



Intro to GANs



Video: Welcome to the Specialization
5 min



Video: Welcome to Week 1
54 sec



Reading: Syllabus
5 min



Reading: Connect with your mentors and fellow learners on Slack!
5 min



Video: Generative Models
8 min



Video: Real Life GANs
5 min



Reading: Check out some non-existent people!
5 min



Reading: Pre-trained Model Exploration
30 min



Video: Intuition Behind GANs
5 min



Video: Discriminator
5 min



Video: Generator
7 min



Video: BCE Cost Function
6 min



Video: Putting It All Together
5 min



Video: (Optional) Intro to PyTorch
6 min



Lab: (Optional) Intro to PyTorch



Works Cited

All of the resources cited in Course 1 Week 1, in one place. You are encouraged to explore these papers/sites if they interest you! They are listed in the order they appear in the lessons.

From the videos:

- Hyperspherical Variational Auto-Encoders (Davidson, Falorsi, De Cao, Kipf, and Tomczak, 2018): https://www.researchgate.net/figure/Latent-space-visualization-of-the-10-MNIST-digits-in-2-dimensions-of-both-N-VAE-left_fig2_324182043
- Analyzing and Improving the Image Quality of StyleGAN (Karras et al., 2020): <https://arxiv.org/abs/1912.04958>
- Semantic Image Synthesis with Spatially-Adaptive Normalization (Park, Liu, Wang, and Zhu, 2019): <https://arxiv.org/abs/1903.07291>
- Few-shot Adversarial Learning of Realistic Neural Talking Head Models (Zakharov, Shysheya, Burkov, and Lempitsky, 2019): <https://arxiv.org/abs/1905.08233>
- Learning a Probabilistic Latent Space of Object Shapes via 3D Generative-Adversarial Modeling (Wu, Zhang, Xue, Freeman, and Tenenbaum, 2017): <https://arxiv.org/abs/1610.07584>
- These Cats Do Not Exist (Glover and Mott, 2019): <http://thsecatsdonotexist.com/>

From the notebooks:

- Large Scale GAN Training for High Fidelity Natural Image Synthesis (Brock, Donahue, and Simonyan, 2019): <https://arxiv.org/abs/1809.11096>
- PyTorch Documentation: <https://pytorch.org/docs/stable/index.html#pytorch-documentation>
- MNIST Database: <http://yann.lecun.com/exdb/mnist/>

✓ Complete

Go to next item