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**Warning!** The optimization may not converge on some GPUs. We've personally experienced issues on Tesla V100 and P40 GPUs. When running the code, make sure you get similar results to the paper first. Easiest to check using text inpainting notebook. Try to set double precision mode or turn off cudnn.

## Deep image prior

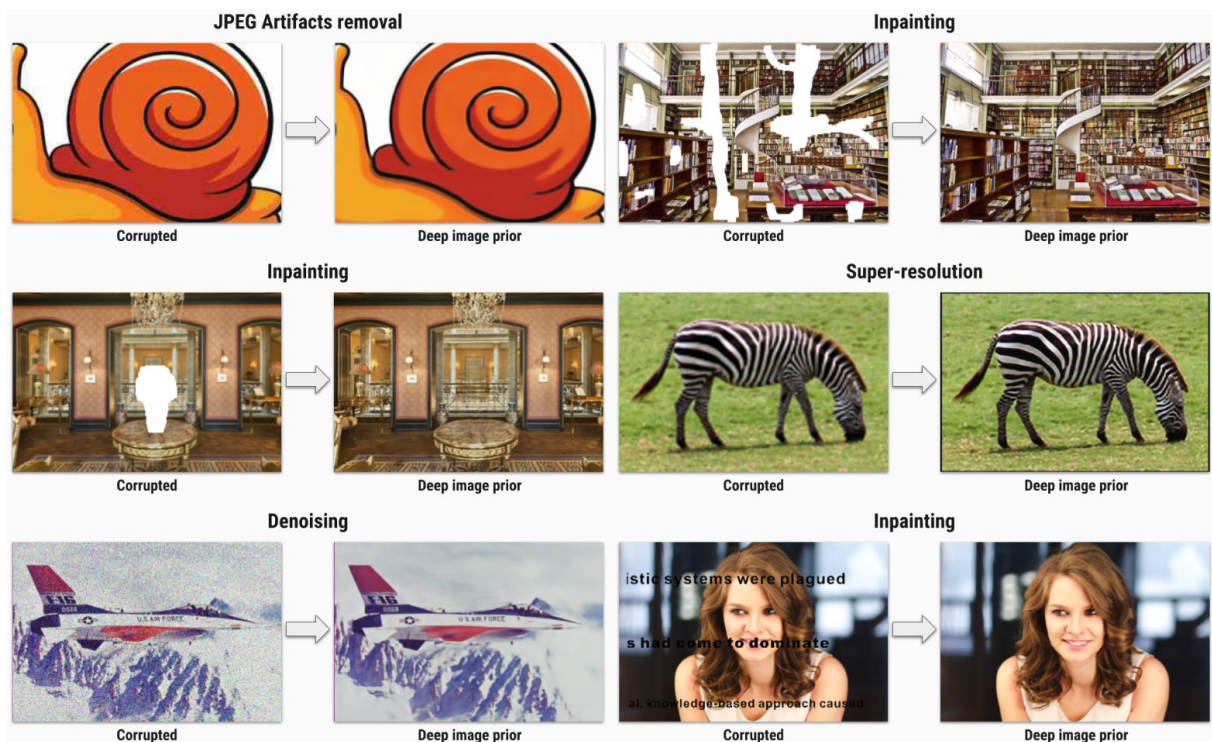
In this repository we provide *Jupyter Notebooks* to reproduce each figure from the paper:

### Deep Image Prior

CVPR 2018

Dmitry Ulyanov, Andrea Vedaldi, Victor Lempitsky

[paper] [supmat] [project page]



Here we provide hyperparameters and architectures, that were used to generate the figures. Most of them are far from optimal. Do not hesitate to change them and see the effect.

We will expand this README with a list of hyperparameters and options shortly.

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## Install

Here is the list of libraries you need to install to execute the code: - python = 3.6 - pytorch = 0.4 - numpy - scipy - matplotlib - scikit-image - jupyter

All of them can be installed via `conda` (`anaconda`), e.g.

```
1 conda install jupyter
```

or create an conda env with all dependencies via environment file

```
1 conda env create -f environment.yml
```

## Docker image

Alternatively, you can use a Docker image that exposes a Jupyter Notebook with all required dependencies. To build this image ensure you have both docker and nvidia-docker installed, then run

```
1 nvidia-docker build -t deep-image-prior .
```

After the build you can start the container as

```
1 nvidia-docker run --rm -it --ipc=host -p 8888:8888 deep-image-prior
```

you will be provided an URL through which you can connect to the Jupyter notebook.

## Google Colab

To run it using Google Colab, click [here](#) and select the notebook to run. Remember to uncomment the first cell to clone the repository into colab's environment.

## Citation

```
1 @article{UlyanovVL17,  
2   author    = {Ulyanov, Dmitry and Vedaldi, Andrea and Lempitsky,  
3               Victor},  
4   title     = {Deep Image Prior},  
5   journal   = {arXiv:1711.10925},  
6   year      = {2017}
```