Co-creative Sketch Tracing: AI Painter

This project generates coloured oil paintings from black and white sketches input by the user.

- **'model.png'** is a diagram of our model.
- **'model_discriminator.h5'** is an HDF5 file flowchart describing the functioning of the discriminator network of the GAN and **'model_generator.h5'** is an HDF5 file flowchart describing the functioning of the discriminator network of the GAN from test subject.
- **'model_discriminator_buildings4.h5'** is an HDF5 file flowchart describing the functioning of the discriminator network of the GAN and **'model_generator_buildings4.h5'** is an HDF5 file flowchart describing the functioning of the discriminator network of the GAN from our initial analysis.

- The oil painting generated from our human subjects' sketches by our system is saved in Jupyter notebooks as **'test_Code.ipynb'**. This was done for the system evaluation part.
- The result from our initial analysis of the building dataset can be seen in the Jupyter notebook **'buildingsDataset.ipynb'**.

The Python notebook can be RUN on any modern computer system, within an appropriate Python 3.7 environment with the following packages pre-installed:

- TensorFlow
- pydot
- graphviz

The system may be implemented and checked simply by RUNNING the Python Jupyter notebook **'code_main.ipynb'**.