assignment-10

Assignment 1

Question 1

Explain how Generative Adversarial Networks (GANs) work briefly. (1 point)

Answer:

GANs create new data similar to a training dataset. An example of this would be something like a text to image model. You could start off with a large data set of described images, and feed that into the training. Afterwards, when you input a set of text, the GAN can look at its own training and replicate something similar to what it has had been trained on. During the training process, we would have a generator and a discriminator. The generator will generate data, and the discriminator will judge that data and determine if it is similar to the training data. The iterator will improve by taking feedback from the discriminator, and this process will repeat.

Question 2:

Explain the roles of encoder and decoder in the Transformer architecture. (1 point)

Answer:

The encoder will take the user's input and process it into a matrix like structure. This is so the inputted text (probably from the user) is is more easily processed by the model, better capturing the relationships between the tokens and such. After this, the decoder will decode the encoders output, and generate something most likely very similar. An example would be:

Input: 'Yo what up' -> encoder -> decoder(encoders output) -> output: 'Hey, what's up'

This is why the technique is called a "transformer". It will get an input and then transform

it into something more appropriate.