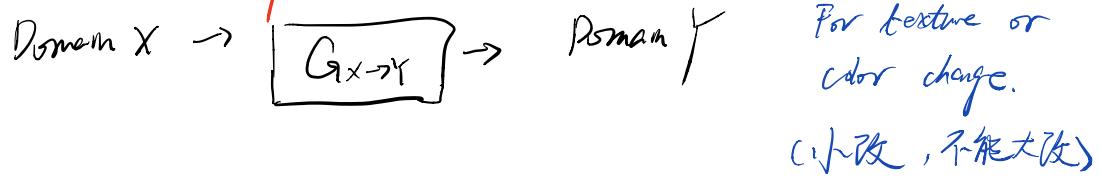
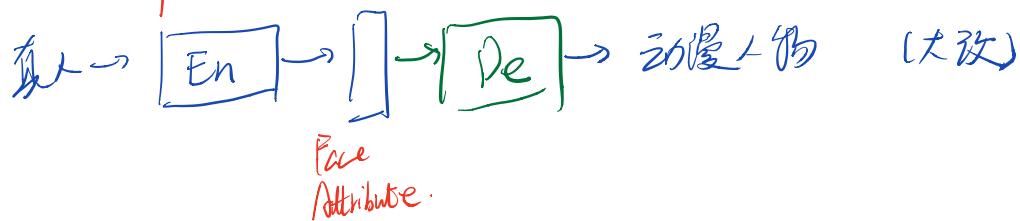


Approach 1. Direct transformation.



Approach 2: Projection to Common Space.

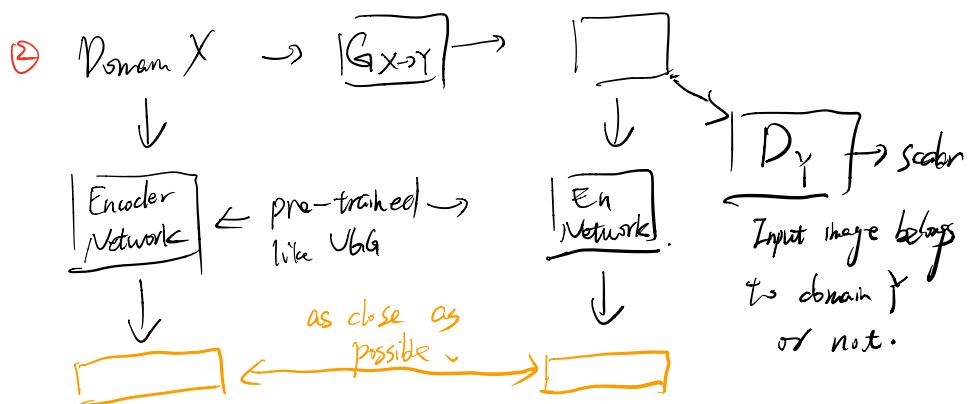


Approach 1: 将 Discriminator 改为鉴别是否为 Y domain

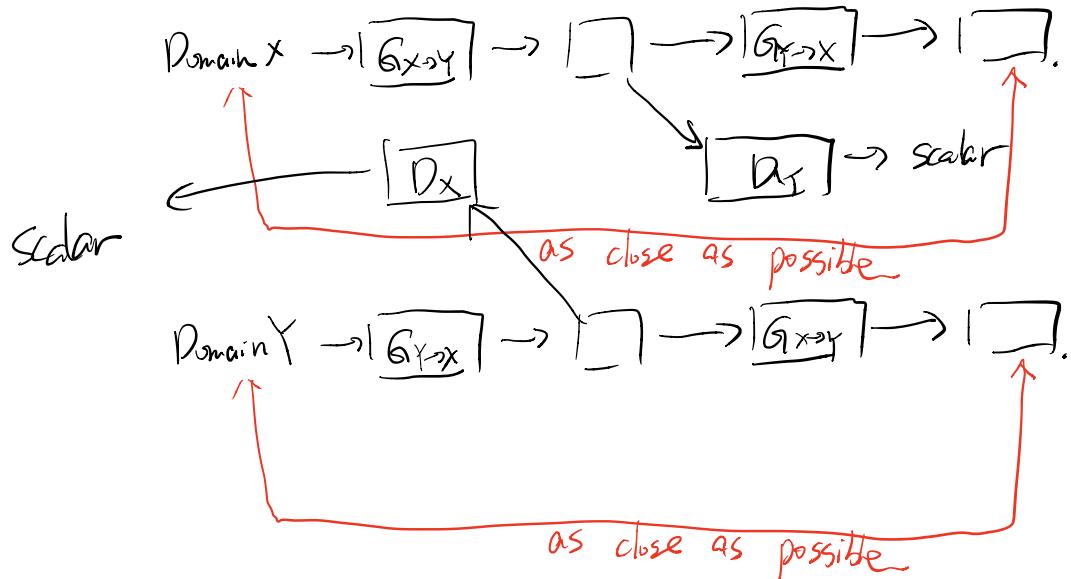
Generator : 1. 要骗过 Discriminator.

2. 要与输入有一定关系 (无视?)

①
Sometimes works



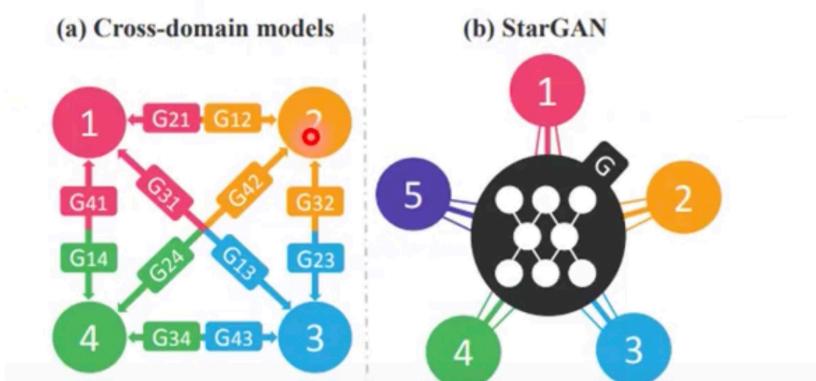
③ Cycle gen. $\text{from } \mathbb{X} \rightarrow \mathbb{Y} \text{ domain and } \mathbb{X} \text{ domain}$
 for Generator.



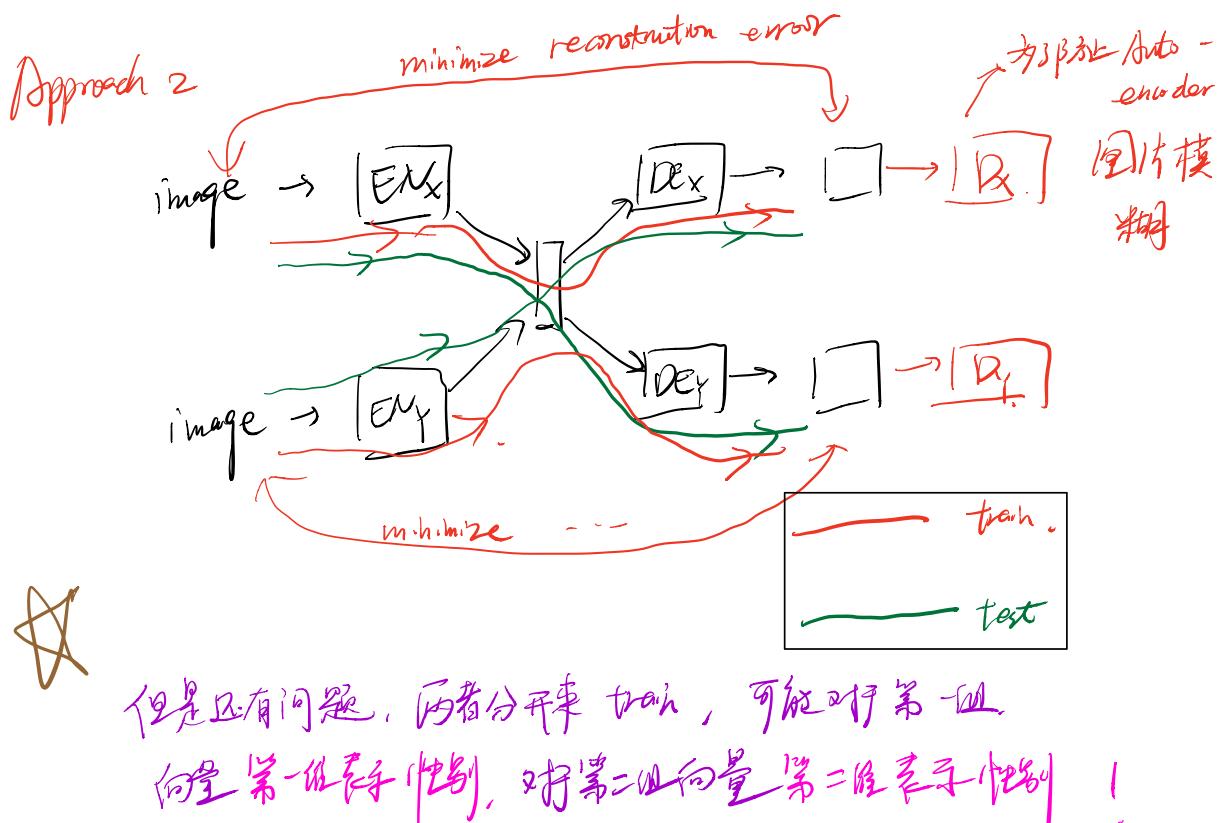
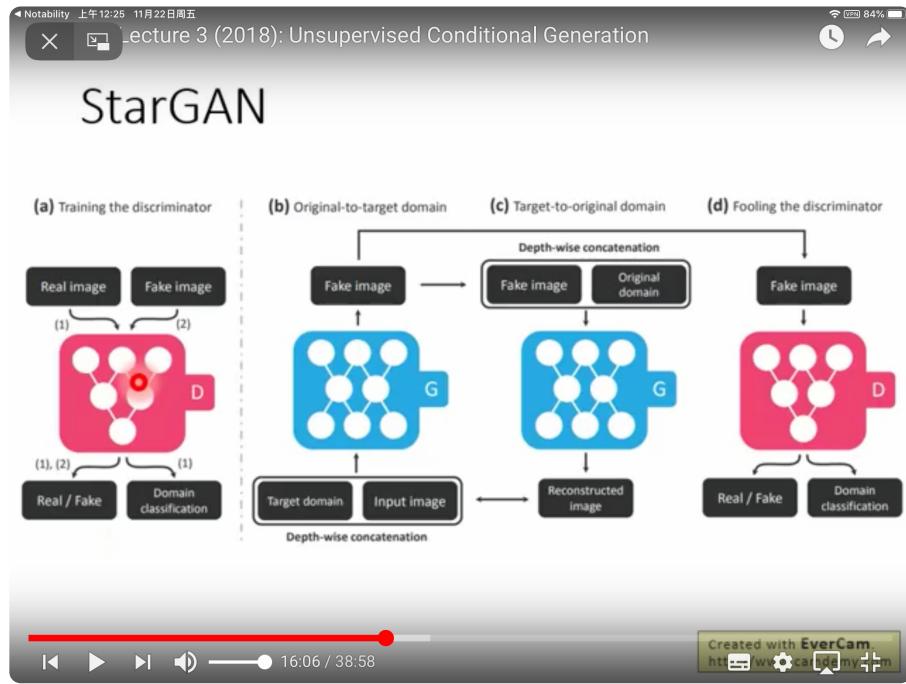
StarGAN

For multiple domains,
 considering starGAN

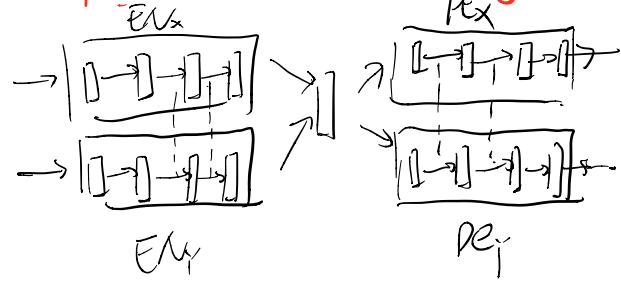
[Yunjey Choi, arXiv, 2017]



一个 generator
 多个 domain 互连

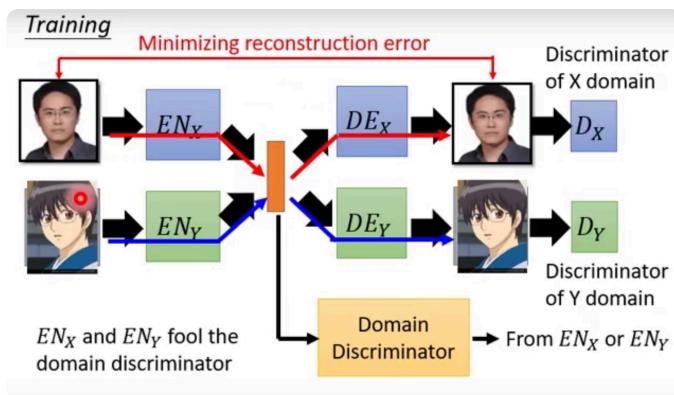


两种决策，共用部分 hidden layers

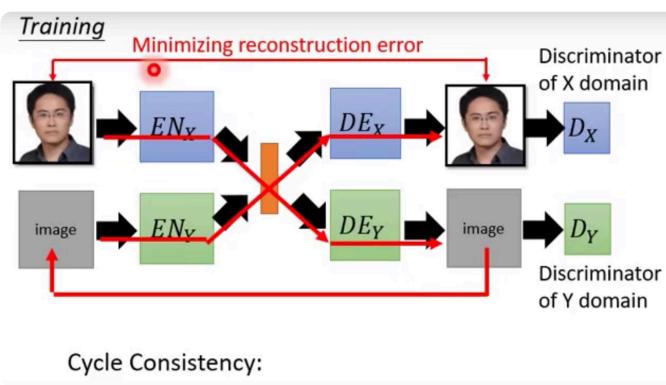


或者 完全共用一个 Encoder，将输入数据增加一维，表示
哪个 domain,

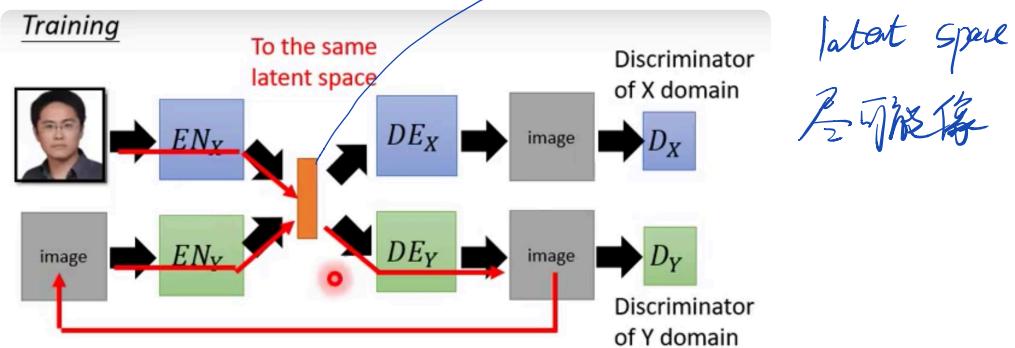
或者 加入另一个 discriminator



或者 使用 cycle GAN, 只不过中间变为 encoder + decoder



Semantic consistency (不同于 pixel-wise 的像素).
希望两次 encode 得到的



Semantic Consistency:

Used in DTN [Yaniv Taigman, et al., ICLR, 2017] and

声音转化：

註五：Speaker A Speaker B

How're you? \Leftrightarrow How are you?

Good morning ↪ good morning.

(监督学习)

现在： 天气真好 ⇔ How are you.

再見 ↪ Good morning

(可以用不同的語言！)