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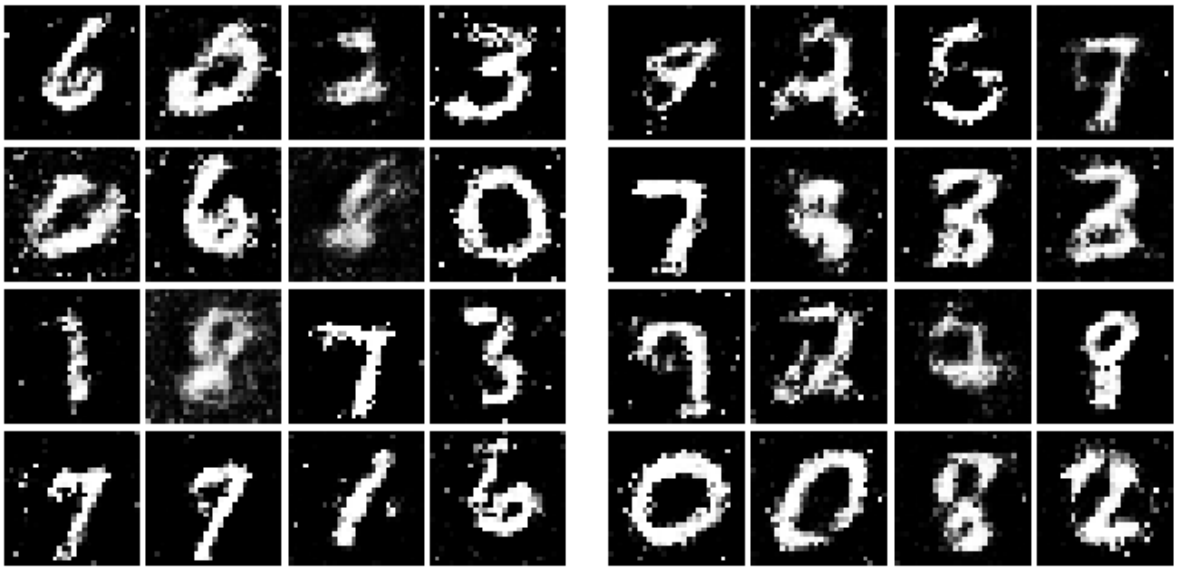
GAN and LSGAN MNIST

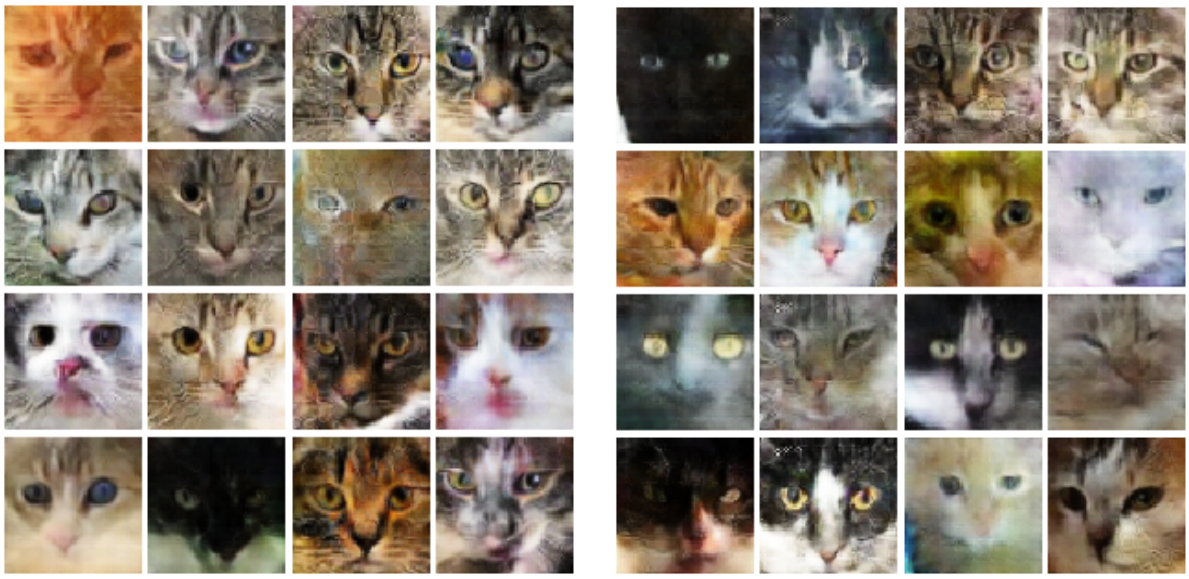
Show final results from training both your GAN and LSGAN (4x4 grid of images for both):



Left: GAN (EPOCH: 9 Iter: 3750, D: 1.374, G:0.8192)
Right: LSGAN (EPOCH: 8 Iter: 3500, D: 0.2378, G:0.1427)

GAN and LSGAN Cats

Show final results from training both your GAN and LSGAN (4x4 grid of images for both):

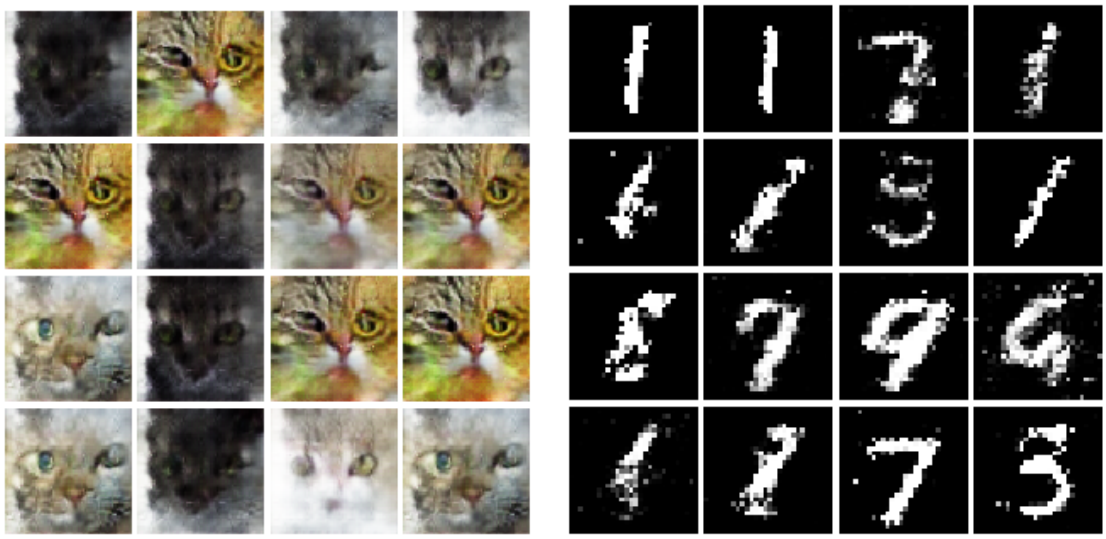


Left: GAN (EPOCH: 104, Iter: 51000, D: 0.5641, G:9.4)
Right: LSGAN (EPOCH: 170, Iter: 83500, D: 0.01513, G:0.5292)

Discuss any differences you observed in the quality of output or behavior during training of the two GAN models.

Compared to GAN, LSGAN produced results that had less noise and more clarity. The object almost seems to have a higher resolution.

Do you notice any instances of mode collapse in your GAN training? Show some instances of mode collapse from your training output.



Left: GAN, EPOCH 198: Iter: 97250, D: 0.003972, G:8.376
We tried to cut the learning rate in half and run more epochs, and the results in epochs towards the end showed signs of mode collapse. GAN was only able to generate about three modes of cat, and the LSGAN generated shapes of 1 and 7 repeatedly.
Right: LSGAN, EPOCH: 10: Iter: 4500, D: 0.2531, G:0.1555

Extra Credit - Alternative GAN Formulation

Explain what you did (describing all model changes and hyperparameter settings) and provide output images.