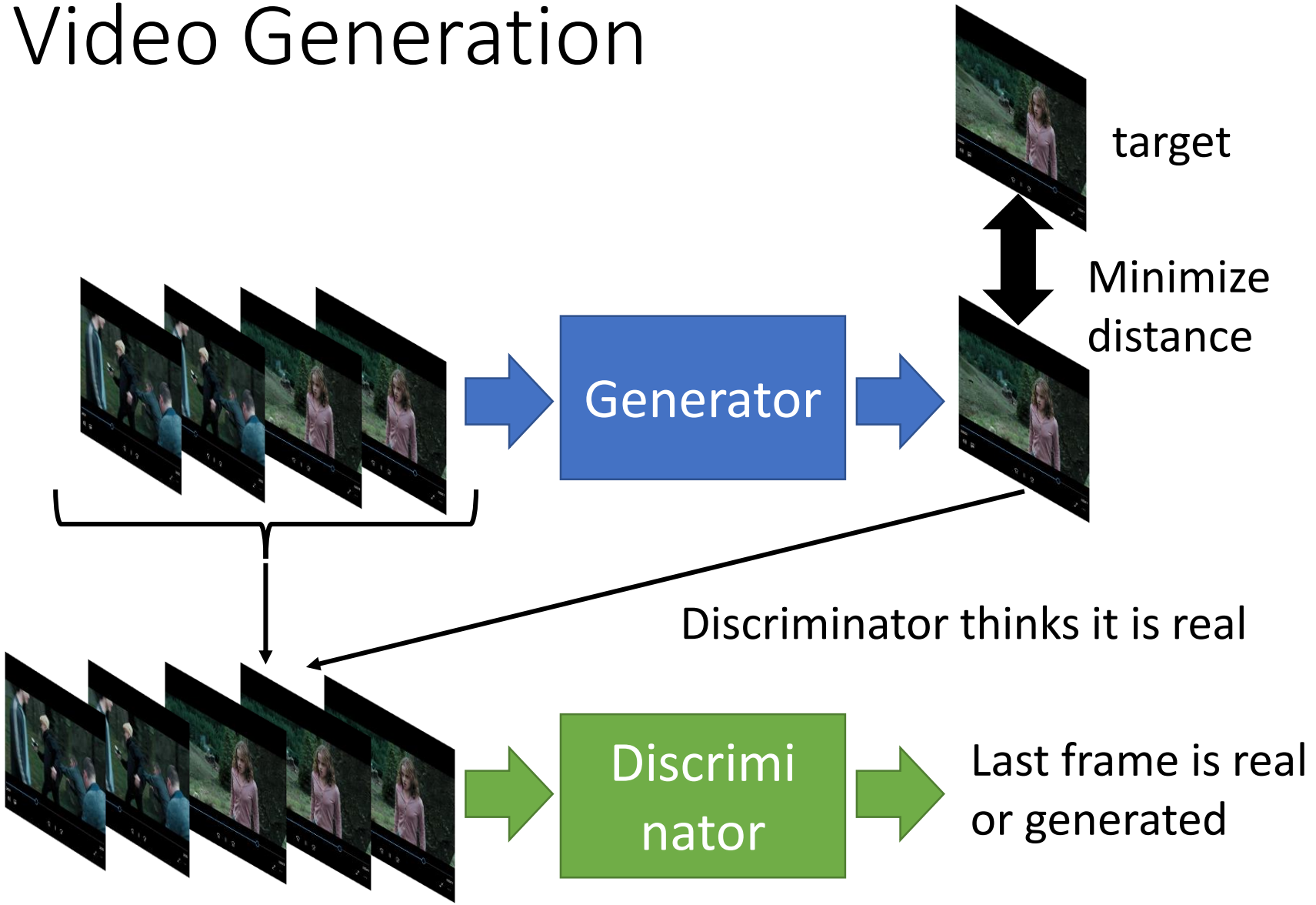
Video Generation with GAN

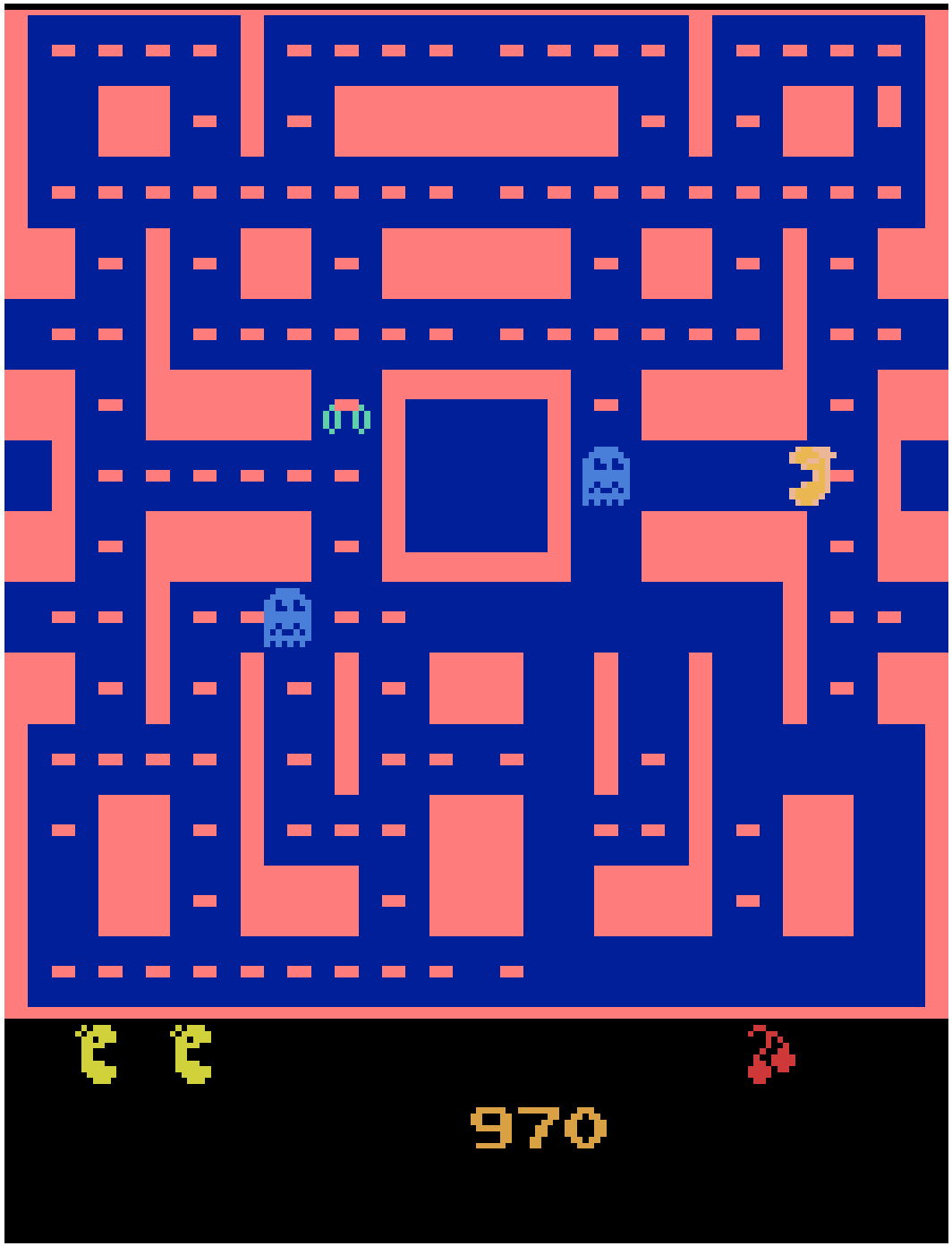
Michael Mathieu, Camille Couprie, Yann LeCun, Deep multi-scale video prediction beyond mean square error, ICLR, 2016

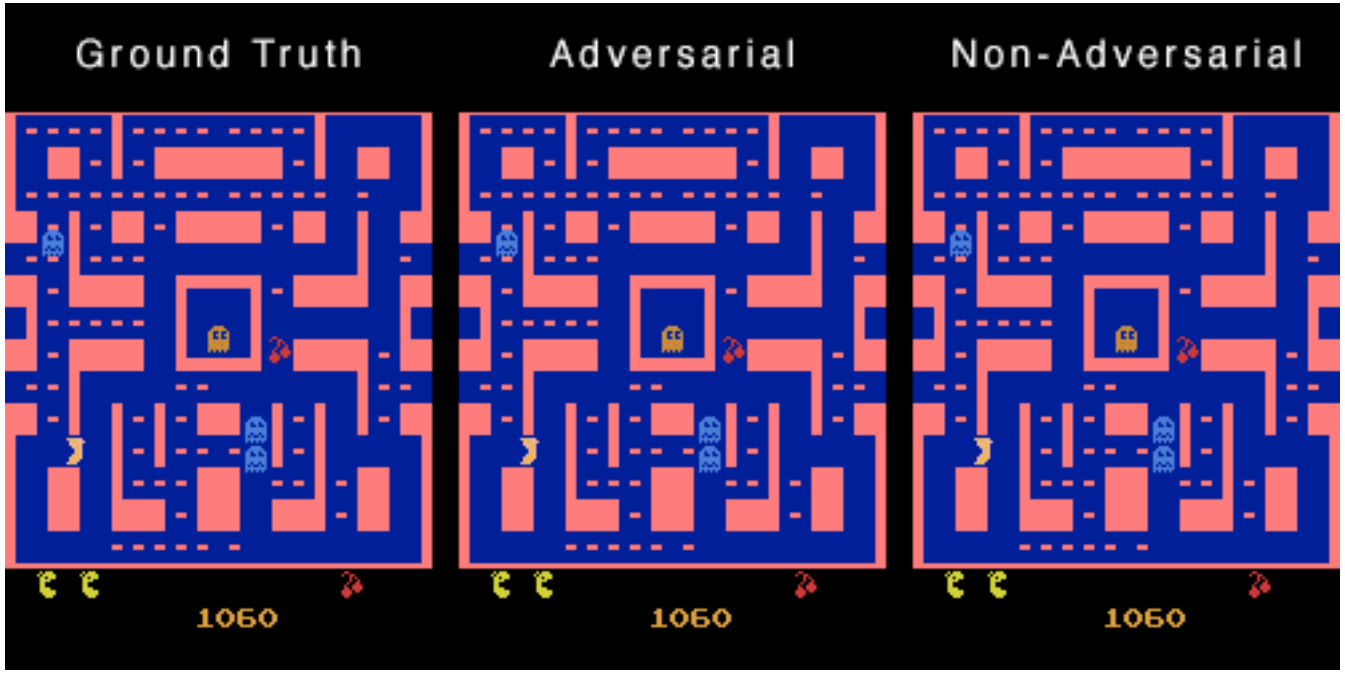
Pac-Man: https://github.com/dyelax/Adversarial_Video_Generation

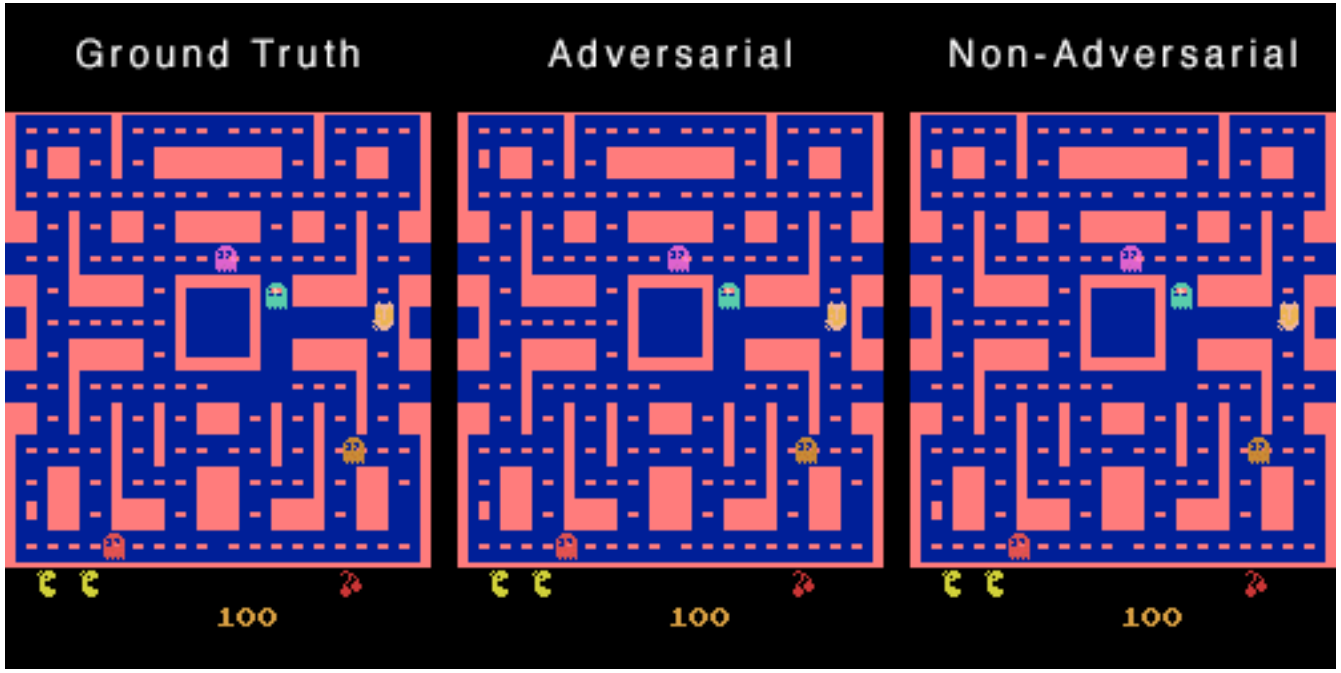
UCF101: http://cs.nyu.edu/~mathieu/iclr2016extra.html

Video Generation




970


Ground Truth
Adversarial
Non-Adversarial
1060
1060
1060


Ground Truth
Adversarial
Non-Adversarial
100
100
100

Besides Video Generation ……

- Image super resolution
  - Christian Ledig, Lucas Theis, Ferenc Huszar, Jose Caballero, Andrew Cunningham, Alejandro Acosta, Andrew Aitken, Alykhan Tejani, Johannes Totz, Zehan Wang, Wenzhe Shi, “Photo-Realistic Single Image Super-Resolution Using a Generative Adversarial Network”, CVPR, 2016

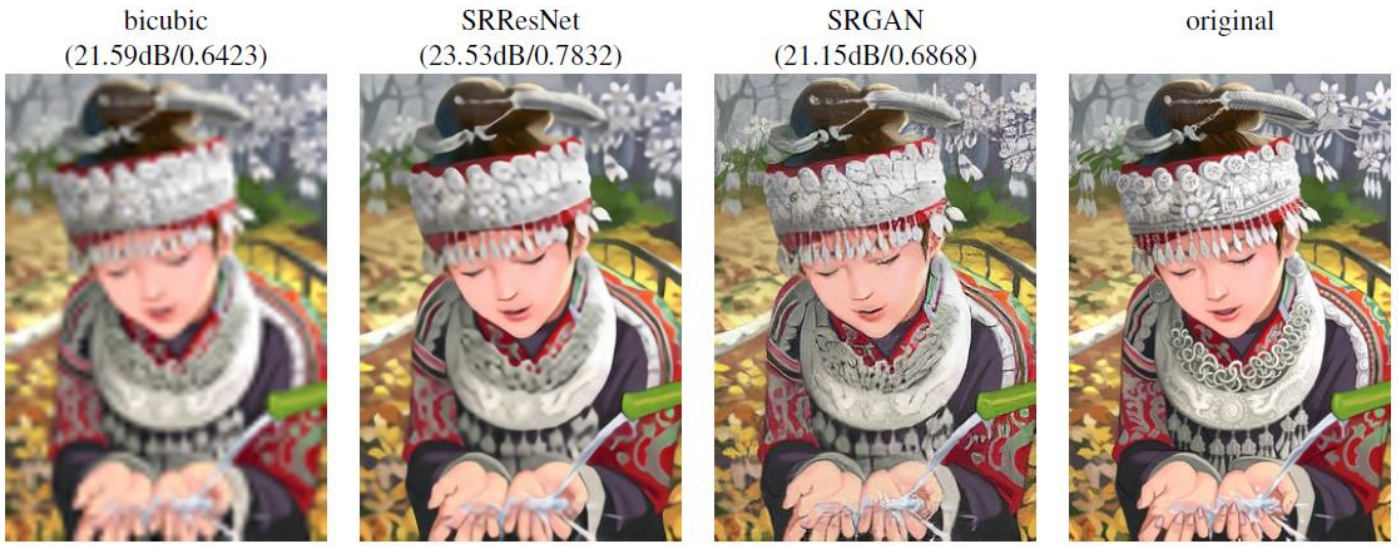


Figure 2: From left to right: bicubic interpolation, deep residual network optimized for MSE, deep residual generative adversarial network optimized for a loss more sensitive to human perception, original HR image. Corresponding PSNR and SSIM are shown in brackets. [4× upscaling]

Besides Video Generation ……

- Speech synthesis
  - Takuhiro Kaneko, Hirokazu Kameoka, Nobukatsu Hojo, Yusuke Ijima, Kaoru Hiramatsu, Kunio Kashino, “Generative Adversarial Network-based Postfiltering for Statistical Parametric Speech Synthesis”, ICASSP 2017
  - Yuki Saito, Shinnosuke Takamichi, and Hiroshi Saruwatari, "Training algorithm to deceive anti-spoofing verification for DNN-based speech synthesis, ”, ICASSP 2017