BMT: A Backward Masked Training for Generalizable Image Denoising

312554029 陳映璇　　312552009 洪晨語　　312551116 黃亭幃

The original paper focuses on training a SwinIR model with high generalization by attention masks. We propose an innovative training approach named "Backward Masked Training.“

In this method, we gradually add the attention mask from backward to forward, and only when a block is well-trained do we add the next block and freeze the well-trained blocks. This way not only improves the PSNR, but also speeds up the training process.

Train a model only with input mask.

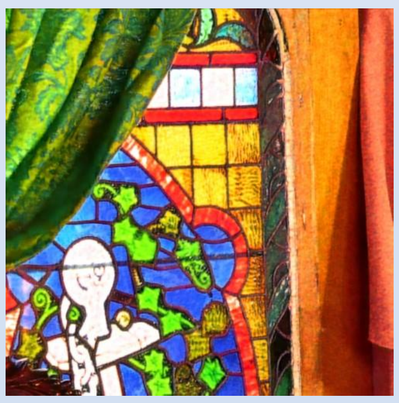
Add attention mask on one STLB.(From back to front)

Freeze the STLB which has been finished training.

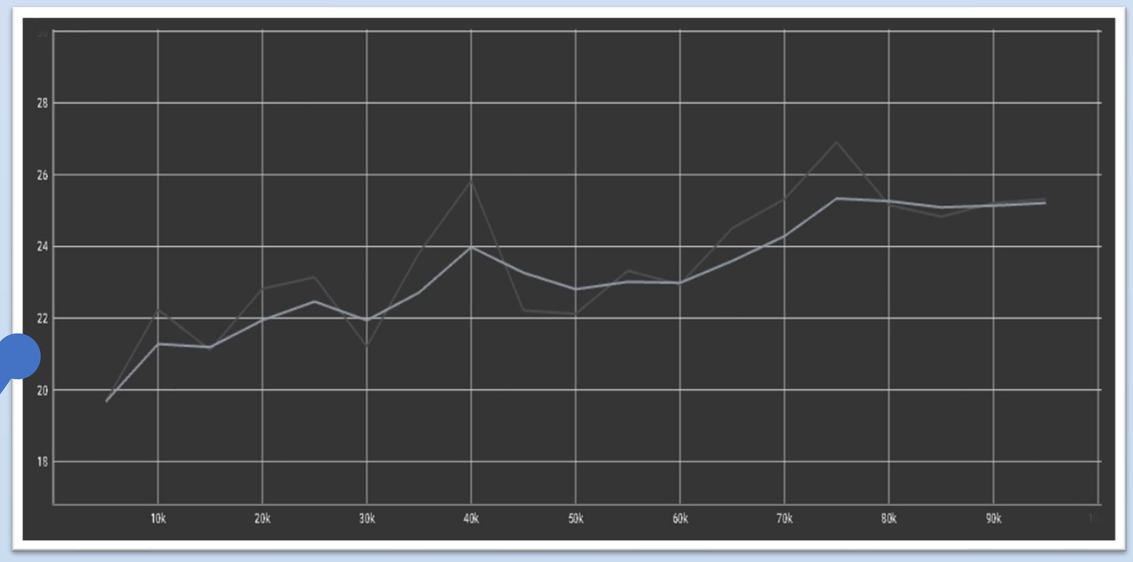
Finish training !!!

Ground Truth

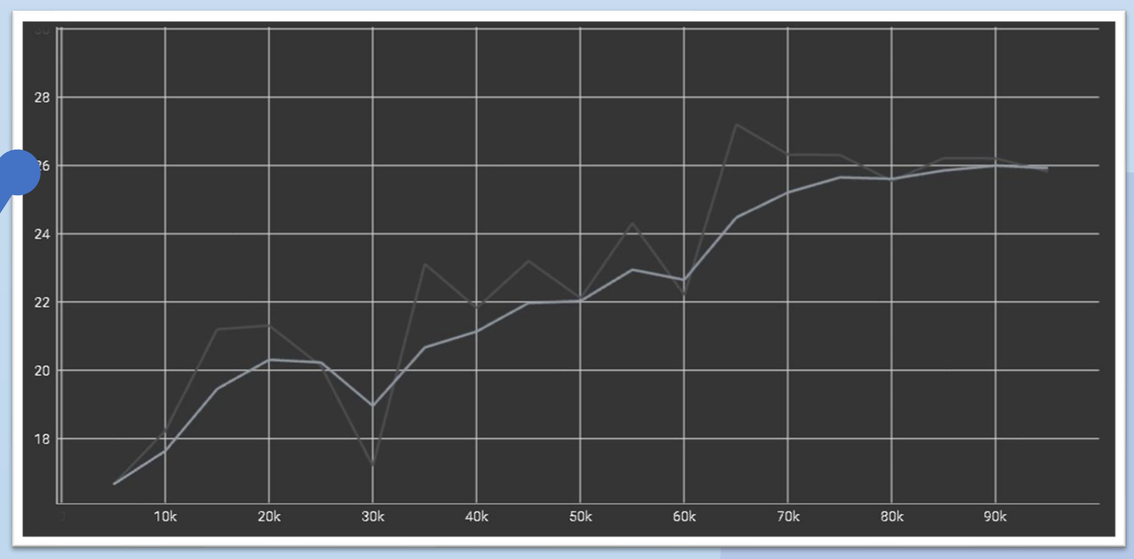
Ours



	PSNR	Speed
Original	26.91	12m / epoch
Ours(w/ freeze)	27.01	7m / epoch
Ours(w/o freeze)	26.31	12m / epoch



The original method shows an unstable training.



This is the result of our method. The image shows that we have a more stable learning. Additionally, we achieve higher PSNR and speed ratio.