Autoencoders

1. (True/False) Autoencoders learn a compressed representation of the input by first compressing the input (encoding) and decompressing it back (decoding) to match the original input.
   1. True
2. All of these are examples of applications of Autoencoders, except:
   1. Times series forecasting
3. Which is the main goal of Variational Autoencoders?
   1. Generate images using the decoder

Autoencoders lab

1. (True/False) A common characteristic of both Autoencoders and Variational Autoencoders is that both have one neural network for encoding and another one for decoding.
   1. True
2. These are all additional steps that you need to consider when using Variational Autoencoders, except:
   1. Remove a KL loss function
3. Choose the right assertion in the context of comparing the reconstruction error of Autoencoders and Variational Autoencoders:
   1. The reconstruction error of **variational autoencoders** can be **higher** because variational autoencoders are designed to maximize the interpretability of the latent space, not to minimize the reconstruction error.

# End of Module Quiz

1. (True/False) An Autoencoder is a form of unsupervised learning
   1. True
2. Select the right assertion:
   1. Autoencoders learn from a compressed representation of the data, while variational autoencoders learn from a probability distribution representing the data.
3. (True/False) Variational autoencoders are generative models.
   1. True
4. When comparing the results of Autoencoders and Principal Component Analysis, which approach might best improve the results from Autoencoders?
   1. Add layers and epochs
5. (True/False) KL loss is used in Variatoinal Autoencoders to represent the measure of the difference between two distributions.
   1. True
6. A good way to compare the inputs and outputs of a Variational Autoencoder is to calculate the mean of a reconstruction function based on binary crossentropy
   1. True