Multimedia Retrieval

Practical Assignment

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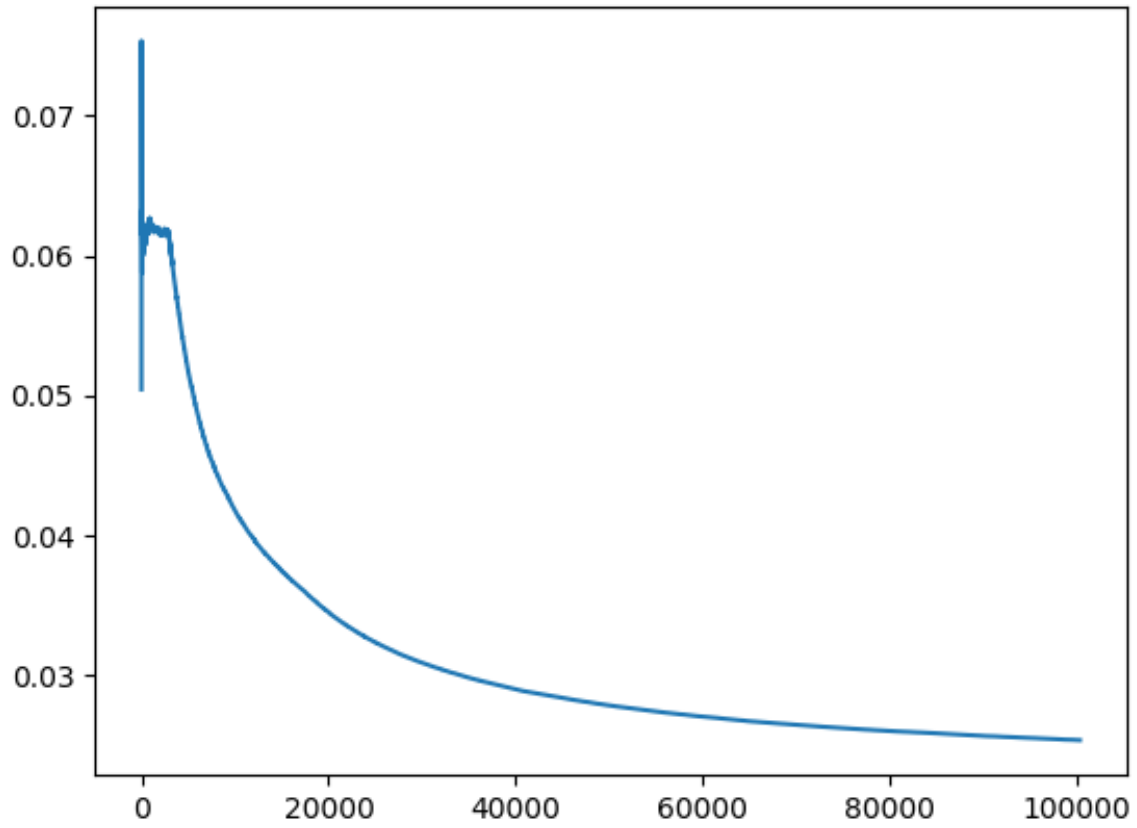
Encoder

- leaky_relu(Conv2d(3, 13, kernel_size=(1, 1), stride=(1, 1)))
- leaky_relu(Conv2d(13, 26, kernel_size=(2, 2), stride=(2, 2)))
- leaky_relu(Conv2d(26, 38, kernel_size=(2, 2), stride=(2, 2)))
- leaky_relu(Conv2d(38, 45, kernel_size=(2, 2), stride=(3, 3)))
- flatten
- leaky_relu(Linear(in_features=405, out_features=10, bias=True))

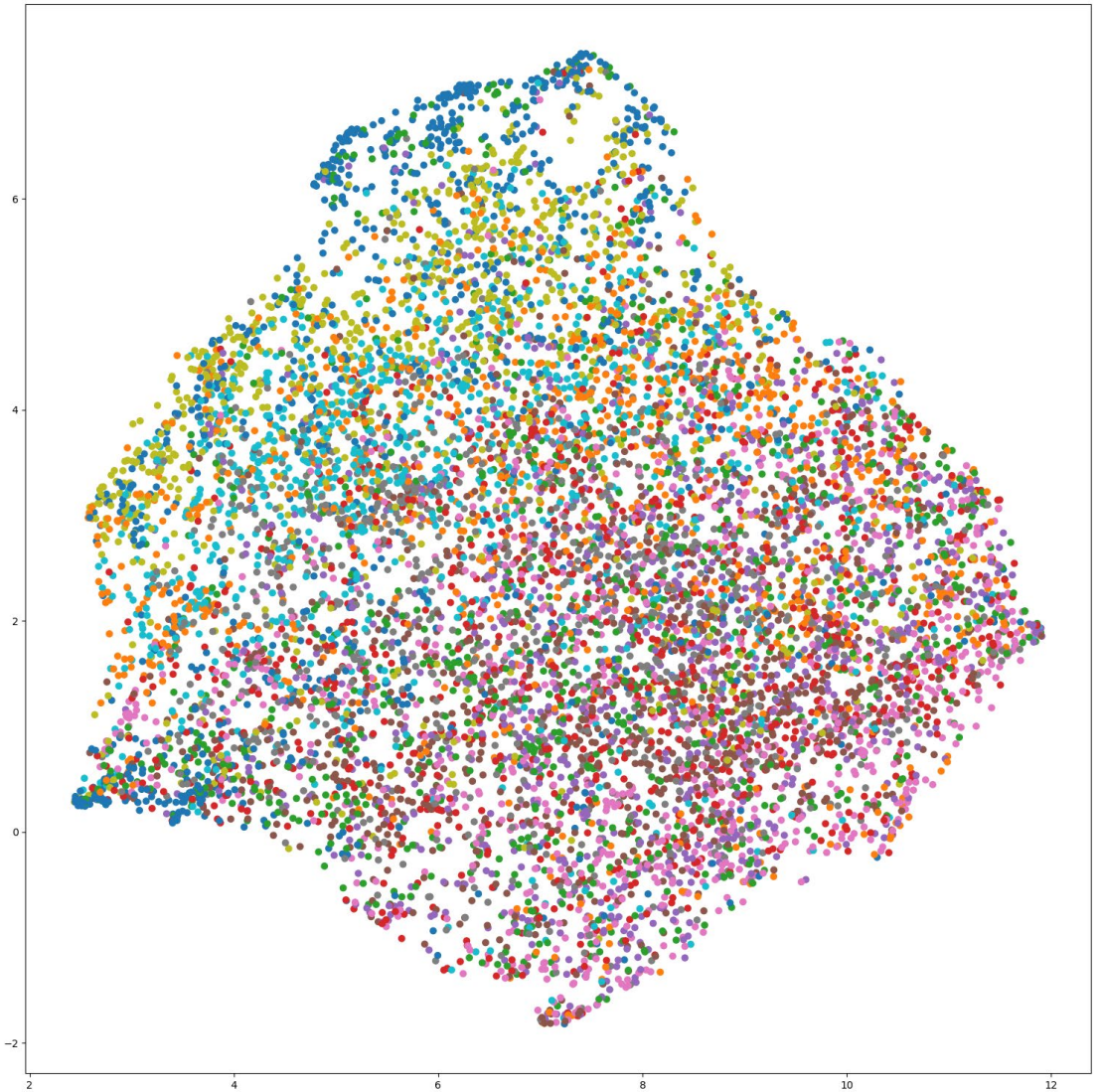
Decoder

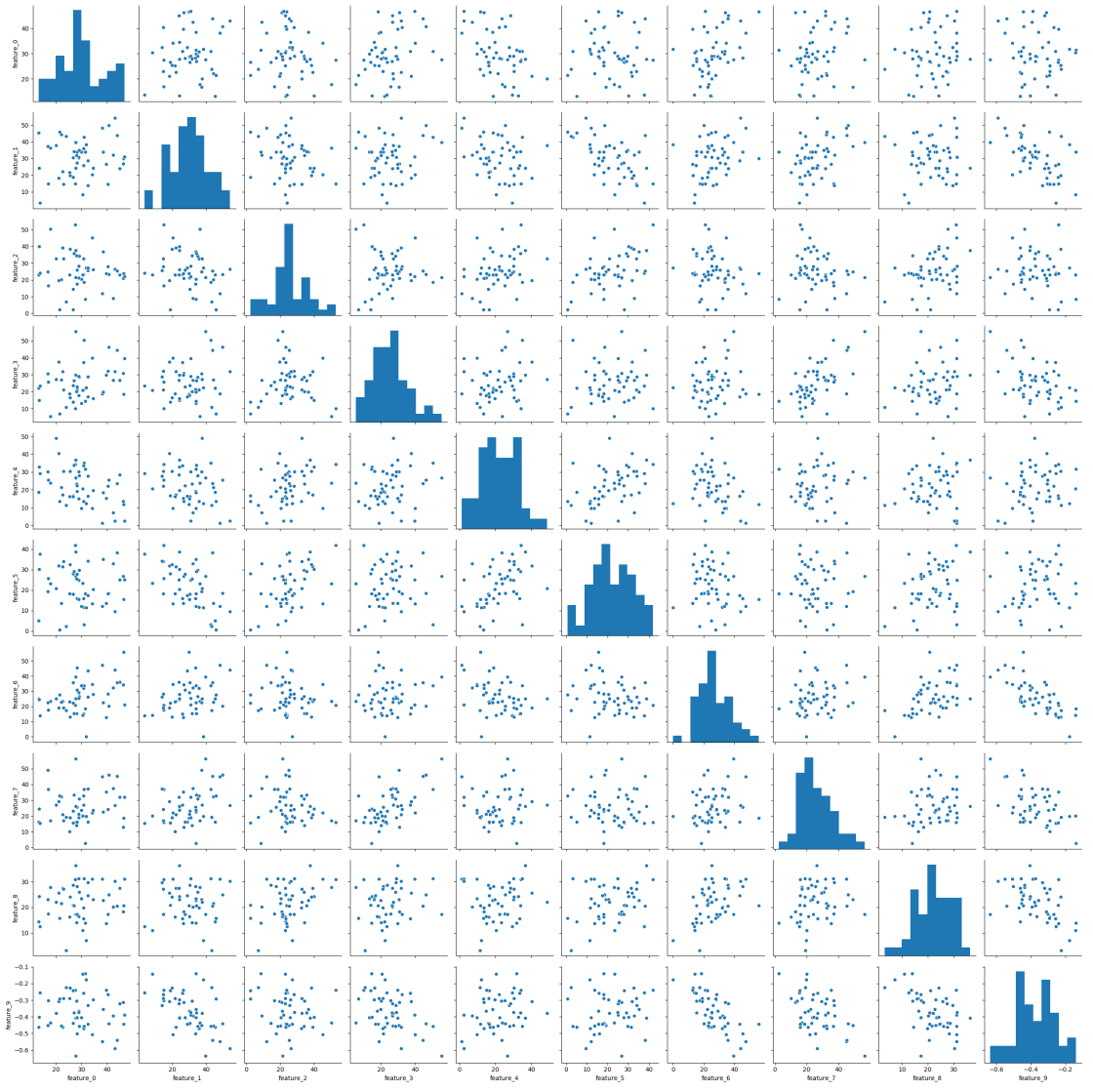
- leaky_relu(Linear(in_features=10, out_features=16, bias=True))
- reshape((1, 1, 4, 4))
- leaky_relu(ConvTranspose2d(1, 5, kernel_size=(2, 2), stride=(1, 1)))
- leaky_relu(ConvTranspose2d(5, 9, kernel_size=(2, 2), stride=(2, 2)))
- leaky_relu(ConvTranspose2d(9, 14, kernel_size=(3, 3), stride=(2, 2)))
- leaky_relu(ConvTranspose2d(14, 19, kernel_size=(2, 2), stride=(1, 1)))
- flatten
- sigmoid(Linear(in_features=9196, out_features=3072, bias=True))
- reshape((1, 3, 32, 32))



Trained on 50000 images over 2 epochs

Performance


6
4
2
0
−2
2
4
6
8
10
12


feature_0
feature_1
feature_2
feature_3
feature_4
feature_5
feature_6
feature_7
feature_8
feature_9

UMAP & SPLOM