- Anime Face Generation Paper
- Generator
- Discriminator
- BCE
- Why do we need Cross Entropy Loss
- GAN
- Adam Optimizer
- Upsampling Video
- Batch Normalization
- Convolutions
- Pooling and Upsampling
- Transposed Convolutions
- DCGAN paper

Why use_bias=False?

=> Its a great question. By convention Convolution layers have bias terms with them. Like Dense (Typical neural network layer; where the op is W*x + b where W is weights and b is bias), the Convolution layers also have bias with him in their op Conv(w, x) + b where b is bias and b is of n_filter sized 1D vector.

And the use_bias arg in the Conv2D call is to enable/disable this bias term. If you disable it, then the op will be just Conv(w, x) and if you enable it, then the op will be Conv(w,x) + b.

Typically, Its better to have Conv layers with bias in them (that's why by default, tf.keras.layers.Conv*D calls have use_bias set to true). But if there is a batch/instance norm after the Conv (or Dense) layer, the bias term becomes redundant as batch norm operation norms the conv's output and add its own bias. To know why that is the case, checkout this video from Andrew Ng in Deep Learning Specialization course. So it's good idea to set the use_bias term to false when the Conv layer is followed by batch norm.