



Generative Adversarial Network

2025/2026

Assignment_1

- Compress a gray scale image using PCA, then visualize the compressed image
- Decompress the compressed image and visualize it
- Don't use the PCA built-in function
- Group of 2

Bonus:

- Compress a colored image instead of a gray image (**Don't convert the colored image into gray scale**)
- Compress a group of images that can be grouped into less number of images containing the common features (hint: search for eigen faces) **For example**

Original 1



Original 2



Original 3



Original 4



Original 5



Original 6



Gray 1



Gray 2



Gray 3



Gray 4



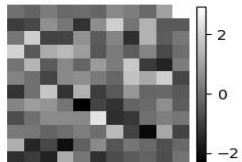
Gray 5



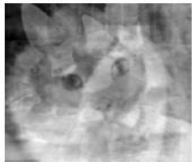
Gray 6



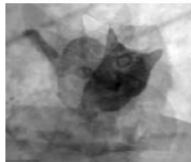
Compressed Representation (Feature Values)



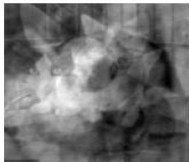
Common Feature 1



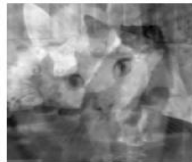
Common Feature 2



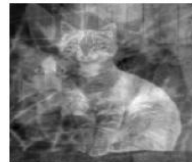
Common Feature 3



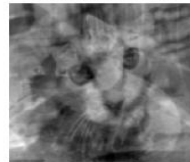
Common Feature 4



Common Feature 5



Common Feature 6



Decompressed 1



Decompressed 2



Decompressed 3



Decompressed 4



Decompressed 5



Decompressed 6

