Title: **Enhancing Glossy Image/Video with GANs**

1. Main problem you will be solving and why it is significant

Lossy images and videos are incredibly common, whether from having insufficient camera specifications, poor lighting conditions, or not having a clean shot of the object you are photographing or filming. In scenarios where one needs a sharp image, it can be difficult to make these improvements to image quality without upgrading the hardware of the device, or in the case of images that are taken without a clean shot, without manually taking more images. If the needed improvements can be done via software, time and money can be saved.

2. Relevant papers with links

* ESRGAN: Enhanced Super-Resolution Generative Adversarial Networks
* AMBIENTGAN: GENERATIVE MODELS FROM LOSSY MEASUREMENTS
* Unsupervised Image Super-Resolution  
   using Cycle-in-Cycle Generative Adversarial Networks

3. Links to datasets that will be used

* <https://data.vision.ee.ethz.ch/cvl/DIV2K/>
* <https://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz>
* <http://yann.lecun.com/exdb/mnist/>

4. Relevant software tools (github repositories etc) that you will be using

* <https://github.com/ermongroup/flow-gan>
* <https://github.com/Lornatang/ESRGAN-PyTorch>

5. Brief description of how your work will be different from the above

Using the GAN model, we are going to identify how different images transformation. In the future hopefully apply this model to video input to look at quality of the image during a livestream.

Our model will deal with all types of loss, (low resolution, missing or blocked parts of the image), not just low resolution

6. Group members and their roles

Group Members: Chibuzo Nwakama and Liam Hagan

Roles –

* Data Processing (Liam): Transforming MINST, Cifar Images by lower the resolution or adding noise or removing parts of the image
* Modelling (Chibuzo): Training and streamlining processed image data to model to compare performance of images