BIGAN notes

## Goal

The goal of this paper is to understand the semantic representation of the learned structure within the latent variables of the GAN. The main idea of the BiGAN is that we have the normal forward-direction GAN, but we want to also have a projection back into the latent space.

## Structure

The architecture includes a normal GAN which takes in the latent variable z and produces a reconstruction of x. Therefore, we are intuitively doing a comparison between G(z) and x. However, we are also doing a comparison between E(x) and z.

Therefore, the discriminator is comparing: (z, G(z)) to (E(x), x).

## Inverse mapping

Effectively, the encoder is learning the inverse mapping of the G network.