|  | hyperparameter | MNIST | FashionMNIST | ORL | CFP |
|---|---|---|---|---|---|
| VAE | epoch | 200 | 200 | 200 | 200 |
|  | learning rate | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
|  | batch size | 128 | 128 | 32 | 32 |
|  | convolutional channels | [32,64,128] | [32,64,128] | [32,64,128] | [32,64,128] |
|  | latent dimension | 32 | 32 | 32 | 32 |
| VQ-VAE | epoch | 50 | 50 | 100 | 100 |
|  | learning rate | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
|  | batch size | 64 | 64 | 32 | 32 |
|  | convolutional channels | [32,64,128] | [32,64,128] | [64,128,256] | [64,128,256] |
|  | pixelcnn_n_blocks | 15 | 15 | 15 | 15 |
|  | pixelcnn_dim | 128 | 128 | 128 | 128 |
|  | pixelcnn_epoch | 50 | 50 | 100 | 100 |
| GAN | epoch | 200 | 200 | 200 | 200 |
|  | latent dimension | 100 | 100 | 100 | 100 |
|  | learning rate | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
|  | batch_size | 64 | 64 | 32 | 32 |
|  | discriminator convolutional channels | [64,128,256] | [64,128,256] | [64,128,256,512] | [64,128,256,512] |
|  | generator convolutional channels | [256, 128, 64] | [256, 128, 64] | [512, 256, 128, 64] | [512, 256, 128, 64] |
| PMF_GAN | epoch | 100 | 100 | 100 | 100 |
|  | latent dimension | 100 | 100 | 100 | 100 |
|  | learning rate | 0.0002 | 0.0002 | 0.0002 | 0.0002 |
|  | batch_size | 64 | 64 | 32 | 32 |
|  | discriminator convolutional channels | [64,128,256] | [64,128,256] | [64,128,256,512] | [64,128,256,512] |
|  | generator convolutional channels | [64,128,256] | [64,128,256] | [512, 256, 128, 64] | [512, 256, 128, 64] |
|  | distance metric | Euclidean | Euclidean | Euclidean | Euclidean |
|  | bins | 3 | 3 | 3 | 3 |
| DDPM | epoch | 20 | 20 | 100 | 100 |
|  | learning rate | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
|  | batch size | 32 | 32 | 32 | 16 |
|  | convolutional channels | [64, 128, 192, 256] | [64, 128, 192, 256] | [64, 128, 192, 256] | [64, 128, 192, 256] |
|  | T | 1000 | 1000 | 1000 | 1000 |
|  | beta_1 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
|  | beta_T | 0.02 | 0.02 | 0.02 | 0.02 |
| PILVAE | Latent dimension | 8 | 8 | 48 | 48 |
|  | PIL0 | 2000 | 2000 | 2000 | 2000 |
|  | Gn_PIL_mean | 0 | 0 | 0 | 0 |
|  | Gn_PIL_variance | 0.001 | 0.001 | 0.1 | 0.1 |
|  | regularization coefficient | 0.001 | 0.001 | 0.0001 | 0.0001 |
|  | ActivationFunc | prelu | prelu | prelu | prelu |