# (Optional) A Closer Look at Transposed Convolutions

Now that you have an idea of what transposed convolutions are (also commonly referred to as "deconvolutions") and the checkerboard pattern problem that comes with using them, let's take a closer look! This interactive paper demonstrates the checkerboard pattern problem and how they are not exclusive to GANs, but any neural network that employs them.

Odena, et al., "Deconvolution and Checkerboard Artifacts", Distill, 2016. <http://doi.org/10.23915/distill.00003>

# (Optional) The DCGAN Paper

Curious about the paper behind the deep convolutional GAN (DCGAN) you just implemented? Check out the paper!

Unsupervised Representation Learning with Deep Convolutional Generative Adversarial Networks (Radford, Metz, and Chintala, 2016): <https://arxiv.org/abs/1511.06434>

(Optional Notebook) GANs for Video

*Please note that this is an optional notebook that is meant to introduce more advanced concepts, if you're up for a challenge. So, don't worry if you don't completely follow every step! We provide external resources for extra base knowledge required to grasp some components of the advanced material.*

In this notebook, you're going to learn about TGAN, from the paper [Temporal Generative Adversarial Nets with Singular Value Clipping](https://arxiv.org/abs/1611.06624) (Saito, Matsumoto, & Saito, 2017), and its origins in image generation.

**Notebook link:** [**https://colab.research.google.com/github/https-deeplearning-ai/GANs-Public/blob/master/C1W2\_Video\_Generation\_(Optional).ipynb**](https://colab.research.google.com/github/https-deeplearning-ai/GANs-Public/blob/master/C1W2_Video_Generation_(Optional).ipynb)

# Works Cited

All of the resources cited in Course 1 Week 2, in one place. You are encouraged to explore these papers/sites if they interest you—for this week, both papers have been included as optional readings! They are listed in the order they appear in the lessons.

From the videos:

* Deconvolution and Checkerboard Artifacts (Odena et al., 2016): <http://doi.org/10.23915/distill.00003>

From the notebook:

* Unsupervised Representation Learning with Deep Convolutional Generative Adversarial Networks (Radford, Metz, and Chintala, 2016): <https://arxiv.org/abs/1511.06434>
* MNIST Database: <http://yann.lecun.com/exdb/mnist/>