

tf.contrib.gan.losses.wargs.minimax_discriminator_loss

```
minimax_discriminator_loss(  
    discriminator_real_outputs,  
    discriminator_gen_outputs,  
    label_smoothing=0.25,  
    real_weights=1.0,  
    generated_weights=1.0,  
    scope=None,  
    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](#).

Original minimax discriminator loss for GANs, with label smoothing.

Note that the authors don't recommend using this loss. A more practically useful loss is `modified_discriminator_loss`.

$$L = - \text{real_weights} * \log(\text{sigmoid}(D(x))) - \text{generated_weights} * \log(1 - \text{sigmoid}(D(G(z))))$$

See **Generative Adversarial Nets** (<https://arxiv.org/abs/1406.2661>) for more details.

Args:

- `discriminator_real_outputs`: Discriminator output on real data.
- `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.
- `real_weights`: Optional **Tensor** whose rank is either 0, or the same rank as `real_data`, and must be broadcastable to `real_data` (i.e., all dimensions must be either `1`, or the same as the corresponding dimension).
- `generated_weights`: Same as `real_weights`, but for `generated_data`.
- `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`.

Stay Connected

- Blog
- GitHub
- Twitter

Support

- Issue Tracker
- Release Notes
- Stack Overflow