

# SA-CycleGAN-2.5D Training Configuration

## Hyperparameters:

Epochs: 100  
Batch size: 8  
Image size:  $128 \times 128$   
Learning rate:  $2 \times 10^{-4}$   
Optimizer: Adam ( $\beta_1 = 0.5$ ,  $\beta_2 = 0.999$ )  
LR schedule: Cosine annealing  
Warmup epochs: 5

## Loss Weights:

$\lambda_{\text{cycle}} = 10.0$   
 $\lambda_{\text{identity}} = 5.0$   
 $\lambda_{\text{SSIM}} = 1.0$   
 $\lambda_{\text{gradient}} = 1.0$

## Model Architecture:

Generator: ResNet-based (9 blocks)  
Base filters: 64  
Self-attention: in bottleneck  
CBAM: after each ResBlock  
Discriminator: Multi-scale PatchGAN  
Total parameters: 35.1M

## Training Statistics:

Training samples: 42,110  
Validation samples: 5,263  
Test samples: 5,265  
Batches per epoch: 5,264  
Total iterations: 526,400  
Training time: ~85 hours

## Data Augmentation:

Random horizontal flip  
Random rotation ( $\pm 10$ )  
Gaussian noise  
Intensity jittering

Hardware: RTX 6000 (24GB)

## Regularization:

Gradient clipping: L2 norm  $\leq 1.0$   
Instance normalization  
Spectral normalization (discriminator)  
Replay buffer size: 50