The U-Net model is defined by this notebook. In the folder nb\_make\_tfrecords the producing of this tfrecords was discussed, as well as how they are uploaded to Kaggle.

Here the Kaggle link is used to retrieve the tfrecords, while they are in the cloud via Kaggle. By this, it is possible to use TPU which is ~8 times faster than GPU. TPU can be enabled by Edit > Notebook Settings > TPU.

The same tfrecords of the cGAN can be used. The values of [-1,1] are changed to [0,1] for the U-Net.

This U-Net can be used on the representations of ampslope and a ratio. Search for “#uncomment for A\_ratio representation” and uncomment these cells if a ratio is preferred. If ratioslope is preferred, comment the a ratio and uncomment the cells with “# uncomment for ampslope representation

”.

The ampslope has three bands; one sar amplitude image at time 1,

one sar amplitude image at time 2 and one slope image.

This image is paired to a masked image, called Y, which defines the landslide shape (if present, otherwise it is a plain black image).

The a ratio has one band; it is a log-based amplitude ratio over images before and after the event over the time span of a month. These images before and after have been averaged. The a ratio has subsequently been masked by a slope image.

The U-Net will make a model, and save these. It will also save the loss function and the mIoU (mean Intersection over Union) as a learning curve. Th