Computer Science 010: Design and Implementation of Solutions to Computational Problems

Assignment 12

Python is used for many applications that are transforming the computational landscape today. We have been studying this language during this class so that we could move closer toward using Python to do some neat things. This is why you learn computer programming, to change the world. As a faculty member of Westmont I want you to learn how to change the world in good and thoughtful ways that bring the peace of Christ to the world.

In class we have been talking about some libraries that are written in Python for doing scientific computing. For this assignment you will use an interface that is built on Python tools to create a deep dream image.

First, while it is possible to install the software to do this yourself, it is complicated and beyond the scope of this class. Nevertheless, I would like you to read the documentation for how you could do it sometime in the future.

Part 1: Read this post from Google Research on image recognition:
https://research.googleblog.com/2015/06/inceptionism-going-deeper-into-neural.html

Part 2: Read this tutorial on how to install the software yourself:
https://github.com/google/deepdream/blob/master/dream.ipynb

Part 3: Sign up for this service: https://deepdreamgenerator.com I don't know anything about the organization that runs this website, so I recommend using fake sign-up information.

Create your own deep dreaming image. Start with a high resolution image larger than 1500 x 1500 pixels. Upload the image to the website and transform it using the "Deep Dream" option. Experiment with different settings. Use the Deeper option a few times to make your image more extreme. Try a few different images until you make one that is interesting.

When you are ready to display your creation, upload the original and the transformed image to Eureka. Your grade will be based on my evaluation of your participation.

I expect you to spend 1-2 hours on this assignment, mostly exploring.