Table 1. Quantitative results of different SOTA methods. Results for the metrics of Params(M), FLOPs(G), FPS, IoU(%), Pd(%)and $Fa(10^{-5})$ in different datasets are presented. The best results are in red, the second best results are in green, and the third best results are in blue.

Method	$Params \downarrow$	$FLOPs \downarrow$		SI	RST			NUDT	T-SIRST			IRST	ΓD-1K	
Wiethod	1 arams 4	I LOT 8 \$	$FPS \uparrow$	$IoU \uparrow$	$Pd\uparrow$	$Fa \downarrow$	$FPS \uparrow$	$IoU \uparrow$	$Pd\uparrow$	$Fa \downarrow$	$FPS \uparrow$	$IoU \uparrow$	$Pd\uparrow$	$Fa \downarrow$
Top-Hat [29]	-	-	-	7.142	79.841	10120.03	-	20.724	78.408	1667.04	-	10.062	75.108	14320.03
Max-Median [8]	-	-	-	1.168	30.196	553.32	-	4.201	58.413	368.88	-	7.003	65.213	597.31
WSLCM [12]	-	-	-	1.021	80.987	458461.64	-	0.848	74.574	523916.33	-	0.989	70.026	150270.84
TLLCM [11]	-	-	-	11.034	79.473	72.68	-	7.059	62.014	461.18	-	5.357	63.966	49.28

Max-Median [8]	-	-	-	1.168	30.196	553.32	-	4.201	58.413	368.88	-	7.003	65.213	597.31
WSLCM [12]	-	-	-	1.021	80.987	458461.64	-	0.848	74.574	523916.33	-	0.989	70.026	150270.84
TLLCM [11]	-	-	-	11.034	79.473	72.68	-	7.059	62.014	461.18	-	5.357	63.966	49.28
IPI [10]	-	-	-	25.674	85.551	114.7	-	17.758	74.486	412.3	-	27.923	81.374	161.83
NRAM [46]	-	-	-	12.164	74.523	138.52	-	6.931	56.403	192.67	-	15.249	70.677	169.26
RIPT [4]	-	-	-	11.048	79.077	226.12	-	29.441	91.85	3443.03	-	14.106	77.548	283.1
PSTNN [45]	_	l -		22.401	77.953	291.09		14.848	66.132	441.7	_	24.573	71.988	352.61

IPI [10]	-	-	-	25.674	85.551	114.7	-	17.758	74.486	412.3	-	27.923	81.374	161.83
NRAM [46]	-	-	-	12.164	74.523	138.52	-	6.931	56.403	192.67	-	15.249	70.677	169.26
RIPT [4]	-	-	-	11.048	79.077	226.12	-	29.441	91.85	3443.03	-	14.106	77.548	283.1
PSTNN [45]	-	-	-	22.401	77.953	291.09	-	14.848	66.132	441.7	-	24.573	71.988	352.61
MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.432	79.027	1524.004

ISNet [47]	0.966	30.618	10	70.491	95.057	6.798	24	81.236	97 778	0.634	13	61.852	90.236	3 156	
MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.432	79.027	1524.004	
PSTNN [45]	-	-	-	22.401	77.953	291.09	-	14.848	66.132	441.7	-	24.573	71.988	352.61	
RIPT [4]	-	-	-	11.048	79.077	226.12	-	29.441	91.85	3443.03	-	14.106	77.548	283.1	
NKAM [46]	-	-	-	12.164	14.523	138.32	-	6.931	36.403	192.67	-	15.249	70.677	169.26	

RIPT [4]	-	-	-	11.048	79.077	226.12	-	29.441	91.85	3443.03	-	14.106	77.548	283.1
PSTNN [45]	-	-	-	22.401	77.953	291.09	-	14.848	66.132	441.7	-	24.573	71.988	352.61
MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.432	79.027	1524.004
ISNet [47]	0.066	20.619	10	70.491	95.057	6.709	2.4	91 226	07 779	0.634	12	61 952	90.236	3 156

PSTNN [45]	-	-	-	22.401	77.953	291.09	-	14.848	66.132	441.7	-	24.573	71.988	352.61
MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.432	79.027	1524.004
ISNet [47]	0.966	30.618	19	70.491	95.057	6.798	24	81.236	97,778	0.634	13	61.852	90.236	3.156

PSTNN [45]	-	-	-	22.401	77.953	291.09	-	14.848	66.132	441.7	-	24.573	71.988	352.61
MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.432	79.027	1524.004
ISNet [47]	0.966	30.618	19	70.491	95.057	6.798	24	81.236	97.778	0.634	13	61.852	90.236	3.156

F 5 11414 [45]	_	-	_	22.401	11.555	291.09	-	14.040	00.132	441.7	-	24.575	/1.900	332.01
MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.432	79.027	1524.004
ISNet [47]	0.966	30.618	19	70.491	95.057	6.798	24	81.236	97.778	0.634	13	61.852	90.236	3.156
That 4 at 1 50 43	4.60#	11001		BC 4.00	00.000			00.004	00.450	0.640			0.4.000	1 (10

MSLSTIPT [32]	-	-	-	10.302	82.128	11310.02	-	8.341	47.399	881.02	-	11.452	79.027	1524.004	
ISNet [47]	0.966	30.618	19	70.491	95.057	6.798	24	81.236	97.778	0.634	13	61.852	90.236	3.156	
DNA-Net [21]	4.697	14.261	21	76.169	97.338	1.454	33	93.331	99.153	0.549	12	65.466	94.276	1.615	

ISNet [47]	0.966	30.618	19	70.491	95.057	6.798	24	81.236	97.778	0.634	13	61.852	90.236	
DNA-Net [21]	4.697	14.261	21	76.169	97.338	1.454	33	93.331	99.153	0.549	12	65.466	94.276	1
TITTE NEW EAGS	EO E 10	E 4 40 C	1.0	76 107	05.057	1.077	22	00.000	07.000	0.256	0.0	64 200	00.006	

2.257

2.751

75.116

76,929

119

92.015

96,578

MSHNet [24]

WDNet (Ours)

4.065

0.054

1.050

DNA-Net [21]	4.697	14.261	21	76.169	97.338	1.454	33	93.331	99.153	0.549	12	65.466	94.276	1.61:
UIU-Net [42]	50.540	54.426	16	76.187	95.057	1.077	32	92.393	97.989	0.356	26	64.200	89.226	2.51

UIU-Net [42]	50.540	54.426	16	76.187	95.057	1.077	32	92.393	97.989	0.356	26	64.200	89.226	2.517
AGPCNet [49]	12.360	43.181	14	69.730	94 677	1 604	15	73 910	97 672	2.321	14	61.382	84 014	2.057

UIU-Net [42]	50.540	54.426	16	76.187	95.057	1.077	32	92.393	97.989	0.356	26	64.200	89.226	2.517
AGPCNet [49]	12.360	43.181	14	69.730	94.677	1.604	15	73.910	97.672	2.321	14	61.382	84.014	2.057

U1U-Net [42]	30.340	54.426	1.0	/6.18/	95.057	1.077	32	92.393	97.989	0.336	26	64.200	89.226	2.517	
AGPCNet [49]	12.360	43.181	14	69.730	94.677	1.604	15	73.910	97.672	2.321	14	61.382	84.014	2.057	
MTU-Net [41]	8.221	99.437	10	69.081	97,719	3.500	15	79.024	97.884	2.874	9	61.401	90.416	2.874	

146

85.416

83.546

97.566

99.153

1.841

1.579

65.268

64,467

90.572

60

2.725