**Software delivery form – TER 2021 - 033**

Deep Learning to paint like Van Gogh

# Identification

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Date of delivery: 02/02/2022

Name of the software : GitHub **vangogh** repository

Version : 1.0

# Description of the delivered software

The GitHub repository contains a *src* folder where all the code is saved. There are 6 notebooks that can be run either on Jupyter or on Google Colab:

* *AutomatedDeepPhotoStyleTransfer.ipynb*: allows to get results of Photo-Realistic into Painting-Like Artistic Style Transfer model.
* *CNNMRF.ipynb*: allows to reproduce results of CNNMRF state-of-the-art model.
* *CycleGAN.ipynb*: allows to reproduce state-of-the-art results of CycleGAN model; if used to train a network from scratch, it allows to reproduce results of the pre-processing phase when transferring the style from photos to paintings (direction of the style transfer is regulated through the parameter *--direction*).
* *Neural-Doodle.ipynb*: allows to reproduce results of the Neural Doodle model.
* *NeuralStyleTransfer.ipynb*: allows to reproduce the state-of-the-art Neural Style Transfer model.
* *Patch-based.ipynb*: allows to get results of the Patch-by-Patch model; furthermore, there is the possibility to choose the metric for the matching of the most similar patch. Available metrics are Euclidean Distance, Manhattan Distance, and Vector Cosine Angle Distance.

All the models listed here are described in the report.

# Delivery mode

To download these notebooks, just clone the repository in your computer and follow the instructions provided in the ReadMe file. Those describe the steps required to download all the necessary source code and the dataset. Furthermore, it contains links for the download of the weights of pretrained models. Further explanations on the steps to follow to make some notebooks work can be found in the repositories of the original source code. These repositories contain information on where, for example, to store weights once downloaded.

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PRECIOSO, Frédéric D’ANGELO, Stefano

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