Instructions for Executing the Code

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1. Background

These are the instructions for running the code in the **Neural Style Transfer Explorations** project.

Note: To get the ZIP file under 10 MB, I had to delete the contents of the directories that stored the files generated by the code. But these images will be generated again if you execute the code.

2. Overview

The ZIP file contains the Jupyter Notebooks that are intended to be executed in the following order:

- `1_Neural Style Transfer - Baseline.ipynb`
- `2_Neural Style Transfer - Optimizer Experiments.ipynb`
- `3_Neural Style Transfer - Loss Experiments.ipynb`
- `4_Neural Style Transfer - Layers Experiments.ipynb`
- `5_Neural Style Transfer - Optimized.ipynb`
- `6_Perceptual Control.ipynb`

To make it easy to remember the order, I include a sequence number at the start of each file name. Each Jupyter Notebook builds on the findings of the previous one (in the above sequence). For instance, The Jupyter Notebook for Loss Experiments builds on the Jupyter Notebook for Optimizer Experiments, and so on.

3. Requirements

The only requirements for each Jupyter Notebook are access to the following files in the `Images` folder:

- `Hinton.jpg`, which is our base image.
- `GeorgeFloyd.jpg`, which is our style image.
- `Hinton_mask.jpg`, which is a mask we use for spatial control.

My code is working from a Google Drive, so my code assumes a Google Drive needs to be mounted. Also, the paths to the images are hardcoded to my Google Drive.

Depending on your setup, you may need to change these paths to get the code to work.

4. Outputs

Other than the notebooks referenced in 2.0 Overview, the remaining directories and files in this ZIP file are either images that have been captured from Jupyter Notebooks, or images that have been directly written by Jupyter Notebooks. These are:

- The `Experiments_Optimizer` directory, which contains images that were captured from the code in the `2_Neural Style Transfer - Optimizer Experiments.ipynb` notebook.
- The `Experiments_Loss` directory, which contains images that were output directly by the code in the `3_Neural Style Transfer - Loss Experiments.ipynb` notebook.
- The `Experiments_Layers` directory, which contains images that were output directly by the code in the `4_Neural Style Transfer - Layers Experiments.ipynb` notebook.
- The remaining images in the Images directory, which are captured from code in various notebooks. They are:
    - `Baseline Generated Image.png`, which is our initial generated image.
    - `Optimized Generated Image.png`, which is the generated image after optimizing hyperparameters.
    - `Spatial Control Image.png`, which is the result of applying spatial control to our optimized image.

5. Instructions

1. Extract the contents of the ZIP file.
2. Depending on your environment, update the paths to the image files and possibly the code that allows you to access those image files.
3. Run the notebooks in order.