	Filtered	Precision	Recall	LUGE		MegaDepth	ATTOE	LTICE	INGE	ATTOE	aF	Filtered	Precision	Recall	ATTOF	AVIOE	ScanNet	LUGE	LUGE	. war	ATTOF	AUC^E
Pipeline	Filtered	Precision	Recall	$AUC_{@5}^{F}$	$AUC_{\otimes 10}^F$	$AUC_{\oplus 20}^F$	$\mathrm{AUC}_{\mathbb{Z}}^F$	$AUC_{@5}^{E}$	$AUC_{@10}^{E}$	$\mathrm{AUC}^E_{\otimes 20}$	$\mathrm{AUC}_{\angle}^{E}$	Filtered	Precision	Recall	AUC_{05}^F	$AUC_{@10}^{F}$	$AUC_{@20}^F$	$\mathrm{AUC}_{\mathbb{Z}}^F$	AUC_{05}^{E}	$AUC_{@10}^{E}$	$AUC_{@20}^{E}$	AUC _Z
Loftr	0.00	82.40	99.91	7.50	15.34	27.88	16.91	42.07	58.95	73.17	58.06	0.00	58.34	98.98	0.32	1.56	5.30	2.40	19.67	35.87	52.04	35.86
+ACNe	40.97	85.89	61.97	14.29	25.09	40.27	26.55	27.01	44.27	60.77	44.02	49.95	65.47	56.42	1.71	6.08	14.34	7.38	13.31	26.67	42.21	27.40
$+ACNe+MAGSAC_{\uparrow}$	61.99	90.45	42.30	22.99	36.19	51.34	36.84	32.48	50.88	67.27	50.21	66.79	69.64	39.29	6.67	16.14	29.81	17.54	13.16	27.09	42.66	27.64
+ACNe+MAGSAC _↓ +AdaLAM	66.85	90.91 82.40	36.90 99.91	23.41 7.50	36.49 15.34	51.61 27.88	37.17	33.03 42.07	51.43 58.95	67.97	50.81 58.06	71.14	69.76 58.34	34.11	6.90 0.32	16.30	30.00 5.30	17.73 2.40	12.99	26.63 35.87	42.62	27.41 35.86
+AdaLAM+MAGSAC+	41.83	90.63	64.87	40.63	55.23	68.46	54.77	47.23	64.05	73.17 77.16	62.81	49.41	69.51	98.98 59.31	0.32	29.67	44.43	2.40	19.67	35.87	52.04 51.62	35.86
+AdaLAM+MAGSAC	49.95	91.26	55.98	42.42	57.03	70.28	56.58	47.25	64.03	77.79	63.34	56.65	69.71	50.83	16.19	29.90	44.45	30.25	19.59	35.76	51.02 52.10	35.75
+CC	18.34	85.01	85 19	23.27	36.37	51.63	37.09	33.03	50.16	65.13	49 44	26.88	66.68	80.52	4.71	12.26	23.71	13.56	15.69	31.37	46 64	31.23
+CC+MAGSAC†	48.65	89.91	57.16	31.86	45.44	59.00	45.43	39.38	56.73	70.94	55.68	54.47	70.28	53.30	12.76	25.29	38.63	25.56	16.24	31.28	46.54	31.35
$+CC+MAGSAC_{\downarrow}$	55.29	90.33	49.81	32.42	45.67	59.13	45.74	40.71	57.24	71.74	56.56	60.66	70.45	46.03	13.62	25.69	39.00	26.10	16.12	31.21	46.52	31.28
+CLNet	19.13	85.53	83.93	11.99	20.28	32.84	21.70	29.91	47.54	63.39	46.95	51.42	67.62	55.61	1.08	3.31	8.52	4.30	11.44	24.30	39.04	24.93
+CLNet+MAGSAC _↑	49.63	90.58	55.92	21.18	32.88	47.27	33.78	35.24	53.46	69.04	52.58	64.95	69.98	40.85	3.86	11.41	22.74	12.67	10.20	22.98	37.25	23.47
+CLNet+MAGSAC↓ +ConvMatch	56.29 75.20	91.00 86.04	48.60 26.58	22.03 9.55	34.16 18.48	48.44	34.88	36.57 15.13	54.84 29.31	70.25 46.52	53.89 30.32	69.55 77.09	69.99 66.48	35.47	3.95 1.50	11.11	22.38 14.08	12.48 7.07	11.36 5.94	23.86 16.22	38.06 29.84	24.43 17.33
+ConvMatch+MAGSAC†	75.20 82.71	86.04	19.30	9.55		32.30	22.50	16.05	30.47	46.52	30.32	77.09 83.54	66.45	29.34	2.83	5.64 7.93	16.96	9.24	6.20	16.22	29.84	17.33
+ConvMatch+MAGSAC	84 99	88 26	16.79	11.19	21.67	35.66	22.50	16.05	31.46	50.03	32.56	85.51	66.57	18.65	3.09	8.18	17.54	9.60	6.69	16.98	30.60	18.09
+DeMatch	62.49	86.41	39.80	10.98	21.57	35.81	22.79	19.09	33.69	50.06	34.28	65.85	67.01	40.07	1.47	4.70	13.12	6.43	9.25	20.06	33.35	20.89
$+DeMatch+MAGSAC_{\uparrow}$	74.48	89.62	28.25	14.53	25.24	40.65	26.81	20.84	36.92	54.14	37.30	75.38	69.06	29.19	3.52	9.04	19.42	10.66	8.51	19.64	33.89	20.68
$+$ DeMatch $+$ MAGSAC $_{\downarrow}$	77.70	90.01	24.75	14.79	24.63	39.32	26.24	21.93	38.48	55.88	38.76	78.48	69.04	25.43	3.73	9.88	20.32	11.31	7.81	19.06	33.03	19.97
+FC-GNN +FC-GNN+MAGSAC	20.40	93.24	98.95	27.30	40.22	54.89	40.81	51.71	68.33	80.60	66.88	36.09	68.03	72.71	4.56	10.44	19.43	11.48	18.46	34.62	49.58	34.22
+FC-GNN+MAGSAC↑ +FC-GNN+MAGSAC↓	29.38	95.40	90.88	51.06	65.68	77.43	64.72	53.37	69.51	81.31	68.07	50.54	71.64	58.72	14.66	28.96	43.21	28.94	18.34	34.85	49.81	34.33
+FC-GNN+MAGSAC _↓ +GMS	33.13	95.64 82.66	86.40 85.96	51.91 23.76	66.19 36.28	77.60 50.05	65.23 36.70	51.71 38.55	68.89 55.29	80.97 68.85	67.19 54.23	55.10 39.37	71.78 65.91	53.29 67.10	15.40 3.81	29.15 10.26	20.17	29.19	18.27 15.87	34.30	49.54	34.04
+GMS+MAGSAC+	49.64	87.99	56.04	37.79	36.28 51.44	64.86	51.36	38.55 44.34	60.52	73.21	59.35	59.27	68.76	47.14	13.69	26.37	39.32	26.46	16.48	31.32	45.72	31.25
+GMS+MAGSAC↓	56.39	88.44	48.60	38.72	52.63	65.61	52.32	44.54	61.01	73.59	59.71	64.82	68.75	40.65	12.86	25.42	38.71	25.66	16.73	31.29	45.52	31.18
+MAGSAC↑	41.83	90.63	64.87	40.63	55.23	68.46	54.77	47.23	64.05	77.16	62.81	49.41	69.51	59.31	15.64	29.67	44.43	29.91	19.59	35.97	51.62	35.73
+MAGSAC↓	49.95	91.26	55.98	42.42	57.03	70.28	56.58	47.95	64.28	77.79	63.34	56.65	69.71	50.83	16.19	29.90	44.67	30.25	19.40	35.76	52.10	35.75
+MS ² DG-Net	79.50	84.40	21.66	3.56	8.21	16.93	9.56	14.67	27.10	42.02	27.93	70.79	66.04	34.25	0.36	1.09	2.97	1.47	7.34	17.12	30.14	18.20
$+MS^2DG-Net+MAGSAC_{\uparrow}$ $+MS^2DG-Net+MAGSAC_{\perp}$	86.63	88.34	15.04	16.13	25.64	37.95	26.57	17.01	31.00	47.19	31.73	80.99	70.57	23.48	4.80	11.90	22.82	13.17	7.84	18.08	31.03	18.98
+MS*DG-Net+MAGSAC↓ +NCC	88.25	88.78	13.25	16.11	26.29	39.10	27.16	18.05	31.14	46.38	31.86	83.23	70.68	20.62 93.47	4.67	11.58	22.09	12.78	7.19	17.36	31.23	18.60
+NCC+MAGSAC ₀	0.00 49.39	71.37 87.76	90.26 59.93	5.85 31.24	13.34	25.63 52.79	14.94 41.92	37.13 37.69	52.20 52.50	65.82 66.10	51.72 52.10	0.00 62.87	52.74 67.90	93.47 43.10	0.31 10.42	1.38 21.76	4.84 35.48	2.17	14.08 15.60	30.19 30.83	45.86 45.62	30.04 30.68
+NCC+MAGSAC _↓	55.79	88.36	53.14	31.18	41.73	52.79	41.92	38.53	53.17	66.30	52.66	68.45	68.04	36.68	10.42	22.98	36.70	23.45	15.58	30.83	45.77	30.69
+NCMNet	17.51	85.84	85.88	10.42	17.79	30.47	19.56	30.56	48.30	64.46	47.77	48.58	67.55	58.79	2.14	5.52	12.67	6.77	12.72	26.85	41.33	26.97
$+NCMNet+MAGSAC_{\uparrow}$	48.55	90.71	57.16	21.65	33.66	47.80	34.37	36.05	54.80	70.25	53.70	62.72	69.67	43.39	5.88	14.32	25.87	15.36	12.90	26.35	40.80	26.68
+NCMNet+MAGSAC _↓	55.35	91.20	49.71	22.55	35.20	49.67	35.81	35.59	53.90	69.59	53.03	67.59	69.74	37.69	6.05	14.23	26.10	15.46	12.08	25.39	39.79	25.76
+OANet +OANet+MAGSAC↑	85.61	86.40	15.33	5.41		22.11	13.07	11.47	22.04	36.49	23.33	84.22	64.90	17.77	0.98	3.40	8.62	4.33	5.11	12.37	23.09	13.52
+OANet+MAGSAC	89.62 90.86	88.89 89.12	11.43 10.07	8.12 8.08	15.03 15.32	25.77 26.35	16.31 16.58	12.63 13.19	24.58 25.02	39.87 40.86	25.69 26.36	87.82 89.10	66.56 66.58	14.08 12.50	2.01 2.15	5.99 5.87	13.25 12.91	7.08 6.98	4.39 3.73	11.56 10.51	21.68 21.44	12.54 11.89
+MOP _{0.5K} +MiHo	1.34	83.02	99.71	11.51	21.60	26.35 35.76	22.96	42.60	59.65	73.19	26.36 58.48	9.20	60.44	94.53	0.79	2.73	7.41	3.65	18.12	35.27	50.88	34.76
+MOP _{0.5K} +MiHo+MAGSAC ₊	41 94	90.75	64 93	41.57	56.41	69 41	55.80	47.46	64.29	77.57	63.11	49.84	69.82	58.74	15.23	29.01	43 43	29.22	18.12	35.27	50.88	34.76
$+MOP_{0.5K}+MiHo+MAGSAC_{\downarrow}$	49.95	91.28	56.08	42.04	56.59	70.05	56.23	49.08	65.61	78.35	64.35	56.96	69.95	50.33	15.59	29.08	44.01	29.56	20.23	36.80	52.16	36.39
$+MOP_{0.5K}+MiHo+NCC$	1.34	81.45	112.83	9.23	18.43	33.07	20.24	52.53	69.92	82.24	68.23	9.20	56.09	90.35	0.76	2.25	6.88	3.30	18.66	34.71	49.73	34.36
+MOP _{0.5K} +MiHo+NCC+MAGSAC↑	33.52	95.49	91.90	43.99	58.09	70.69	57.59	49.87	68.23	80.82	66.31	58.60	69.12	48.86	14.01	27.56	40.99	27.52	18.85	35.99	51.08	35.31
$+MOP_{0.5K}+MiHo+NCC+MAGSAC_{\downarrow}$ $+MOP_{1.0K}+MiHo$	38.51	96.09	86.29	46.60	60.69	72.79	60.02	51.35	68.76	81.24	67.12	63.85	69.27	42.74	13.79	27.14	41.21	27.38	18.45	35.11	50.03	34.53
+MOP _{1.0K} +MiHo+MAGSAC _↑	1.31	82.99 90.72	99.67 64.82	11.35 40.20	21.15 55.07	35.61 68.91	22.70 54.73	41.90 46.73	58.93 64.56	73.07 78.11	57.97 63.13	8.66 49.73	60.29 69.82	94.86 59.02	0.71 15.76	2.74	7.78 43.75	3.74 29.58	19.11 18.98	36.01 35.61	51.42 51.44	35.51 35.34
+MOP _{1.0K} +MiHo+MAGSAC _↓	49.96	91.29	56.08	42.00	56.63	70.29	56.31	47.25	64.31	77.86	63.14	56.92	69.94	50.45	15.78	29.24	43.70	29.50	20.47	36.93	52.43	36.61
+MOP _{1.0K} +MiHo+NCC	1.31	81.42	112.97	9.08	18.53	33.26	20.29	50.06	68.08	80.57	66.24	8.66	56.00	90.59	0.43	2.31	7.41	3.38	18.31	35.23	50.27	34.61
$+MOP_{1.0K}+MiHo+NCC+MAGSAC_{\uparrow}$	33.52	95.48	92.13	46.03	59.52	71.61	59.05	50.96	68.24	80.83	66.68	58.49	69.28	48.95	13.96	27.22	41.33	27.51	19.40	36.06	51.44	35.63
$+MOP_{1.0K}+MiHo+NCC+MAGSAC_{\downarrow}$	38.55	96.01	86.01	47.04	61.22	73.15	60.47	50.74	68.59	80.99	66.77	63.75	69.48	42.79	14.34	28.19	41.98	28.17	18.75	35.29	50.54	34.86
+MOP _{1.5K} +MiHo +MOP _{1.5K} +MiHo+MAGSAC+	1.24	82.96	99.73	11.71	21.56	35.42	22.90	40.37	57.68	72.21	56.75	8.34	60.23	95.20	0.75	2.69	7.54	3.66	17.79	35.20	51.56	34.85
+MOP _{1.5K} +MiHo+MAGSAC _↑ +MOP _{1.5K} +MiHo+MAGSAC _↓	41.89	90.77 91.29	64.94 56.07	42.33 41.94	56.05 56.67	69.39 70.35	55.92 56.32	48.21 48.09	65.22 64.92	78.34 78.34	63.92 63.78	49.65 56.89	69.70 69.91	59.12 50.62	15.85 15.90	29.50 29.61	44.07	29.81	19.26 19.38	36.25 35.73	52.02 51.65	35.84 35.58
+MOP _{1.5K} +MiHo+NCC	1.24	81.38	113.19	9.26	18.64	32.73	20.21	50.99	68.71	81.29	67.00	8.34	55.94	90.83	0.49	2.31	7.01	3.27	18.49	34.97	50.26	34.57
$+MOP_{1.5K}+MiHo+NCC+MAGSAC_{\uparrow}$	33.48	95.49	92.76	46.42	60.02	71.38	59.27	51.88	69.27	81.49	67.55	58.41	69.23	49.29	13.37	26.33	39.90	26.54	17.89	34.83	50.56	34.43
$+\mathbf{MOP}_{1.5K} + \mathbf{MiHo} + \mathbf{NCC} + \mathbf{MAGSAC}_{\downarrow}$	38.51	96.06	86.60	46.71	60.75	72.35	59.93	50.34	68.57	81.21	66.71	63.78	69.44	42.88	13.74	27.39	41.23	27.45	18.66	35.35	50.76	34.92
+MOP _{2.0K} +MiHo	1.26	82.97	99.80	11.45	21.34	35.31	22.70	41.73	58.26	72.39	57.46	8.21	60.25	95.02	0.80	2.71	7.51	3.67	19.48	36.35	52.00	35.95
$+MOP_{2.0K}+MiHo+MAGSAC_{\uparrow}$ $+MOP_{2.0K}+MiHo+MAGSAC_{\downarrow}$	41.92	90.72	64.90	41.23	55.66	68.90	55.26	48.25	65.49	78.48	64.08	49.65	69.79	59.19	15.43	28.99	43.61	29.34	19.18	35.77	51.58	35.51
+MOP _{2.0K} +MiHo+MAGSAC _↓ +MOP _{2.0K} +MiHo+NCC	49.98 1.26	91.26 81.37	56.04	42.01 9.11	57.02 18.54	70.21 32.71	56.41 20.12	49.41 50.88	65.41 68.80	78.30 81.27	64.37 66.98	56.86 8.21	69.92 55.96	50.59 90.79	15.79 0.57	29.59	44.49 6.89	29.96 3.25	19.03 19.41	35.74 35.38	51.91 50.22	35.56 35.00
+MOP _{2.0K} +MiHo+NCC+MAGSAC↑	33.53	95.45	91.72	44.52	58.43	70.33	57.76	50.88	68.02	80.76	66.30	58.49	69.02	48.53	13.59	27.02	40.45	27.02	18.16	35.24	50.22	34.79
$+MOP_{2.0K}+MiHo+NCC+MAGSAC_{\downarrow}$	38.55	96.00	85.81	46.67	60.62	72.30	59.86	51.19	68.82	81.43	67.15	63.79	69.22	42.32	13.63	27.72	41.50	27.62	18.60	35.16	50.42	34.73
$+MOP_{0.5K}$	2.75	83.81	99.27	15.72	26.86	41.58	28.05	42.88	59.59	72.86	58.44	17.33	62.82	89.36	1.29	3.99	10.66	5.32	18.21	35.51	51.95	35.23
+MOP _{0.5K} +MAGSAC↑	42.03	90.83	64.81	41.18	55.40	69.26	55.28	48.50	64.64	77.62	63.59	51.02	70.32	58.17	15.36	29.02	43.60	29.32	19.48	35.44	51.13	35.35
+MOP _{0.5K} +MAGSAC _↓	50.02	91.41	56.07	42.36	57.21	70.57	56.71	47.90	65.35	77.90	63.72	57.98	70.49	49.80	15.61	29.34	43.78	29.58	19.10	35.47	51.56	35.38
$+MOP_{0.5K}+NCC$ $+MOP_{0.5K}+NCC+MAGSAC_{\uparrow}$	2.75	81.75	109.03	12.70	22.92	37.62	24.41	50.54	68.18	80.62	66.45	17.33	58.04	84.54	1.25	3.74	10.00	4.99	16.81	33.05	48.78	32.88
$+MOP_{0.5K}+NCC+MAGSAC_{\uparrow}$ $+MOP_{0.5K}+NCC+MAGSAC_{\downarrow}$	34.16 39.12	95.35	89.20 83.34	44.86 47.04	58.61 60.75	70.44 72.20	57.97 60.00	50.66 50.39	68.10 68.20	81.02 80.93	66.59 66.51	60.17 65.28	69.34 69.59	47.26 41.25	13.63 13.29	26.16 26.39	39.36 40.38	26.38 26.69	19.21 17.87	34.84	49.78	34.61
+MOP _{1.0K}	2.68	83.78	99.30	14.96	25.80	40.23	27.00	41 73	58.33	72.29	57.45	16.64	62.33	89 54	1.09	4.04	10.60	5.24	18.64	35.16	50.96	34.92
$+MOP_{1.0K}+MAGSAC_{\uparrow}$	42.00	90.80	64.88	41.95	56.34	69.97	56.09	48.59	66.16	78.70	64.49	50.90	69.86	57.81	15.07	28.57	42.71	28.78	19.17	35.13	51.01	35.11
$+MOP_{1.0K}+MAGSAC_{\downarrow}$	49.98	91.32	56.08	42.57	56.63	69.94	56.38	48.50	65.10	77.94	63.85	57.84	70.12	49.68	15.27	28.55	42.66	28.82	18.41	35.21	50.76	34.80
+MOP _{1.0K} +NCC	2.68	81.70	109.03	11.44	21.73	36.70	23.29	50.95	68.31	80.68	66.65	16.64	57.68	85.08	1.08	4.02	9.98	5.03	16.94	33.65	49.46	33.35
+MOP _{1.0K} +NCC+MAGSAC _↑ +MOP _{1.0K} +NCC+MAGSAC _↑	34.19	95.32	89.00	45.37	58.38	69.89	57.88	50.37	68.21	81.05	66.55	60.11	69.30	47.21	13.88	26.32	39.57	26.59	18.57	34.86	50.36	34.60
+MOP _{1.0K} +NCC+MAGSAC _↓ +MOP _{1.5K}	39.14	95.91 83.74	83.36 99.25	47.48 15.43	60.77 26.26	72.36 40.91	60.20 27.53	51.72 41.42	68.96 57.92	81.15 72.15	67.28 57.17	65.15 16.44	69.49 62.47	41.26 90.04	13.80	26.27 4.20	39.92 11.02	26.66 5.47	17.58 19.06	34.02 35.72	49.47 51.63	33.69 35.47
$+MOP_{1.5K}$ $+MOP_{1.5K}+MAGSAC_{\uparrow}$	42.02	90.79	64.77	40.95	54.70	69.09	54.91	47.25	64.61	72.15	63.20	50.81	70.00	58.00	15.58	29.16	43.38	29.37	18.75	35.72	50.78	34.87
$+MOP_{1.5K}+MAGSAC_{\downarrow}$	50.00	91.35	56.01	41.30	55.86	69.74	55.64	47.25	64.84	77.74	63.51	57.82	70.26	49.92	15.48	29.10	43.41	29.34	19.08	35.43	50.78	35.13
$+MOP_{1.5K}+NCC$	2.61	81.67	109.09	12.07	21.96	36.91	23.65	50.67	68.13	80.75	66.51	16.44	57.80	85.55	1.13	4.09	10.89	5.37	18.23	35.07	50.43	34.58
$+MOP_{1.5K}+NCC+MAGSAC+$	34.15	95.31	88.93	45.29	59.39	71.14	58.61	51.21	68.82	81.35	67.13	60.02	69.55	47.62	13.61	26.88	40.48	26.99	19.47	34.80	50.15	34.81
+MOP _{1.5K} +NCC+MAGSAC _↓	39.10	95.88	83.28	46.92	60.65	72.59	60.05	50.44	68.29	81.08	66.60	65.21	69.70	41.57	13.65	26.68	40.08	26.80	17.92	34.10	49.55	33.86
+MOP _{2.0K}	2.56	83.71	99.28	14.99	25.90	40.14	27.01	42.24	59.29	72.94	58.16	16.18	62.45	90.24	1.27	4.11	11.19	5.52	19.23	35.93	51.76	35.64
$+MOP_{2.0K}+MAGSAC_{\uparrow}$ $+MOP_{2.0K}+MAGSAC_{\downarrow}$	42.00	90.80	64.82	40.99	55.48	69.48	55.32	47.78	64.73	77.92	63.48	50.76	70.05	58.04	15.75	29.61	43.87	29.74	19.22	35.99	51.74	35.65
$+MOP_{2.0K}+MAGSAC_{\downarrow}$ $+MOP_{2.0K}+NCC$	50.00 2.56	91.35 81.64	56.07 109.13	41.50 12.42	56.06 22.16	69.72 36.55	55.76 23.71	46.92 50.47	64.41	77.69 80.38	63.01	57.72 16.18	70.26 57.74	49.87 85.59	16.46 0.91	30.17 3.58	10.46	30.31 4.98	18.81 17.35	35.37 33.83	51.19 49.25	35.12 33.48
+MOP _{2.0K} +NCC+MAGSAC _↑	34.19	95.28	88.74	44.33	58.53	70.69	57.85	50.47	68.28	80.38	66.55	59.92	69.55	85.59 47.92	13.21	26.26	40.14	26.54	17.35	33.83	49.25	33.48
+MOP _{2.0K} +NCC+MAGSAC _↓	39.15	95.85	83.19	45.99	60.40	72.47	59.62	50.59	68.29	81.01	66.66	65.06	69.57	41.92	13.21	26.26	39.93	26.58	17.34	33.64	48.93	33.31
		-0.09	J. S.	.9.00	20.40		U.J.VW	20.10	-U-w-0		.0.00	50.00	50.01	-4.00	.0.04	20.40	30.00	20.00		30.04	20.00	39.94