Hyperparameter Tuning:

**Midterm:**

optimizer = Adam(lr=0.0004, beta\_1=0.5, beta\_2=0.9)

ae\_optimizer = Adam(lr=0.0002, beta\_1=0.5, beta\_2=0.9)

latent\_dim=128

# trainRatio === times(Train D) / times(Train G)

trainRatio = 5

# Optimizer for both the networks

# learning\_rate=0.0002, beta\_1=0.5, beta\_2=0.9 are recommended

generator\_optimizer = Adam(

learning\_rate=0.0002, beta\_1=0.5, beta\_2=0.9

)

discriminator\_optimizer = Adam(

learning\_rate=0.0002, beta\_1=0.5, beta\_2=0.9

)

Autoencoder train loss (After 60 epochs): 0.1273, val loss: 0.1248

Discriminator loss (After 50 learning steps): 0.8903

Generator loss (After 50 learning steps): 2.5708

**Final:**

Autoencoder:

optimizer = Adam(lr=0.0020, beta\_1=0.5, beta\_2=0.9)

Train loss: 0.1221, val loss: 0.1188

BAGAN:

d\_loss: 0.8500 - g\_loss: 2.6103 - val\_d\_loss: 0.9800 - val\_g\_loss: 2.4314

**Final Fixed Pose (same hyperparameters as above):**

Autoencoder: loss: 0.0637 - val\_loss: 0.0755

BAGAN: d\_loss: 0.8811 - g\_loss: 2.1667 - val\_d\_loss: 1.2074 - val\_g\_loss: 2.2468