tf.contrib.gan.gan_loss

```
gan_loss(
    model,
    generator_loss_fn=tf.contrib.gan.losses.wasserstein_generator_loss,
    discriminator_loss_fn=tf.contrib.gan.losses.wasserstein_discriminator_loss,
    gradient_penalty_weight=None,
    gradient_penalty_epsilon=1e-10,
    mutual_information_penalty_weight=None,
    aux_cond_generator_weight=None,
    aux_cond_discriminator_weight=None,
    add_summaries=True
)
```

Defined in `tensorflow/contrib/gan/python/train.py` .

Returns losses necessary to train generator and discriminator.

Args:

- `model` : A GANModel tuple.
- `generator_loss_fn` : The loss function on the generator. Takes a GANModel tuple.
- `discriminator_loss_fn` : The loss function on the discriminator. Takes a GANModel tuple.
- `gradient_penalty_weight` : If not `None` , must be a non-negative Python number or Tensor indicating how much to weight the gradient penalty. See https://arxiv.org/pdf/1704.00028.pdf for more details.
- `gradient_penalty_epsilon` : If `gradient_penalty_weight` is not None, the small positive value used by the gradient penalty function for numerical stability. Note some applications will need to increase this value to avoid NaNs.
- `mutual_information_penalty_weight` : If not `None` , must be a non-negative Python number or Tensor indicating how much to weight the mutual information penalty. See https://arxiv.org/abs/1606.03657 for more details.
- `aux_cond_generator_weight` : If not None: add a classification loss as in https://arxiv.org/abs/1610.09585
- `aux_cond_discriminator_weight` : If not None: add a classification loss as in https://arxiv.org/abs/1610.09585
- `add_summaries` : Whether or not to add summaries for the losses.

Returns:

A GANLoss 2-tuple of (generator_loss, discriminator_loss). Includes regularization losses.

Raises:

- `ValueError` : If any of the auxiliary loss weights is provided and negative.
- `ValueError` : If `mutual_information_penalty_weight` is provided, but the `model` isn't an `InfoGANModel` .

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