

















Unpaired Translation with CycleGAN

-  **Video:** Welcome to Week 3
57 sec
-  **Video:** Unpaired Image-to-Image Translation
3 min
-  **Video:** CycleGAN Overview
4 min
-  **Video:** CycleGAN: Two GANs
1 min
-  **Video:** CycleGAN: Cycle Consistency
6 min
-  **Video:** CycleGAN: Least Squares Loss
5 min
-  **Video:** CycleGAN: Identity Loss
3 min
-  **Video:** CycleGAN: Putting It All Together
2 min
-  **Video:** CycleGAN Applications & Variants
4 min
-  **Programming Assignment:** CycleGAN
3h
-  **Reading:** (Optional) The CycleGAN Paper
1h 10m
-  **Reading:** (Optional) CycleGAN for Medical Imaging
50 min
-  **Reading:** (Optional Notebook) MUNIT
1h
-  **Reading:** Works Cited



Works Cited

All of the resources cited in Course 3 Week 3, in one place. You are encouraged to read these papers/sites if they interest you! They are listed in the order they appear in the lessons.

From the videos:

- Image-to-Image Translation with Conditional Adversarial Networks (Isola et al., 2017): <https://arxiv.org/abs/1611.07004>
- Unpaired Image-to-Image Translation using Cycle-Consistent Adversarial Networks (Zhu, Park, Isola, and Efros, 2020): <https://arxiv.org/abs/1703.10593>
- PyTorch implementation of CycleGAN (2017): <https://github.com/togtong/CycleGAN>
- Distribution Matching Losses Can Hallucinate Features in Medical Image Segmentation (Cohen, Luck, and Honari, 2018): <https://arxiv.org/abs/1805.08841>
- Data augmentation using generative adversarial networks (CycleGAN) improves generalizability in CT segmentation tasks (Sandfort, Yan, Pickhardt, and Wang, 2019): <https://www.nature.com/articles/s41598-019-52737-x.pdf>
- Unsupervised Image-to-Image Translation (NVIDIA, 2018): <https://github.com/mingyuliutw/UNIT>
- Multimodal Unsupervised Image-to-Image Translation (Huang et al., 2018): <https://github.com/NVlabs/MUNIT>

From the notebooks:

- PyTorch-CycleGAN (2017): <https://github.com/aitorzip/PyTorch-CycleGAN/blob/master/datasets.py>
- Horse and Zebra Images Dataset: https://people.eecs.berkeley.edu/~taesung_park/CycleGAN/datasets/

✓ Complete

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