

## tf.contrib.gan.gan\_model

```
gan_model(  
    generator_fn,  
    discriminator_fn,  
    real_data,  
    generator_inputs,  
    generator_scope='Generator',  
    discriminator_scope='Discriminator',  
    check_shapes=True  
)
```

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

Returns GAN model outputs and variables.

## Args:

- **generator\_fn**: A python lambda that takes **generator\_inputs** as inputs and returns the outputs of the GAN generator.
- **discriminator\_fn**: A python lambda that takes **real\_data** / **generated data** and **generator\_inputs**. Outputs a Tensor in the range  $[-inf, inf]$ .
- **real\_data**: A Tensor representing the real data.
- **generator\_inputs**: A Tensor or list of Tensors to the generator. In the vanilla GAN case, this might be a single noise Tensor. In the conditional GAN case, this might be the generator's conditioning.
- **generator\_scope**: Optional generator variable scope. Useful if you want to reuse a subgraph that has already been created.
- **discriminator\_scope**: Optional discriminator variable scope. Useful if you want to reuse a subgraph that has already been created.
- **check\_shapes**: If **True**, check that generator produces Tensors that are the same shape as real data. Otherwise, skip this check.

## Returns:

A GANModel namedtuple.

## Raises:

- **ValueError**: If the generator outputs a Tensor that isn't the same shape as **real\_data**.

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