

# Unsupervised Representation Learning with Deep Convolutional Generative Adversarial Networks

## └ Background

## └ Fractionally-strided convolutions

A deep convolutional generative adversarial network (DCGAN) is a GAN that uses convolutional neural networks for the generator and discriminator.

The discriminator uses convolutional layers in the sense we are familiar with, such as the convolutional layers LeCun describes in LeNet-5 [13].

However, the generator uses convolutional layers that we find called deconvolutional layers in the source code that accompanies this paper [2], and elsewhere, but that in the paper the authors write that we should prefer the term “*fractionally-strided*.” The computations that comprise fractionally-strided convolutions are not clear to us from the paper or the source code that accompanies it. We find the source code unclear because the authors implement fractionally-strided convolutions using library functions, the source code of which we run out of time to peruse. The paper lacks detail on how to compute a fractionally-strided convolutions.