A snowy mountain range

Description automatically generated with low confidenceA picture containing text, outdoor, mountain

Description automatically generated

Applications

***Rand. Sampling***

***Paint-to-image***

***Editing***

***Harmonization***

Introduction

***GANs*** have attracted a lot of attention thanks to their ability to generate realistic images.

However, they are very hard to train and hence require a great amount of training images, to learn a good representation of features, especially when the images are complex.

***SinGAN*** is a new approach which trains on a *single* image, using a pyramid of fully convolutional lightweight GANs each responsible for capturing the distribution of patches at different scales.

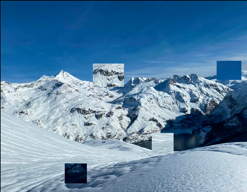
***My project*** aims at studying the applications of SinGANs and extending them to inpainting (“*fill in the box*”) techniques.

Inpainting with SinGANs

MEGI DERVISHI



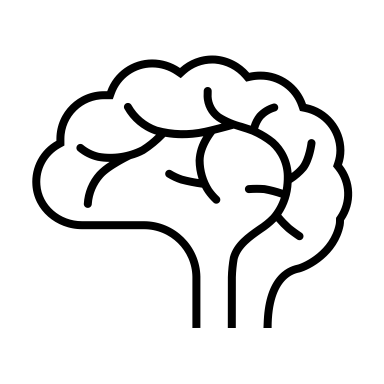
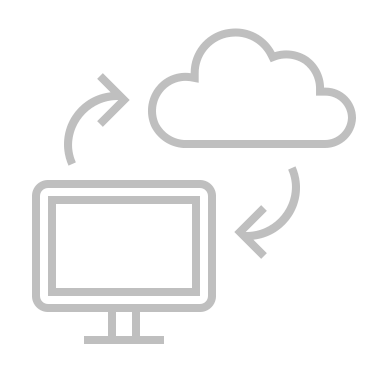
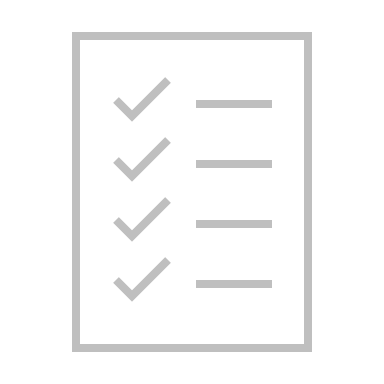
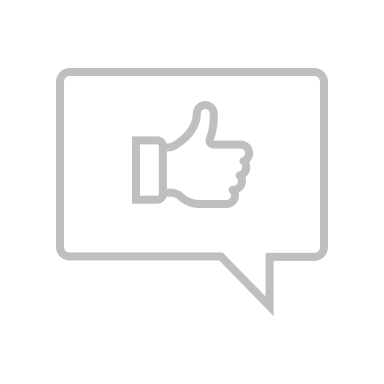
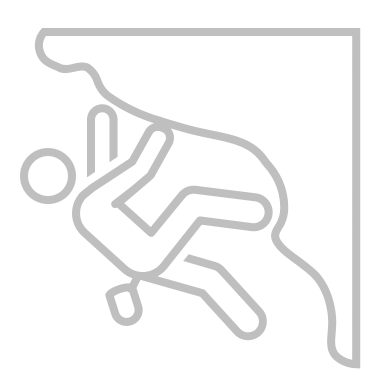
Painted image



***Style transfer***

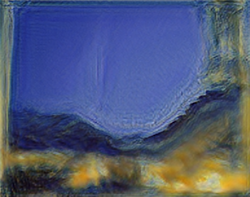
MEGI DERVISHI

MVA: DEEP LEARNING

A snowy mountain range

Description automatically generated with low confidenceA picture containing snow, outdoor, sky, nature

Description automatically generatedA snowy mountain range

Description automatically generated with low confidenceA picture containing painting

Description automatically generated

[***Animation***](https://github.com/MegiDervishi/singan_res)

* Interpolation Bicubic / Bilinear
* User study

***Irregular boxes***

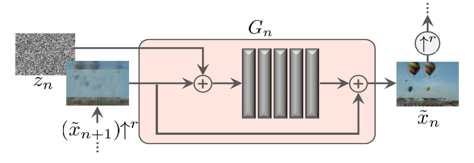
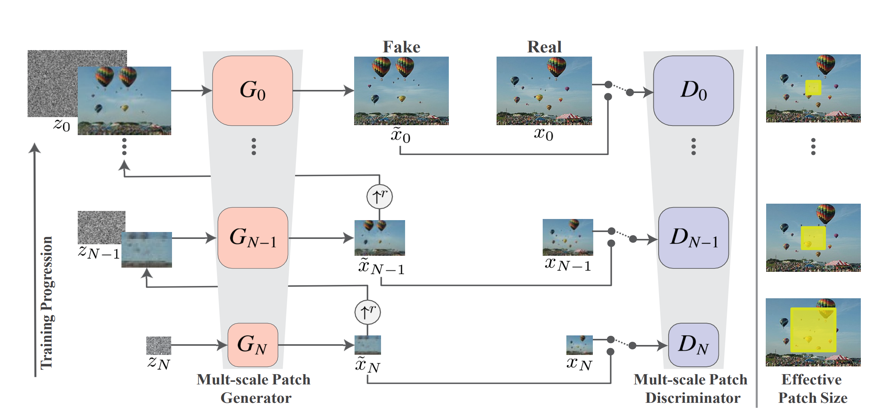
***Regular boxes***

Inpainting

***Train on cropped image:***

***Fill the box with avg. neighb. color***

***Harmonization***



Structure

Next

***Regular vs Irregular***