

tf.contrib.gan.losses.wargs.modified_generator_loss

```
modified_generator_loss(  
    discriminator_gen_outputs,  
    label_smoothing=0.0,  
    weights=1.0,  
    scope='generator_modified_loss',  
    loss_collection=tf.GraphKeys.LOSSES,  
    reduction=losses.Reduction.SUM_BY_NONZERO_WEIGHTS,  
    add_summaries=False  
)
```

Defined in [tensorflow/contrib/gan/python/losses/python/losses_impl.py](#).

Modified generator loss for GANs.

$$L = -\log(\text{sigmoid}(D(G(z))))$$

This is the trick used in the original paper to avoid vanishing gradients early in training. See [Generative Adversarial Nets](#) (<https://arxiv.org/abs/1406.2661>) for more details.

Args:

- `discriminator_gen_outputs`: Discriminator output on generated data. Expected to be in the range of $(-\infty, \infty)$.
- `label_smoothing`: The amount of smoothing for positive labels. This technique is taken from [Improved Techniques for Training GANs](#) (<https://arxiv.org/abs/1606.03498>). `0.0` means no smoothing.
- `weights`: Optional `Tensor` whose rank is either 0, or the same rank as `discriminator_gen_outputs`, and must be broadcastable to `labels` (i.e., all dimensions must be either `1`, or the same as the corresponding dimension).
- `scope`: The scope for the operations performed in computing the loss.
- `loss_collection`: collection to which this loss will be added.
- `reduction`: A `tf.losses.Reduction` to apply to loss.
- `add_summaries`: Whether or not to add summaries for the loss.

Returns:

A loss Tensor. The shape depends on `reduction`.

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