deep learning network

project "Hundertotter"

Image Style Transfer Using Convolutional Neural Networks

sea otter pictures in the style of hundertwasser paintings

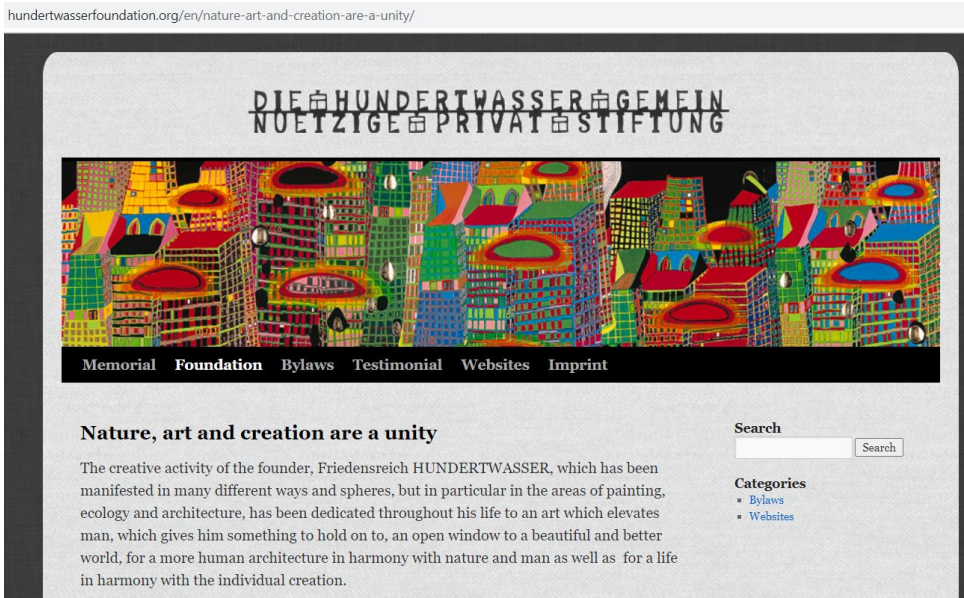
for a fictional charity event

Backstory: "Hundertotter" - Save the wild sea otter

In a Parallel universe, very close to our own, a charity event by the "Alternative Hundertwasser Foundation" aims to raise money by selling otter related prints and merchandising goodies in the style of Hundertwasser to help saving the wild sea otters.

In our universe, you can find out more about the

"Hundertwasser Foundation" here:

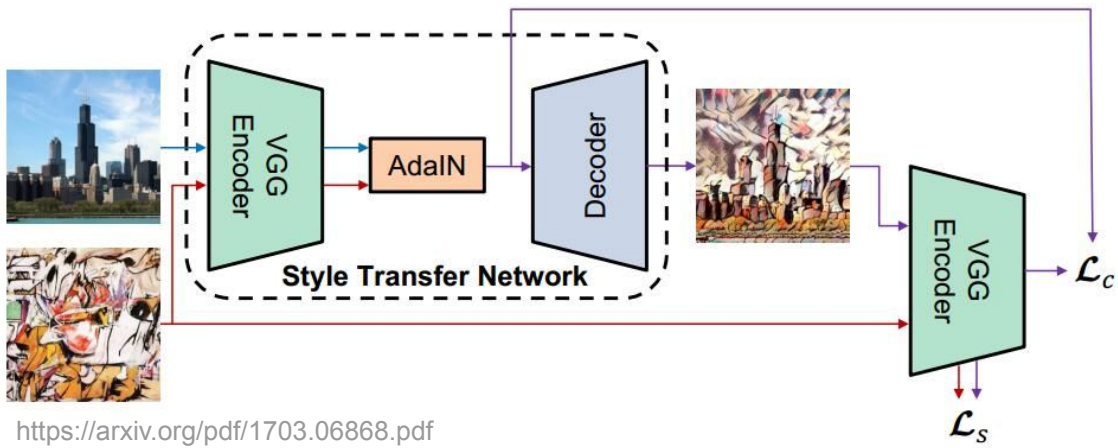


PROJECT: STYLE TRANSFER - DEEP LEARNING NETWORK

For this event the "ALTERNATIVE HUNDERTWASSER FOUNDATION" needs OTTER PICTURES looking like paintings in the STYLE OF HUNDERTWASSER. To generate those pictures, a deep learning network like the one described in the paper "IMAGE STYLE TRANSFER USING CONVOLUTIONAL NEURAL NETWORKS" is the perfect choice.

A big plus: there is a perfectly PRE-TRAINED MODEL CALLED "VGG19" available per API for that, how great!

This is what it's structure looks like:

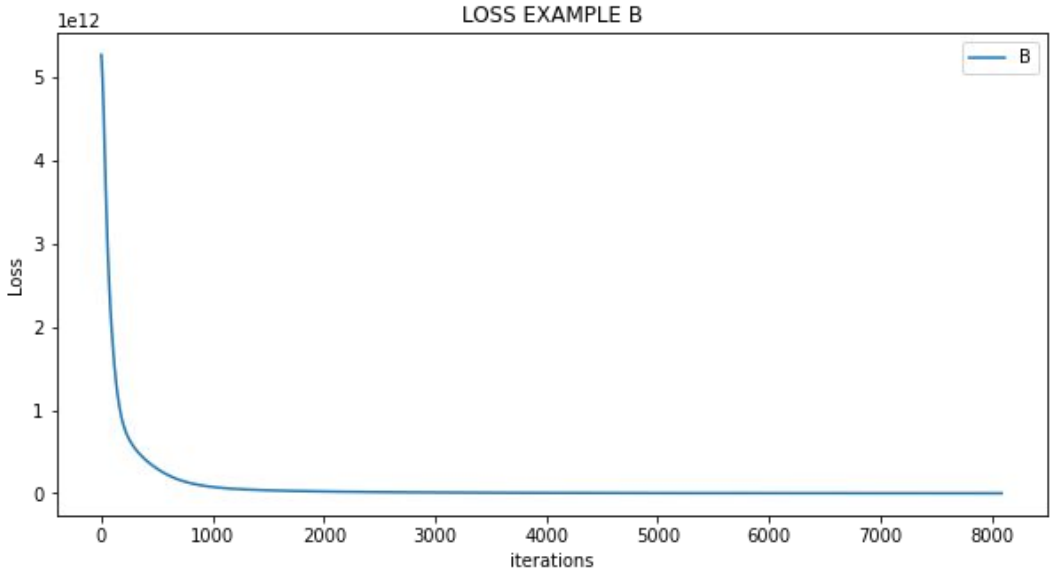


https://arxiv.org/pdf/1703.06868.pdf

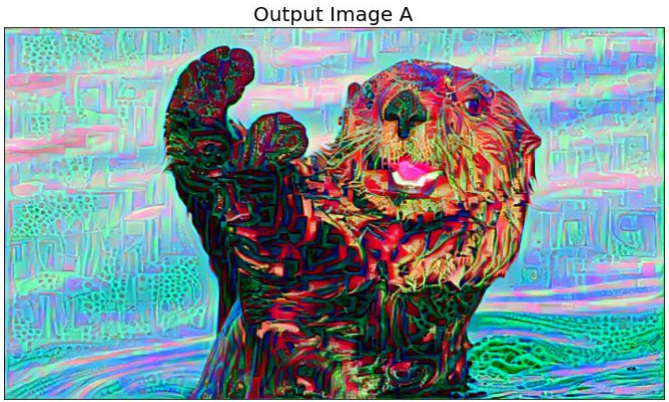
PRODUCTION: MONITORING LOSS SHOWS EXTREMELY HIGH EFFICIENCY

The efficiency of this workflow is amazing. Plotting the loss for the training shows, that only

1,000 - 2,000 ITERATIONS are enough for a LOSS TANGET TO ZERO using a local test machine with 1 GPU and 1 CPU.



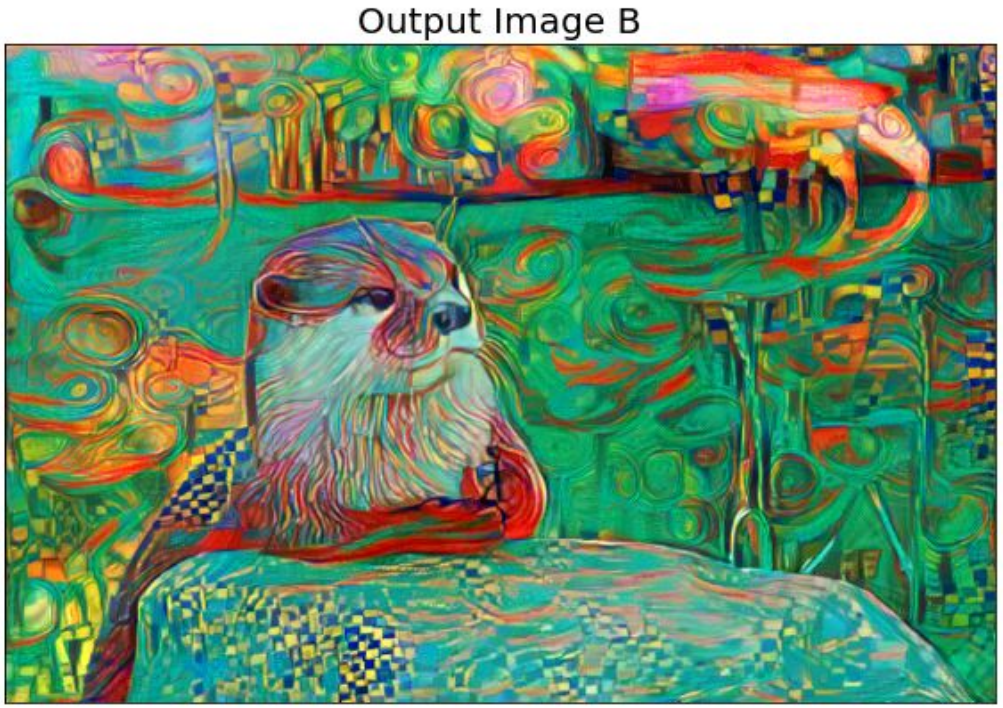
RESULTS: EXAMPLE A



EXAMPLE A

Pair of STYLE + CONTENT INPUT PICTURES & resulting HUNDERT-OTTER OUTPUT PICTURE

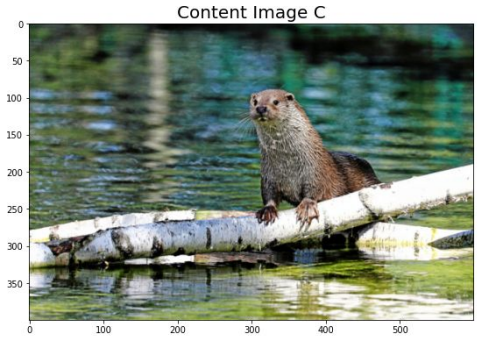
RESULTS: EXAMPLE B

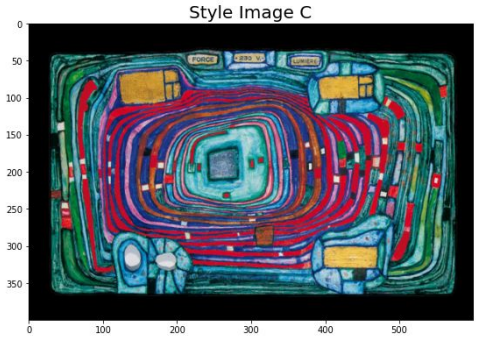


EXAMPLE B

Pair of STYLE + CONTENT INPUT PICTURES & resulting HUNDERT-OTTER OUTPUT PICTURE

RESULTS: EXAMPLE C





EXAMPLE C

Pair of STYLE + CONTENT INPUT PICTURES & resulting HUNDERT-OTTER OUTPUT PICTURE

Please find the notebook and detailed documentation on here on GitHub.

Thank you for your interest &
have a otterful day!

You want to help sea otters? that's just wonderful! here is a small selection of options for you:

- ★ WWF Sea Otter Adoption or donation
- ★ International Otter Survival Fund Sea Otter Adoption or donation
- ★ The Otter Project
- ★ Or just have look at more options out there