Q1 Instructions
1 Point

Open notes: The quiz is open notes. You are free to use any content from the course website or from your own personal notes.

No communication: ANY communication with other students about the quiz content is strictly forbidden and will result in a failing grade for the whole class (not just this quiz).

No partial credit: Every question is all or nothing credit. Thus, you must get the answer exactly right to get credit for the question (including SELECT ALL questions). No partial credit will be given on quizzes.

Number Format: When giving numbers as short answers, please give in standard decimal notation with preceding "0." for decimals if needed but no trailing 0s (e.g., "0.15", "2.9", "0.001", "100" but NOT "0.15000" NOR ".15" NOR ".001" NOR "6.0").

Honor Pledge: I assert that I have not received any information about this quiz and will not share any quiz content with anyone else. I understand that any violation of this will result in a failing grade for the whole class (not just this quiz).

Yes, I understand the policies above and assert the honor pledge.

No

Q2
1 Point

Transposed convolution can be used to upsample a tensor to have higher spatial dimensions.

True

False

Q3
1 Point

Generative adversarial networks (GANs) do not have an explicit density function.

True

False

Q4
1 Point

Mode collapse in GANs means that the generated distribution has more diversity than the true distribution.

True

False

Q5
1 Point

The inception score (IS) and Frechet inception distance (FID) compare sets of images based on their raw pixel values (i.e., RGB values for each pixel).

True

False

Q6
1 Point

We can use test log likelihood to evaluate the performance of GANs (higher is better).

True

False

Q7
1 Point

Transposed convolution is equivalent to a simple convolution with rows/columns added where the values of those rows/columns could be randomly generated because they do not matter.

True

False

Q8
1 Point

For the DCGAN model discussed in class, computing gradients of the discriminator with respect to a real batch of samples and a fake batch of samples separately is equivalent to computing the gradients of a concatenated batch of both real and fake samples.

True

False

Answer
False

Q9
1 Point

The optimal discriminator D^* given a fixed generator G is equal to:

$\frac{p_{data}(x)}{p_{data}(x)+p_g(x)}$

$\frac{p_{data}(x)+p_g(x)}{p_{data}(x)}$

$\frac{p_{data}(x)+p_g(x)}{p_g(x)}$

$\frac{p_{data}(x)}{p_g(x)}$

Q10
1 Point

In the training of DCGAN, the generator and discriminator losses can oscillate and may not converge.

True

False

Q11
1 Point

If we could solve the inner maximization perfectly (i.e., find the theoretic solution), then the problem of vanishing gradients would be eliminated.

True

False

Q12
1 Point

Theoretically, after updating the generator G given an optimal discriminator D^*, the inner maximization must be solved again.

True

False

Quiz 8

● Graded

Student
Paloma Arellano

Total Points

10 / 12 pts

Question 1
Instructions 1 / 1 pt

Question 2
(no title) 1 / 1 pt

Question 3
(no title) 1 / 1 pt

Question 4
(no title) 1 / 1 pt

Question 5
(no title) 1 / 1 pt

Question 6
(no title) 1 / 1 pt

Question 7
(no title) 1 / 1 pt

Question 8
(no title) 0 / 1 pt

+ 1 pt Correct

✔ **+ 0 pts** Incorrect

Question 9
(no title) 1 / 1 pt

Question 10
(no title) 0 / 1 pt

Question 11
(no title) 1 / 1 pt

Question 12
(no title) 1 / 1 pt