

Table 1. Preliminary results of AIM 2020 efficient SR challenge. ‘*’ means the organizers have difficulty to verify the results. ‘Runtime’ is tested on validation datasets, the average image size is 421×421 . ‘# Params’ means the total number of parameters. ‘FLOPs’ is the abbreviation for floating point operations. ‘#Activations’ means the number of elements of all ‘Conv2D’ outputs. ‘Memery’ is tested by PyTorch code `torch.cuda.max_memory_allocated()`. ‘#Conv2D’ represents the number of ‘Conv2D’ layers. ‘FLOPs’, ‘#Activations’, and ‘Memery’ are tested on an LR image of size 256×256 . **This is not a challenge for PSNR improvement. We will not rank on ‘validation/testing PSNR’ and ‘#Conv’.**

Team	Author	PSNR [Val.]	PSNR [Test]	Runtime [Val.] [s]	#Params [M]	FLOPs [G]	#Activations [M]	Memery [M]	#Conv2d	Extra Data	Use Val.
NJU_MCG	TinyJie	29.04	28.75	0.037	0.433	27.10	112.03	200	64	Yes	No
AiriA_CG	Now	29.00	28.70	0.037	0.687	44.98	118.49	168	33	Yes	No
UESTC-MediaLab	Mulns	29.01	28.70	0.060	0.461	30.06	219.61	146	57	Yes	No
XPixel	zzzhy	29.01	28.70	0.066	0.272	32.19	270.53	311	121	Yes	No
HaiYun	Sudo	29.09	28.78	0.058	0.777	49.67	132.31	225	104	Yes	No
IPCV_IITM	ms_ipcv	29.10	28.68	0.064	0.761	50.85	130.41	229	59	Yes	No
404NotFound	xiaochuanLi	29.01	28.70	0.073	0.599	39.36	170.06	271	90	Yes	No
MDISL-lab	ppplang	29.01	28.68	0.067	0.660	42.40	149.09	516	61	Yes	Yes
MLVC	ysb	29.00	28.72	0.104	0.441	27.11	212.24	112	159	No	No
XMUlab	SuckChen	29.00	28.77	0.078	0.691	53.62	184.74	468	72	No	No
MCML-Yonsei	GWJ	29.01	28.66	0.070	1.289	84.43	188.74	798	68	Yes	No
ZJUESR2020	BearMaxZJU	29.04	28.74	0.105	0.516	54.38	225.44	594	42	Yes	No
SC-CVLAB	chensa	29.01	28.72	0.157	0.353	26.96	302.30	595	91	Yes	No
HiImageTeam	HiImageTeam	29.01	28.68	0.153	0.530	90.11	325.05	378	101	Yes	No
SAMSUNG_TOR_AIC	hcwang	28.98	28.71	0.258	0.558	31.88	576.45	477	59	Yes	No
neptuneai	neptuneai	29.14	28.84	0.217	1.227	147.72	535.82	597	45	*	*
lyl	tongtong	29.44	29.13	*	0.408*	*	*	*	128*	No	No
LMSR	martyste	29.00	28.71	0.125*	1.126*	150*	*	192*	31*	Yes	No
CET_CVLab	hrishikeshps	29.00	28.74	5.00	1.378*	*	*	*	*	Yes	*
wozhu	wozhu	28.98	*	*	0.720*	*	*	*	*	Yes	*
For a fair comparison, we will not rank the following 5 methods since their validation/testing PSNRs are not on par with the baseline.											
InnoPeak_SR	qiuzhangTiTi	28.93	28.60	0.053	0.361	81.72	145.75	66	35	Yes	No
Summer	sysu_wxh	28.87	28.54	0.043	0.488	31.82	125.30	227	35	No	No
Zhang9678	Zhang9678	28.78	28.50	*	0.664*	48.08*	*	*	36*	No	No
H-ZnCa	suen	28.69	28.42	0.045	0.364	32.01	170.45	299	67	No	No
MLP_SR	raoumer	27.89	27.77	1.313	0.047	*	*	1064	4*	Yes	*
Winner AIM19	IMDN	29.13	28.78	0.050	0.893	58.53	154.14	120	43	Yes	No
Baseline	MSRResNet	29.00	28.70	0.114	1.517	166.36	292.55	610	37	Yes	No