Multi-PIE Frontal Dataset

Evaluations

TABLE I: Multi-PIE Frontal Dataset

	Bicubic	Liu07 [24]	Ma10 [30]	Yang10 [46]	Yang13 [43]	Dong15 [4]	Gu15 [8]	Finetuned [4]	Proposed
PSNR	32.427	30.128	30.928	33.535	31.593	33.891	34.342	34.102	**35.165**
SSIM	0.883	0.818	0.848	0.896	0.855	0.901	0.908	0.904	**0.915**
FSIM	0.912	0.884	0.898	0.931	0.923	0.932	0.938	0.935	**0.942**
GMSD	0.066	0.098	0.086	0.052	0.064	0.049	0.043	0.047	**0.040**

Quantitative evaluations on Multi-PIE frontal dataset.

In this file we show numerical and visual evaluations on Multi-PIE frontal dataset. We involve Gu15 [8] for comparisons which is the most recent generic image SR method. The numerical evaluation is shown in Table I and visual evaluation is shown from Fig. 1 to Fig. 5.

(a) Bicubic
PSNR / SSIM
FSIM / GMSD

(b) Liu07 [24]
31.443 / 0.870
0.910 / 0.086

(c) Ma10 [30]
32.078 / 0.900
0.924 / 0.075

(d) Yang10 [46]
35.237 / 0.933
0.950 / 0.041

(e) Yang13 [43]
33.182 / 0.893
0.939 / 0.052

(f) Gu15 [8]
35.993 / 0.941
0.953 / 0.033

(g) Finetuned [4]
35.931 / 0.940
0.955 / 0.033

(h) Ours
36.744 / 0.942
0.960 / 0.026

(i) Ground Truth
$+\infty$ / 1
1 / 0

Fig. 1: Visual evaluation for 4 $\times$ upsampled face image.

(a) Bicubic
PSNR / SSIM
FSIM / GMSD

(b) Liu07 [24]
30.130 / 0.804
0.876 / 0.097

(c) Ma10 [30]
30.834 / 0.829
0.889 / 0.086

(d) Yang10 [46]
33.078 / 0.881
0.924 / 0.049

(e) Yang13 [43]
31.536 / 0.842
0.917 / 0.057

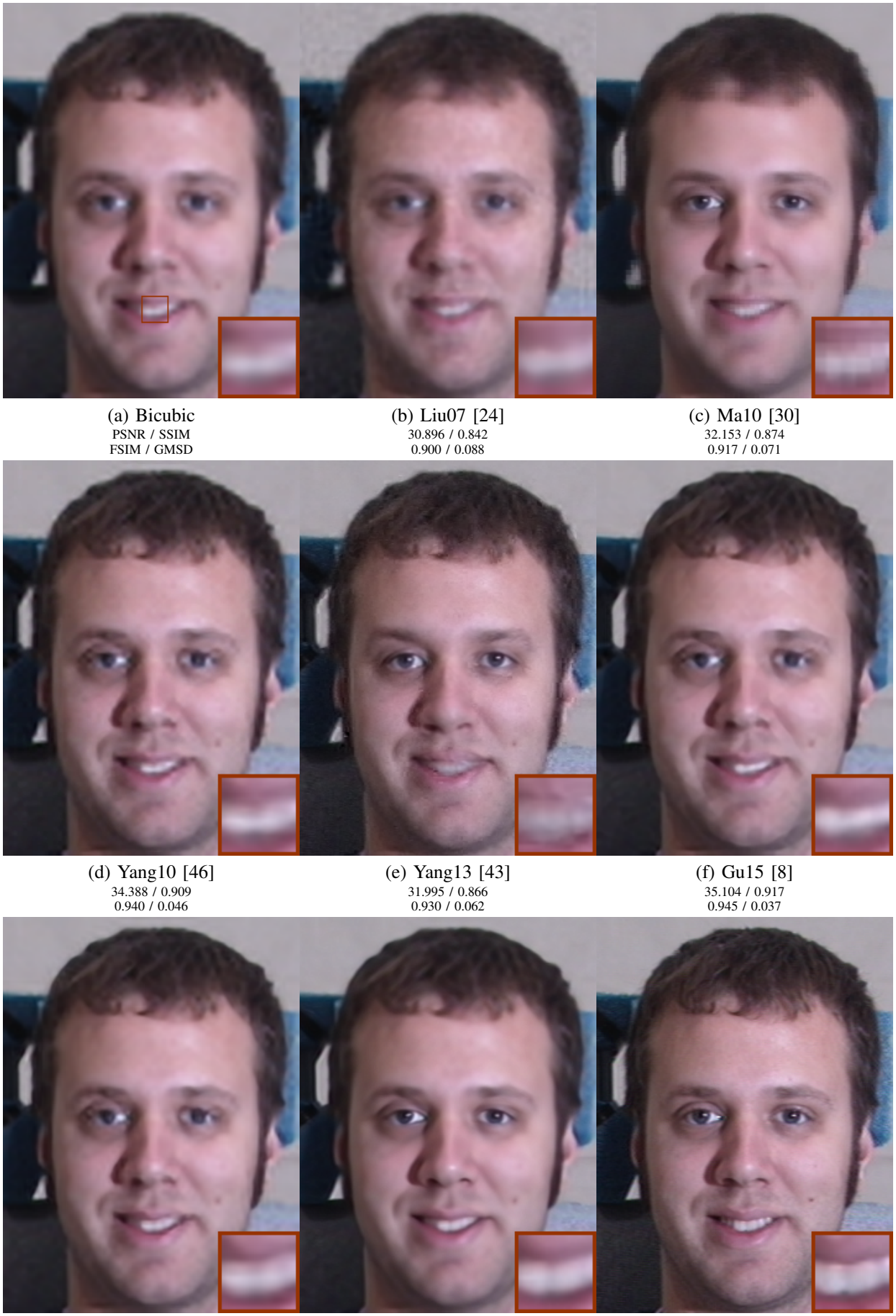
(f) Gu15 [8]
33.606 / 0.890
0.929 / 0.043

(g) Finetuned [4]
33.444 / 0.888
0.926 / 0.046

(h) Ours
34.488 / 0.899
0.937 / 0.041

(i) Ground Truth
$+\infty$ / 1
1 / 0

Fig. 2: Visual evaluation for 4 $\times$ upsampled face image.



(a) Bicubic
PSNR / SSIM
FSIM / GMSD

(b) Liu07 [24]
30.896 / 0.842
0.900 / 0.088

(c) Ma10 [30]
32.153 / 0.874
0.917 / 0.071

(d) Yang10 [46]
34.388 / 0.909
0.940 / 0.046

(e) Yang13 [43]
31.995 / 0.866
0.930 / 0.062

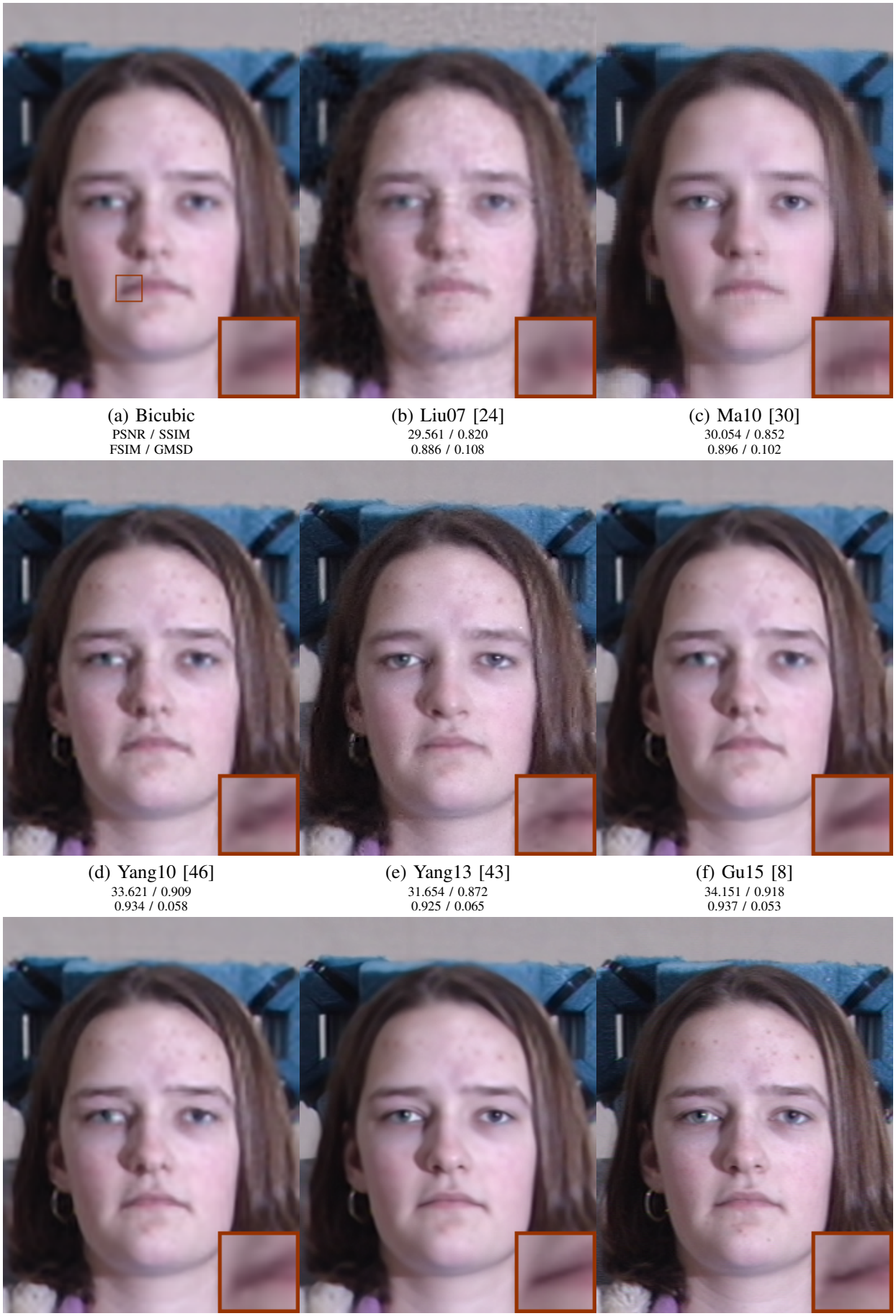
(f) Gu15 [8]
35.104 / 0.917
0.945 / 0.037

(g) Finetuned [4]
35.070 / 0.916
0.945 / 0.040

(h) Ours
36.133 / 0.926
0.954 / 0.033

(i) Ground Truth
$+\infty$ / 1
1 / 0

Fig. 3: Visual evaluation for 4 $\times$ upsampled face image.



(a) Bicubic
PSNR / SSIM
FSIM / GMSD

(b) Liu07 [24]
29.561 / 0.820
0.886 / 0.108

(c) Ma10 [30]
30.054 / 0.852
0.896 / 0.102

(d) Yang10 [46]
33.621 / 0.909
0.934 / 0.058

(e) Yang13 [43]
31.654 / 0.872
0.925 / 0.065

(f) Gu15 [8]
34.151 / 0.918
0.937 / 0.053

(g) Finetuned [4]
34.101 / 0.916
0.939 / 0.054

(h) Ours
35.326 / 0.928
0.950 / 0.047

(i) Ground Truth
$+\infty$ / 1
1 / 0

Fig. 4: Visual evaluation for 4 $\times$ upsampled face image.

(a) Bicubic
PSNR / SSIM
FSIM / GMSD

(b) Liu07 [24]
30.760 / 0.816
0.880 / 0.094

(c) Ma10 [30]
31.741 / 0.845
0.893 / 0.079

(d) Yang10 [46]
34.396 / 0.893
0.928 / 0.048

(e) Yang13 [43]
31.132 / 0.839
0.912 / 0.077

(f) Gu15 [8]
35.254 / 0.904
0.935 / 0.038

(g) Finetuned [4]
35.022 / 0.901
0.933 / 0.043

(h) Ours
35.931 / 0.913
0.944 / 0.035

(i) Ground Truth
$+\infty$ / 1
1 / 0

Fig. 5: Visual evaluation for 4 $\times$ upsampled face image.