

type of (linear PCA)  
Dimensionality  
reduction

## ML terms

- Auto encoders: a type of NN used for unsupervised learning. They work by compressing the input data into a lower dimension representation (encoding) and then reconstructing the original input from this compressed representation (decoding). The model is trained to minimize the difference between the original input and the reconstructed output.
- GAN (Generative adversarial network): are a type of NN designed to generate new data that resembles the data they were trained on. They consist of two networks: a generator which creates new data and a discriminator which evaluates the authenticity of generated data. The two networks are trained in an adversarial process where the generator tries to fool the discriminator and the discriminator tries to distinguish between real and generated data. This leads to both to be improved.
- Explainable AI (XAI): focuses on making ML models and their decisions understandable to humans instead of treating models like black boxes, it is to understand models logic.
- Confusion matrix: a confusion matrix is a ML evaluation method it summarizes performance of classification models by showing the number of correct and incorrect predictions for each class, it compares model's predicted labels with actual labels helping visualize model errors. To see real ex in AI notes 98 go to precision tree  $\rightarrow$  P  $\rightarrow$  confusion matrix