

# Aplicando CGANs

Na coloração de paisagens

# Gerador

- UNet adaptada
- Perda considerando disputa com o discriminador e L1
- Otimizador Adam

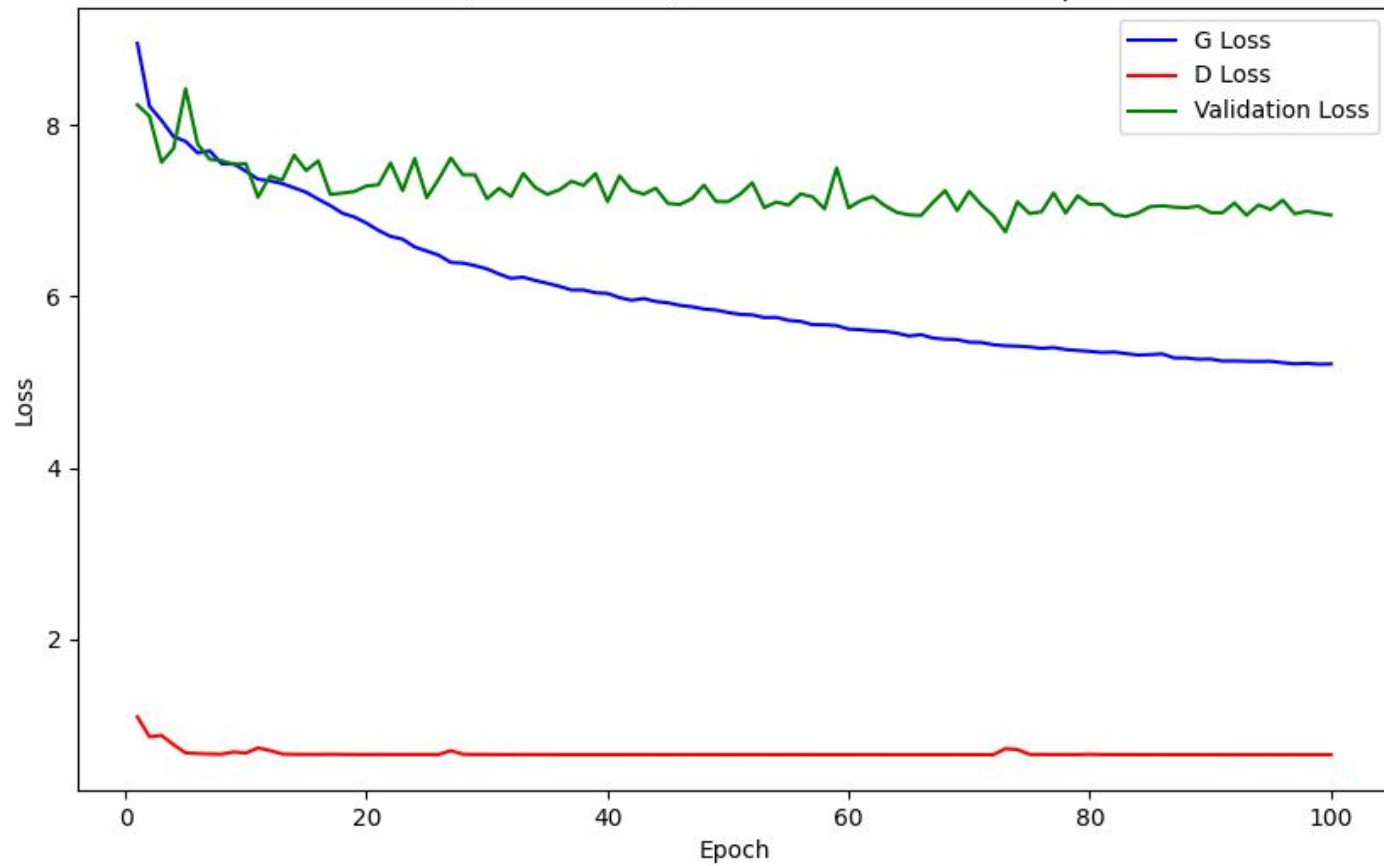
# Discriminador

- Rede convolucional de contração
- BinaryCrossEntropy loss
- Otimizador Adam e SGD foram validados

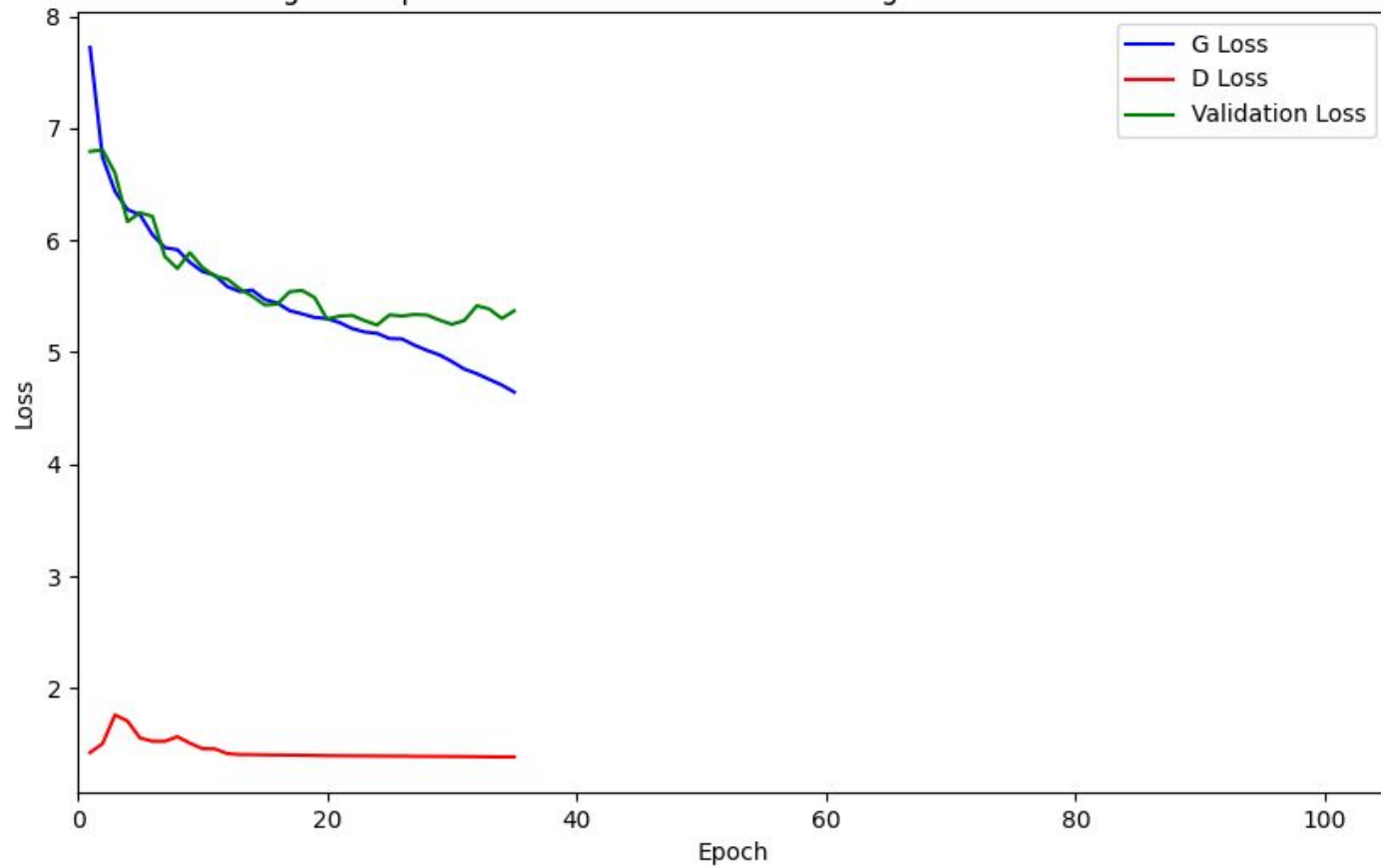
# Treinamento Simultâneo

- Discriminador
  - atualiza a cada 5 epochs
  - usa labels não binárias, para induzir confusão
- Gerador
  - atualiza a cada epoch

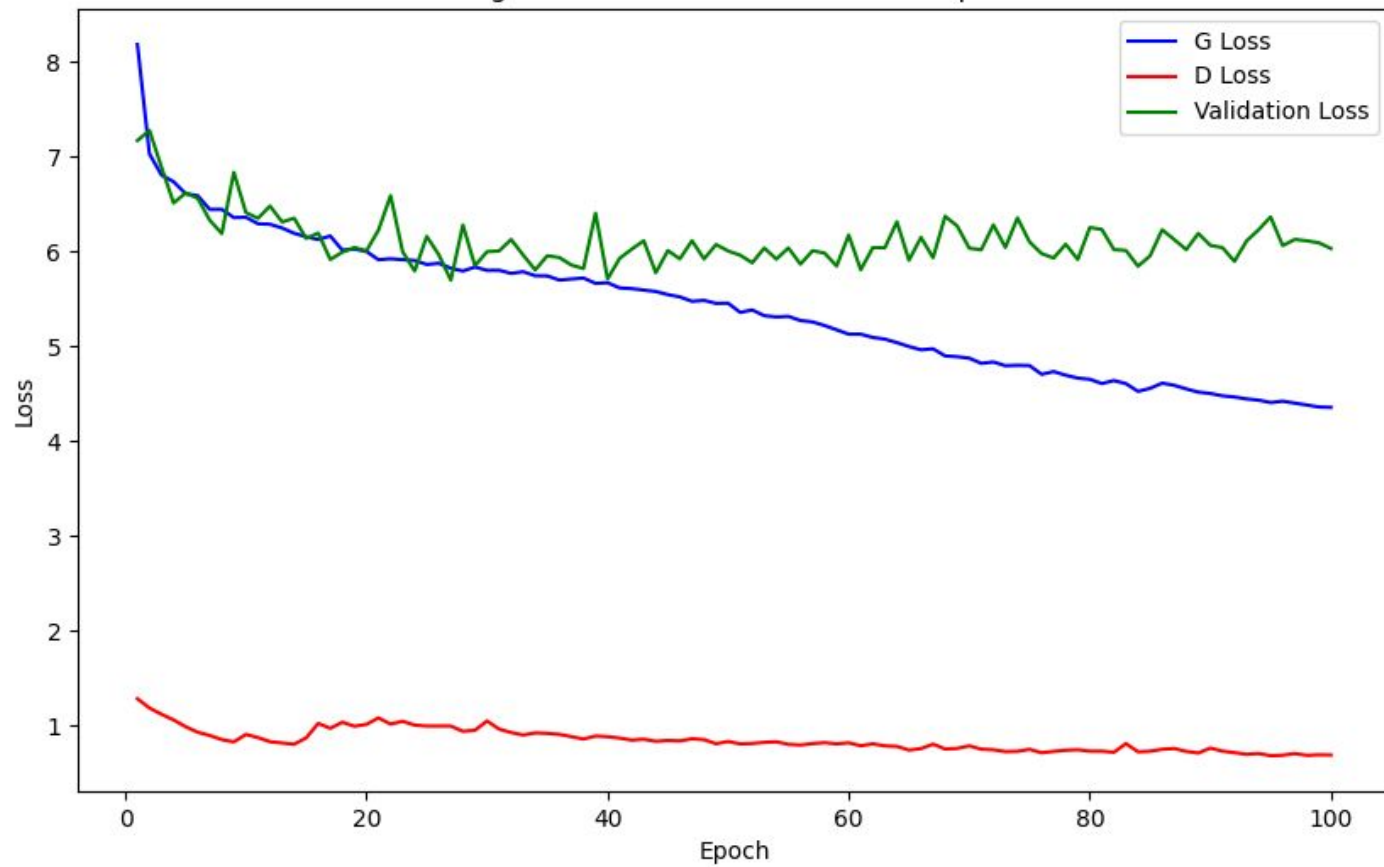
Generator, Discriminator, and Validation Loss over Epochs



Using SGD Optimizer for discriminator and images with better resolution



Images with better resolution and depth 3



Treino

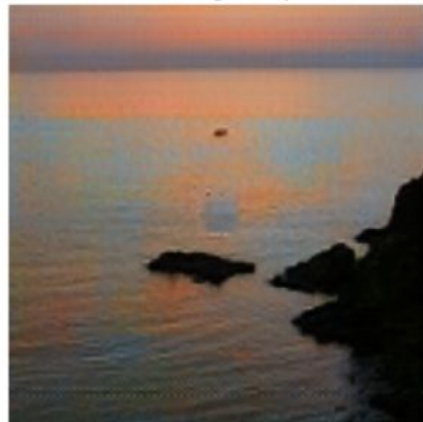
Real Image 1



Real Image 2



Generated Image at Epoch 100



Validação

Real Image 1



Real Image 2



Generated Image at Epoch 100





Treino

Real Image 1



Real Image 2



Generated Image at Epoch 95

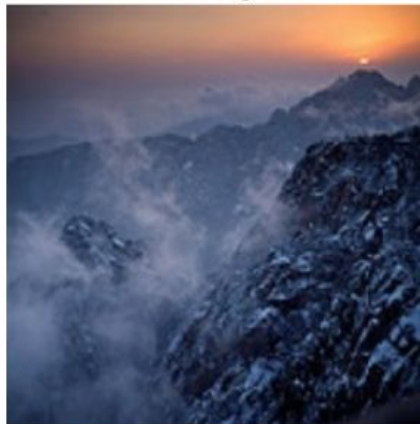


Validação

Real Image 1



Real Image 2



Generated Image at Epoch 95



# Teste

Imagem em Escala de Cinza



Imagem Colorida Original



Imagem Gerada



Imagem em Escala de Cinza



Imagem Colorida Original



Imagem Gerada



# Teste

Imagem em Escala de Cinza



Imagem Colorida Original



Imagem Gerada



Imagem em Escala de Cinza



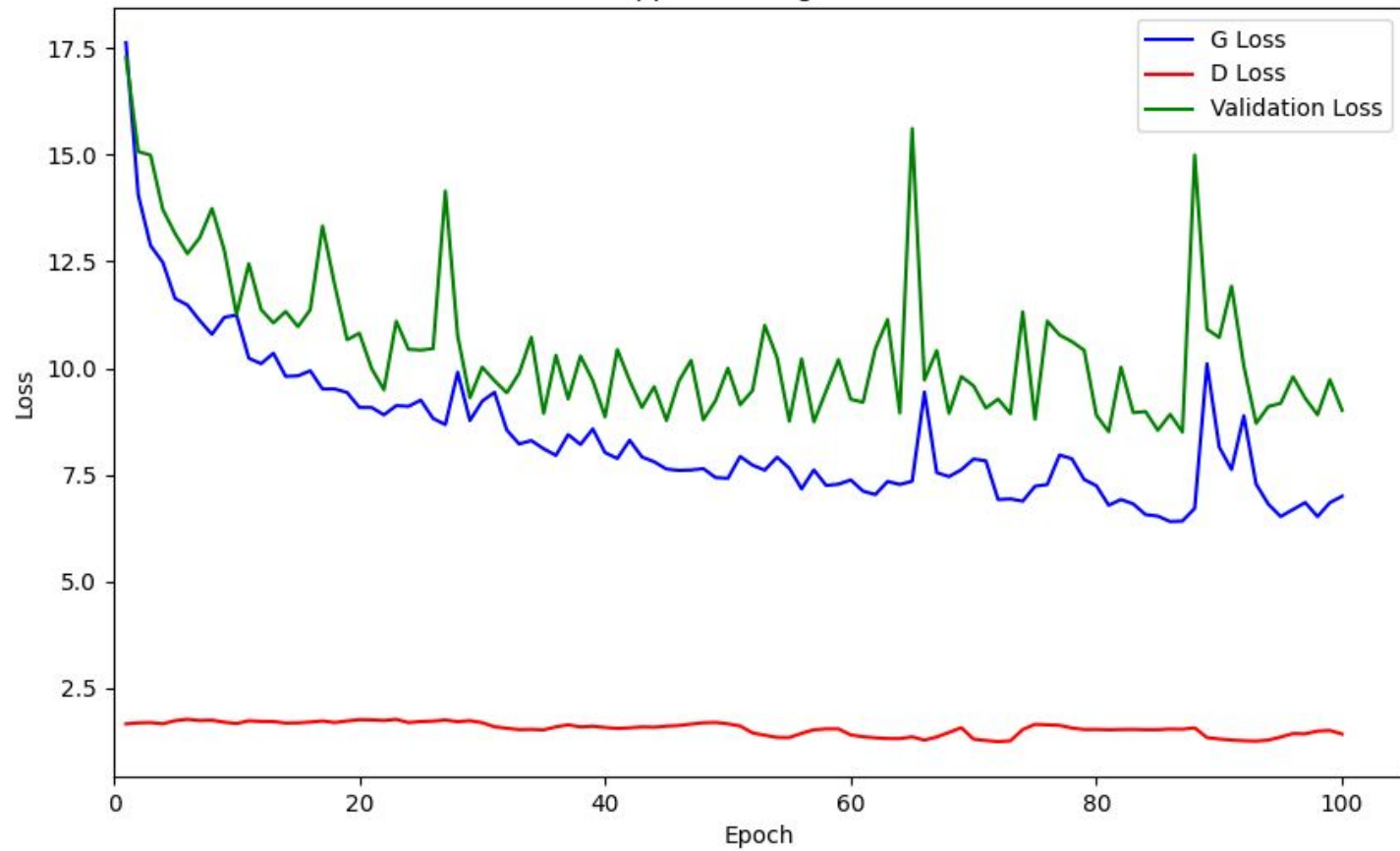
Imagem Colorida Original



Imagem Gerada



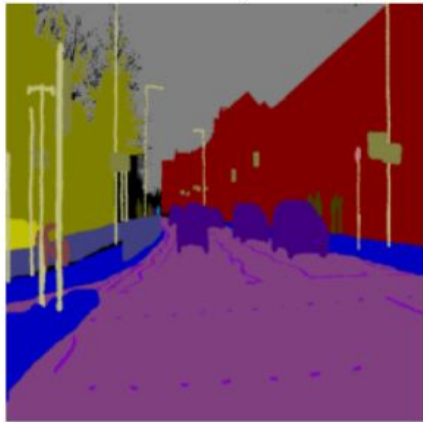
Model applied to segmented data





Treino

Real Image 1



Real Image 2

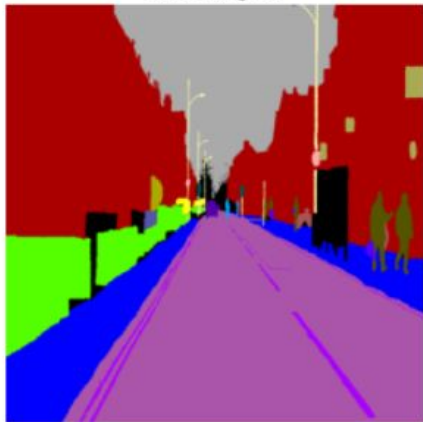


Generated Image at Epoch 100



Validação

Real Image 1



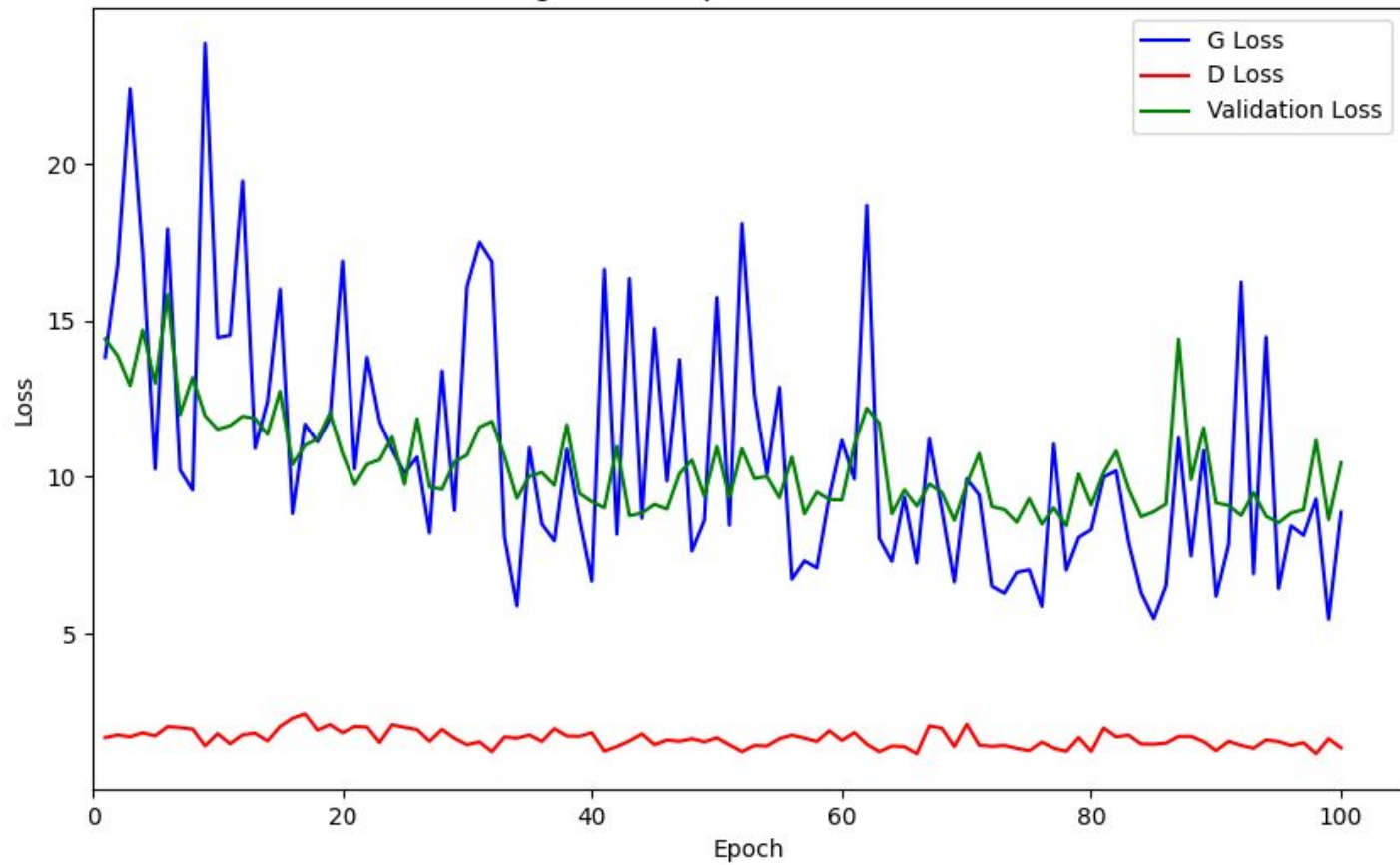
Real Image 2



Generated Image at Epoch 100

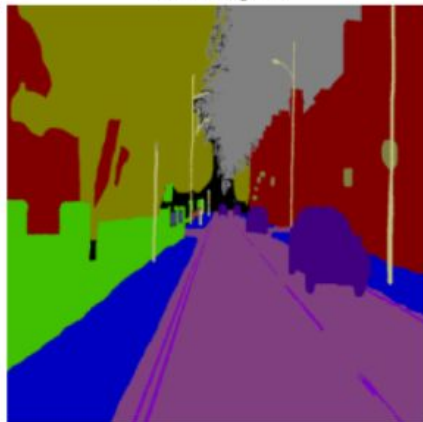


Adding more components to loss function



Treino

Real Image 1



Real Image 2

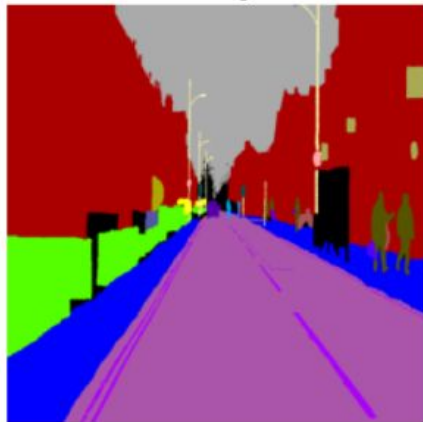


Generated Image at Epoch 100



Validação

Real Image 1



Real Image 2



Generated Image at Epoch 100

