testing

We were planning to test our algorithm by using some famous pieces of arts as our style samples and applying style transfer on images from our own dataset. One set of style samples we were considering of using is from the following link `https://github.com/zhanghang1989/PyTorch-Multi-Style-Transfer/tree/master/experiments/images/21styles`. The testing will be done qualitatively on the basis of aesthetics of the output.

References

[1] Michael Elad and Peyman Milanfar. Style-transfer via texture-synthesis. *CoRR*, abs/1609.03057, 2016.