Prompt 2a. Provide information on your computing innovation and computational artifact.

- Name the computing innovation that is represented by your computational artifact.
- Describe the computing innovation's intended purpose and function.
- Describe how your computational artifact illustrates, represents, or explains the computing innovation's intended purpose, its function, or its effect.

(Must not exceed 100 words)

The computer innovation is a Generative Adversarial Network, or, GANs for short. The purpose of a GAN is to get the most realistic output possible either in art or in recreating photos or creating a person online. The network is actually two deep learning neural networks that are tasked with creating the most realistic output, using a data set given to it, that resembles closest to a person's. One network is tasked in creating the piece. The other network's job is to look at the output and see if it is realistic. If it is then it is sent out but if it is not then the network checking the image sends it back to the original network and says what is wrong with it so that the original network can edit it and make it better. This process repeats until it is nearly indistinguishable from a human's.

2b. Describe your development process, explicitly identifying the computing tools and techniques you used to create your artifact. Your description must be detailed enough so that a person unfamiliar with the tools and techniques will understand your process
(Must not exceed 100 words)

I used Google Slides and Google Drawings to make my artifact. When making the artifact I wanted to show a flowchart of how a GANs works in a simplistic manner so that when the reader sees my responses they are able understand it on a deeper level.

2c. Explain at least one beneficial and one harmful effect the computing innovation has had, or has the potential to have, on society, economy, or culture.
(Must not exceed 250 words)

One beneficial effect on culture is that the GANs would be able to recreate damaged pieces of old art that would help visualize what the piece was at one point. For example in Pompeii in 1831 an ancient mosaic of Alexander the Great was discovered but only after archeologists discovered that they were damaging the mosaic. With a GAN the computer would be able to recreate the missing pieces of the mosaic by looking at a database of ancient Roman art to find patterns. One economic benefit is that they will be able to maintain finances without the user having to do anything. However there are some harmful effects of the GAN. One harmful economic effect of the GAN is that the network could be able to scam people by acting like the bank of the victim or someone else without them ever knowing. One harmful societal effect is that the network could create a social media account to spread false information while looking entirely like a real person's account.

2d. Using specific details, describe:

- The data your innovation uses;
- How the innovation consumes (as input), produces (as output), and/or transforms data; and
- At least one data storage concern, data privacy concern, or data security concern directly related to the computing innovation.

(Must not exceed 250 words)

The data that the GAN uses could be anything; it could be images, numbers or even videos that the network can analyze to get the most accurate representation of a person that the person needs. The way it is processed is that one part of the GAN network looks at the data that is provided, for example a series of classical art pieces, looking for patterns that it can recreate. However this processing of data could be a concern for the privacy of others because they can

2e. Provide a list of at least three online or print sources used to create your computational artifact and/or support your responses through in-text citation to the prompts provided in this performance task.

- At least two of the sources must have been created after the end of the previous academic year.
- For each online source, include the complete and permanent URL. Identify the author, title, source, the date you retrieved the source, and, if possible, the date the reference was written or posted.
- For each print source, include the author, title of excerpt/article and magazine or book, page number(s), publisher, and date of publication.
- If you include an interview source, include the name of the person you interviewed, the date on which the interview occurred, and the person's position in the field.
- Include in-text citations for the sources you used.
- Each source must be relevant, credible, and easily accessed.

"Generative Adversarial Networks: Generate Images Using Keras GAN [Tutorial]." *Packt Hub*, 20 Sept. 2018, hub.packtpub.com/generative-adversarial-networks-using-keras/.

Pandey. "AI Breakthrough: The Disruptive Technology in 2019." *CIOL*, 7 Feb. 2019, www.ciol.com/ai-breakthrough-the-disruptive-technology-in-2019/.

"Explainable AI: Why Visualizing Neural Networks Is Important." *TechTalks*, 11 Mar. 2019, bdtechtalks.com/2019/03/11/openai-google-neural-networks-visualization/.