A. Appendix

This section provides supplementary materials related to our SAAM plug-in, including the following components:

- Additional quantitative comparisons on another benchmark datasets (Set5 [3] and Set14 [29]).
- Qualitative comparison between the baseline and our plug-in-integrated model on BSD100 [16] and Urban100 [7].

A.1. Qualitative Comparisions

Figure 3 illustrates that our method achieves clearer and more compelling results than the existing approaches [2, 30]. Especially, existing methods sometimes produce blurred images or distort structural details during the super-resolution process, whereas our proposed method preserves both sharpness and shape.

A.2. Additional Quantitative Comparisons

As shown in Table 4, the existing methods [2, 25, 30] were trained solely on datasets matching their specific output scales. Even though the number of dataset samples is small, our proposed method demonstrates robust multi-scale handling capabilities, often outperforming counterparts trained on single scales.

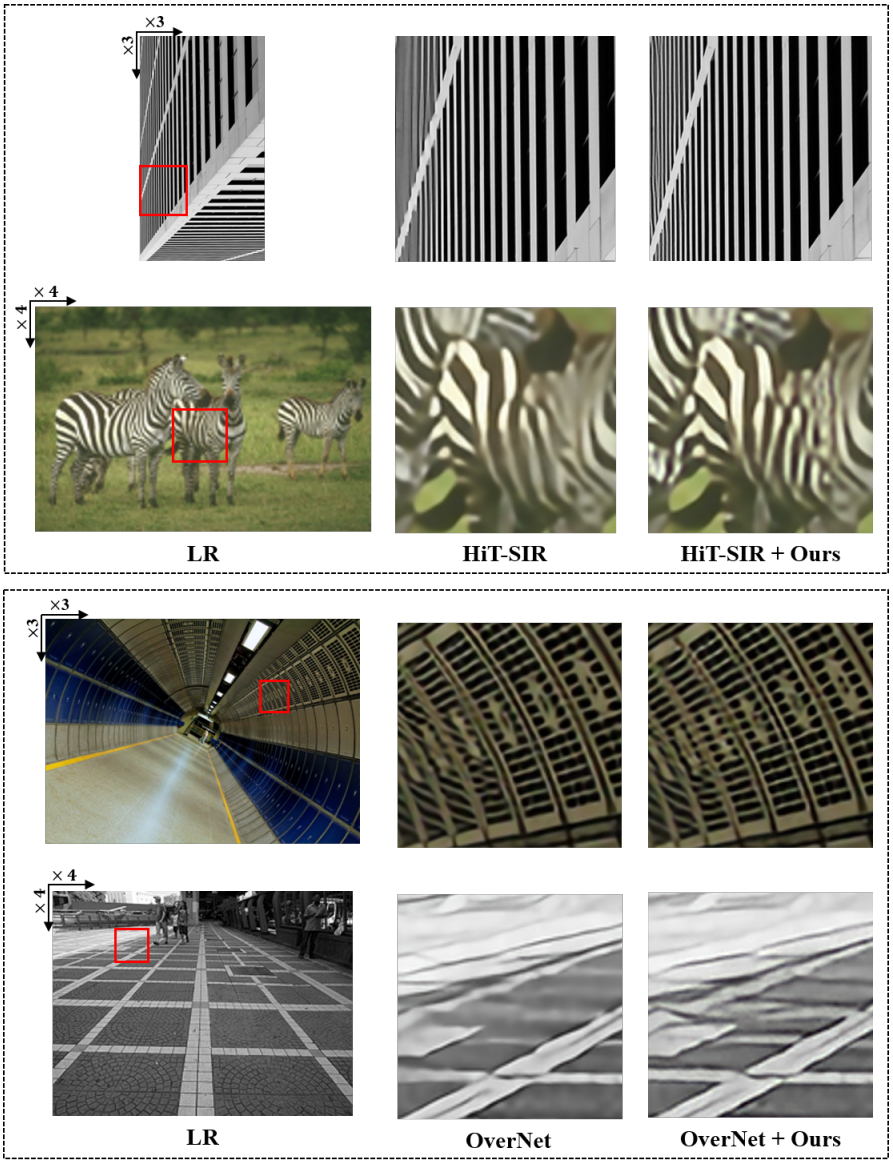

Figure 3. Qualitative comparison by integrating our method into the baseline model on BSD100 and Urban100.

Scale	×2		×3		×4	
Metrics	PSNR / SSIM		PSNR / SSIM		PSNR / SSIM	
Dataset	Set5	Set14	Set5	Set14	Set5	Set14
SCNet x2 (172K)	37.65 / 0.9593	33.30 / 0.9143	-	-	-	-
SCNet x3 (172K)	-	-	33.89 / 0.9233	30.00 / 0.8350	-	-
SCNet x4 (172K)	-	-	-	-	31.70 / 0.8887	28.32 / 0.7746
SCNet+Ours(T) (901K)	**37.72 / 0.9595**	**33.31 / 0.9152**	33.82 / 0.9213	29.93 / 0.8341	30.92 / 0.8740	27.83 / 0.7588
SCNet+Ours(L) (1.38M)	**37.65 / 0.9596**	33.26 / **0.9158**	**34.08 / 0.9249**	**30.02 / 0.8387**	31.51 / 0.8840	28.14 / 0.7689
HiT-SIR x2 (772K)	38.22 / 0.9613	33.91 / 0.9213	-	-	-	-
HiT-SIR x3 (772K)	-	-	34.72 / 0.9298	30.62 / 0.8474	-	-
HiT-SIR x4 (772K)	-	-	-	-	32.51 / 0.8991	28.84 / 0.7873
HiT-SIR+Ours(T) (901K)	38.21 / **0.9614**	**34.06 / 0.9223**	34.69 / **0.9298**	30.56 / 0.8485	32.47 / 0.8986	28.78 / **0.7893**
HiT-SIR+Ours(L) (1.38M)	**38.27 / 0.9614**	**33.95 / 0.9223**	**34.74 / 0.9299**	30.55 / **0.8482**	**32.52 / 0.8991**	28.77 / **0.7888**
OverNet x2 (0.9M)	38.11 / 0.9607	33.71 / 0.9183	32.06 / 0.8912	28.89 / 0.8083	30.17 / 0.8437	27.36 / 0.7393
OverNet x3 (0.9M)	37.44 / 0.9582	33.29 / 0.9157	34.46 / 0.9273	30.41 / 0.8429	31.97 / 0.8905	28.49 / 0.7770
OverNet x4 (0.9M)	36.25 / 0.9525	32.41 / 0.9070	33.89 / 0.9228	30.08 / 0.8375	32.26 / 0.8958	28.64 / 0.7821
OverNet+Ours(T) (1.07M)	38.01 / 0.9606	33.66 / **0.9186**	**34.46 / 0.9277**	30.30 / **0.8436**	32.21 / 0.8957	28.53 / **0.7841**
OverNet+Ours(L) (2.3M)	**38.13 / 0.9609**	**33.87 / 0.9194**	**34.54 / 0.9284**	30.34 / **0.8446**	32.24 / **0.8965**	**28.58 / 0.7855**

Table 4. Additional quantitative comparisons by integrating our method into existing models. **Bold** indicates superior performance over baseline.