

# 1 Model Description

## 1.1 SRResNet

The model I use is SRResNet, a network architecture that shows superior performance at the PSNR benchmark over other previous methods. The model is trained for 300k iterations.

## 1.2 Number of parameters

The model I use has **1517571** trainable parameters.

# 2 Model Training

## 2.1 Specs of training machine

I only use one GPU. The GPU I use is GeForce RTX 3090.

## 2.2 Loss function

Pixel-wise loss function computes the pixel-to-pixel loss of the prediction and the target images. The loss function I use is the pixel-wise L2 loss, also named as MSE (Mean Squared Error). MSE can be computed as

$$MSE = \frac{1}{N} \sum_{i=1}^N (y_i - f(x_i))^2$$

## 2.3 Training curve

Training loss curve is plotted as below.

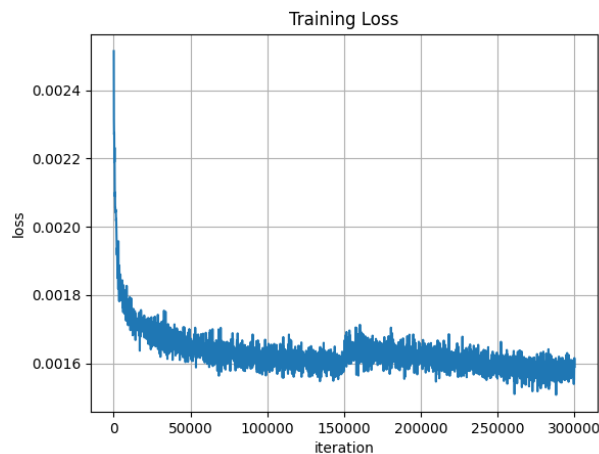


Figure 1: Training loss

## 2.4 PSNR on the validation set

PSNR on the validation set is plotted as below.

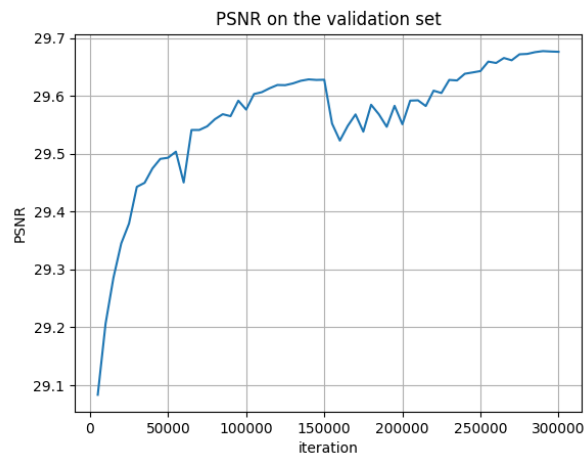


Figure 2: PSNR on the validation set