

Generational Adversarial Networks



What is a GAN?

- Generational
- Adversarial
 - Discriminator
 - Generator
- Network(s)
- Both trained at the same time!

Goodfellow, et al

- The paper that started it all
- Two multilayer perceptrons (!)
- Code linked
 - github.com/goodfeli/adversarial (1)
 - PyLearn2



TODO: HACK

Goodfellow, et al

- Helvetica scenario
- Conditional GAN
- Semi-supervised learning



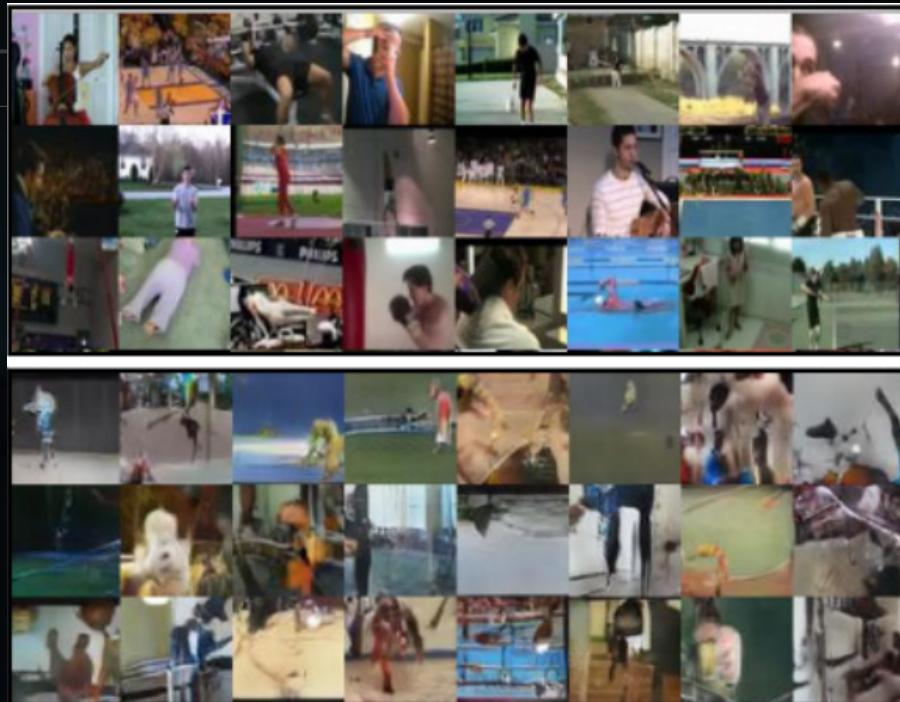
Mirza and Osindero

- Did someone say CGAN?
- Specificity
- Essentially identical to Goodfellow et al
- [github.com/eriklindernoren/Keras-GAN/ \(2\)](https://github.com/eriklindernoren/Keras-GAN/)



Ahsan, Sun and Essa

- DiscrimNet
 - Deep Convolutional GAN
 - Use the discriminator!
 - Scarce data
 - No feature engineering



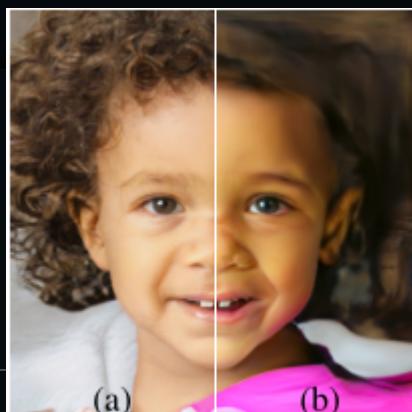
This Title Does Not Exist

- StyleGAN
- Karras, Laine and Aila
- Exiting!
- thispersondoesnotexist.com (3)
- thesecatsdonotexist.com
- github.com/NVlabs/stylegan



Karras, Laine and Aila

- Big changes
- *STYLE* (transfer)
- Style mixing
- Gaussian noise



Questions

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