Image translation using generative adversarial networks (GANs)

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Motivation

GANs (Generative Adversarial Networks) correspond to an approach for training and using convolutional neural networks as data generators, which have recently attracted a lot of attention in computer vision thanks to their ability to fit complicated image distributions and generate extremely realistic samples. Recently, GANs have been used for unsupervised/unpaired image translation producing convincing samples of a target distributions. Day-to-night image translation is one example demonstrating the power of GANs to capture image statistics.

Plan of work

Our current plan of work for this project is the following:

- The first part of our work will be to understanding how GANs work:
  - for modeling a particular image distribution, how they are trained and how they are used for sampling
  - for Image-to-Image translation in the supervised setting
  - for Image-to-Image translation in the unsupervised/unpaired setting
- In the second part we will TODO