

ADL Homework 4 Report

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1. Explain the structure of your networks and loss terms in detail (1.5%)

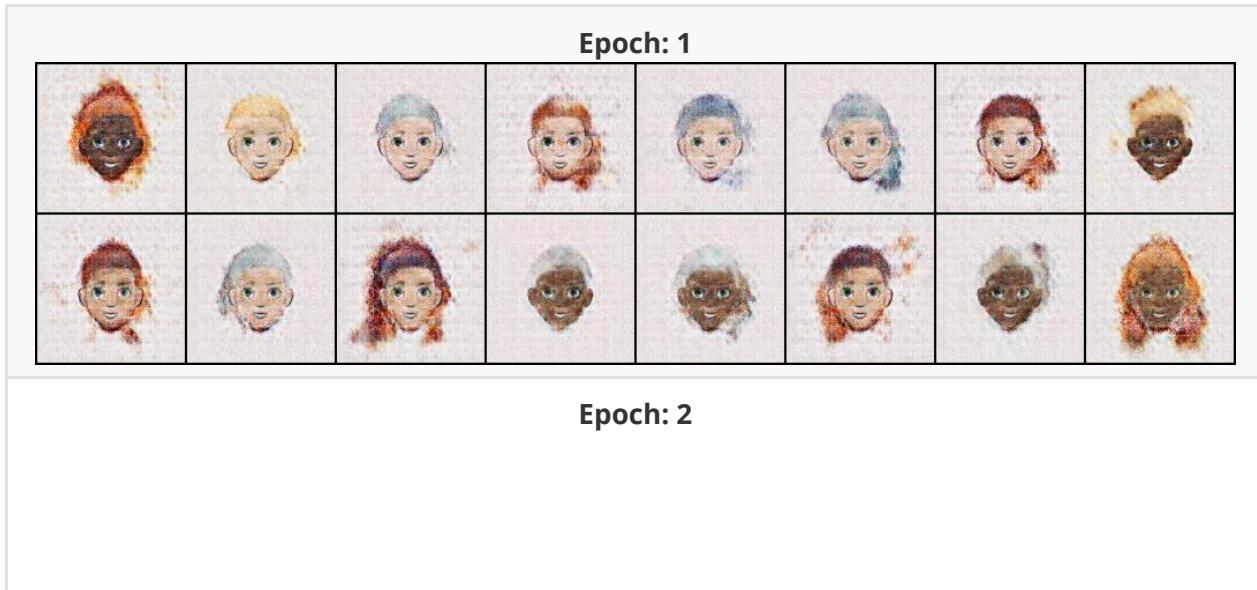
Structure of Generator

Structure of Discriminator

Other Properties

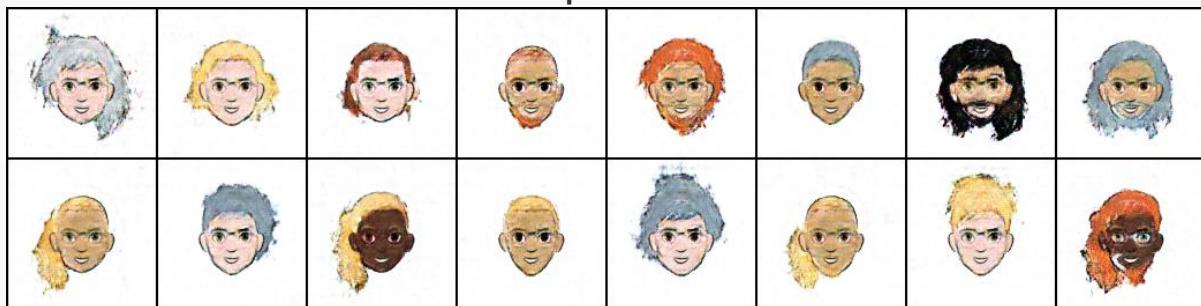
- Loss
 - Binary cross entropy on synthesis and condition
- Optimizer
 - Adam
 - learning rate: 0.0002
 - beta1: 0.5
- Noise size
 - 200

2. Plot your training progress (10 pics) (0.5%)





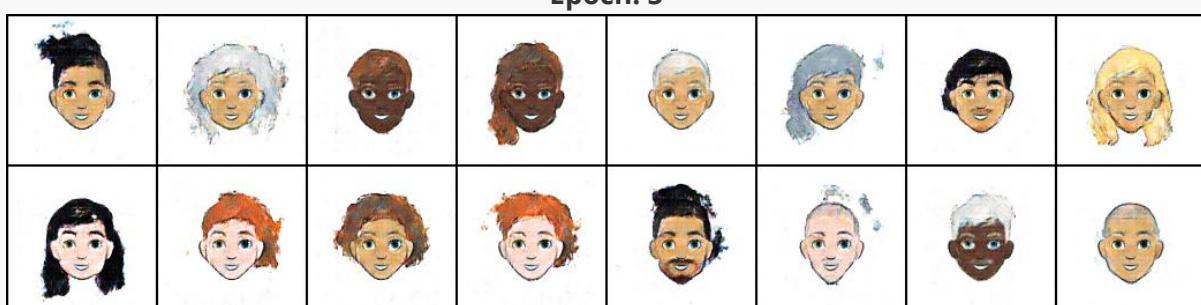
Epoch: 3



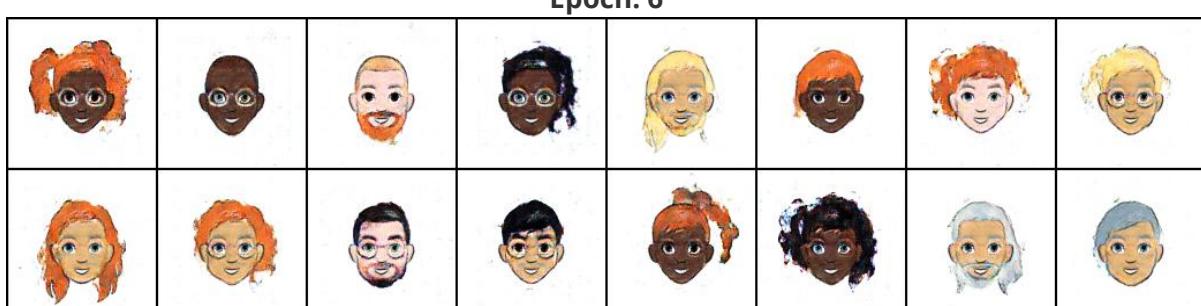
Epoch: 4



Epoch: 5



Epoch: 6



Epoch: 7

Epoch: 8							
Epoch: 9							
Epoch: 10							

3. Design at least 3 different experiments. Describe your settings, making comparisons and report your observations. (4% + 0.5% bonus)

- You may be deducted some points if TAs consider your experiments “太過敷衍”
 - EX: Normalizing the input image to [-1,1] is considered too simple and basic
 - 幾個參考方向: GAN的不同objective、model condition on label 的方式、各種tricks .

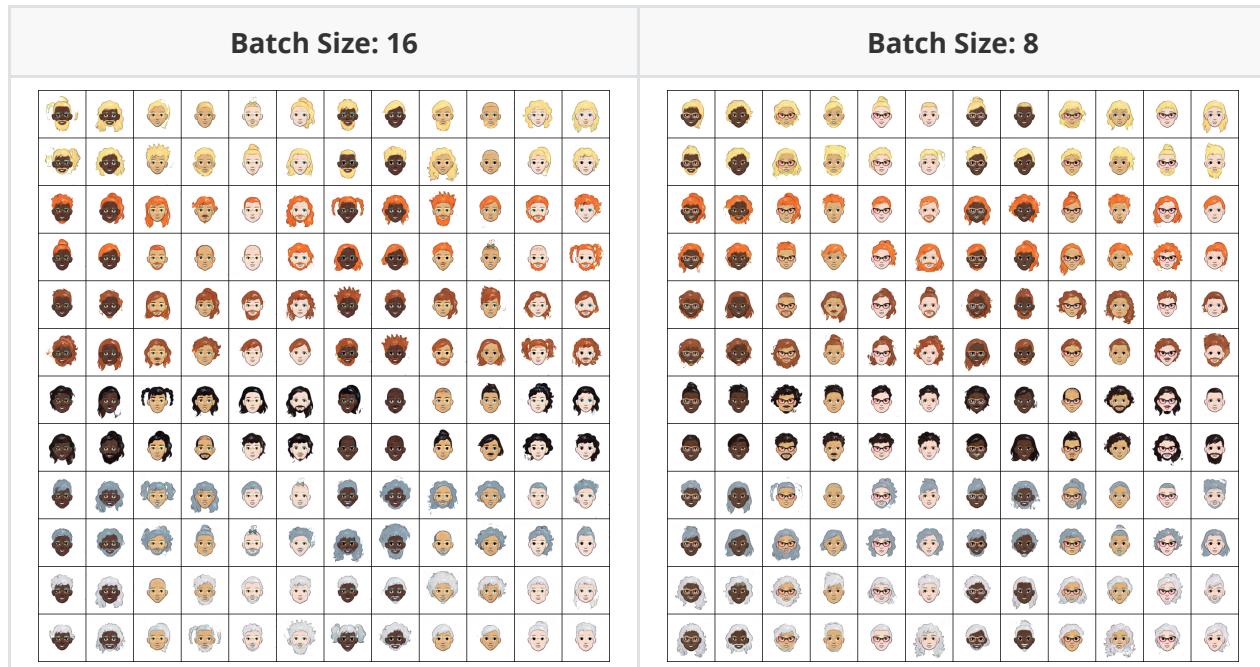
Experiment1: Different batch size

- Batch size: 32

- 梯度爆炸: epoch
- FID score:
- Batch size: 16
 - 梯度爆炸: 69 epoch
 - FID score: 63.257
- Batch size: 8
 - 梯度爆炸: 62 epoch
 - FID score: 58.160

發現：

如下表格所示：



可以發現，兩者最大的差異在於：眼鏡的明顯程度。

對於這種比較小的feature，比較小的batch size在train的過程迭代較慢，但卻有比較精細的結果。

我也發現右邊的藍色眼睛Train的比較明顯。

Experiment2: Condition on Label

Experiment3: Different batch size