Assignment 5, version 2

Neural Style Transfer

**Due ~~Thu 24 Nov 11:59 pm~~** in iSpace. Postponed to **Sun 27 Nov, 11:59 pm.**

You can work in pairs. Each pair of student submit one assignment together.

In the first cell of your code, print your name/ID and your partner’s name/ID.

Given a content image and a style image. Generate an image from the following content and style. Try to generate some nice images.

|  |  |  |
| --- | --- | --- |
| Case | Content | Style |
| 1 | GoldenGate.jpg | Picaso.jpg or VanGaugh.jpg |
| 2 | Your face | Your choice |
| 3 | Partner’s entire face and body | Your choice |
| 4 | Your hometown, pet, room, etc. | Your choice |

I created Picaso.jpg and VanGaugh.jpg by using screen capture on Ng’s slides. You might get a better result by using a higher resolution style image.

See 8.3-NST\_changes.pdf on how you should change the code 8.3-neural-style-transfer.ipynb. Note my changes are marked with #jf. Mark the places in the code that you changed with #XXX, where XXX is replaced by your initial.

This code might take a few hours to run on an old CPU computer. You should test the code first with a smaller value for img\_height. After your code is working, you can then run the code with a bigger img\_height value. Or you can run the code in our VT100 GPU computers. All 4th year FYP students should have an accounts there.

**Please submit:**

A. Run the entire code for Case 1, with #XXX marked at all the places you’ve changed the code. Submit the pdf from your run.

B. Put in the images you used and generated into Assign5\_images\_(YourNameID).pptx. Change (YourNameID) to your actual name and ID. Submit your PPTX file.

**Note**:

Chollet’s code was written in Python 3.6. If we run that code in Python 3.6 (3.7?), we will get a warning message that the code contains deprecated statements. Code will run in 3.6, but in future version, the code won’t run. Warning message also contains info on how to update the code.

This is a common problem in real world programming, at work or research in universities.

First year students expect the given codes to run cleanly. You 4th or 3rd year students should be more sophisticated. You need to update the code.

Option 1

Reinstall Python 3.6 (or 3.7?), along with the corresponding version of Keras. Code 8.3 should run with warning messages. If you submit that code, you **only get partial credit**.

Your boss at work won’t be totally happy.

Option 2

Complete option 1 and update the deprecated statements. Warning messages should give you hints on how to update.

Techniques you can use:

Break up the cell into smaller cells to figure out exactly which line caused the warning. Search for that warning message online; somewhere someone will show you how to update.

Consider this assignment like a real world / research problem.

**Also**

The quality of your generated message also determines how many points you get for this assignment.