Pipeline	Filtered	Precision	Recall	$AUC_{\alpha s}^{F}$	AUC <sup>F</sup>	MegaDept $AUC_{0:20}^F$	h AUC <sup>F</sup>	$AUC_{\alpha}^{E}$	$AUC_{010}^{E}$	$AUC_{nm}^{E}$	AUC <sup>E</sup>	Filtered	Precision	Recall	$AUC_{\alpha s}^{F}$	$AUC_{010}^F$	ScanNet AUC <sup>F</sup> AUC <sup>F</sup>	t AUC <sup>F</sup>	$AUC_{\alpha s}^{E}$	$AUC_{osc}^{E}$	$AUC_{oon}^{E}$	$AUC_{\ell}^{E}$
Key.Net+AffNet+HardNet+NNR	0.00	55.63	100.00	0.00	0.09	0.70	0.26	43.37	60.54	73.97	59.29	0.00	34.81	99.14	0.00	0.16	1.04	0.40	10.97	22.16	35.11	22.75
+MAGSAC↑ +MAGSAC↓ +ACNe	55.99 61.72	92.11 92.86	74.01 64.87	30.77 32.40	44.16 45.51	57.49 58.53	44.14 45.48	45.24 43.87	62.10 61.95	75.98 75.98	61.11 60.60	71.16 75.27	60.23 60.14	49.42 42.19	6.70 7.38	15.38 15.49	26.42 26.19	16.16 16.35	11.57 11.89	23.73 23.89	37.47 37.01	24.25 24.26
$+MAGSAC_{\uparrow}$ $+MAGSAC_{\downarrow}$	44.12 58.35 63.53	88.21 94.96 95.62	89.85 72.39 63.92	9.20 30.34 30.67	22.14 46.86 46.13	41.99 62.64 61.35	24.44 46.61 46.05	40.11 43.48 41.48	59.09 62.01 60.64	75.01 76.90 76.15	58.07 60.80 59.43	57.62 74.71 78.06	58.28 64.38 64.28	71.55 46.67 40.36	2.15 6.39 6.65	7.61 16.04 16.13	19.60 29.61 29.18	9.79 17.35 17.32	10.04 11.14 11.90	22.65 24.06 24.60	37.67 38.68 39.68	23.45 24.63 25.40
+AdaLAM $+$ MAGSAC $_{\uparrow}$ $+$ MAGSAC $_{\downarrow}$	94.22 94.89 95.25	89.43 73.94 74.19	8.63 7.64 7.16	10.68 12.86 13.08	18.04 21.72 22.28	27.41 31.44 32.30	18.71 22.00 22.55	17.57 17.16 15.69	29.07 29.09 28.33	41.84 41.38 41.17	29.49 29.21 28.40	96.95 97.79 97.95	43.29 26.70 26.60	4.29 3.12 2.89	0.65 1.17 1.05	1.89 2.61 2.76	4.23 5.21 5.42	2.26 3.00 3.08	1.33 1.34 1.39	3.40 3.17 3.17	7.23 6.13 6.55	3.99 3.54 3.70
+CC +MAGSAC +MAGSAC	42.68 58.99 64.04	88.12 95.09 <b>95.70</b>	88.40 69.84 61.73	10.59 32.13 32.61	20.03 46.53 47.04	33.64 60.90 61.28	21.42 46.52 46.98	40.01 42.19 40.63	58.00 59.90 59.10	72.81 74.56 74.28	56.94 58.89 58.00	44.57 76.55 79.60	58.13 64.24 64.21	74.48 42.08 36.63	1.46 4.81 4.66	4.70 11.02 10.85	11.14 20.18 19.95	5.77 12.00 11.82	8.32 7.89 8.38	17.80 18.14 17.78	29.84 30.37 29.69	18.66 18.80 18.62
+CLNet +MAGSAC $\uparrow$ +MAGSAC $\downarrow$	46.21 60.92 65.79	87.24 94.63 95.35	84.90 66.91 59.11	1.61 20.65 20.99	3.86 33.72 34.93	12.39 48.68 50.67	5.95 34.35 35.53	35.98 36.07 36.39	55.57 55.49 56.12	72.01 72.06 72.42	54.52 54.54 54.97	70.52 79.84 82.42	61.97 65.01 64.99	52.50 37.52 32.76	0.66 2.40 2.30	2.18 6.95 6.82	6.92 15.09 14.99	3.25 8.15 8.03	6.88 6.76 7.37	17.07 16.21 16.75	30.16 28.47 28.84	18.04 17.15 17.65
+ConvMatch +MAGSAC↑ +MAGSAC↓	57.19 68.42 72.39	87.09 92.80 93.42	74.85 59.43 52.37	11.44 22.19 22.32	21.84 35.70 35.41	35.50 49.85 50.10	22.93 35.91 35.94	36.05 36.73 36.71	54.80 55.73 54.79	69.59 71.08 69.78	53.48 54.51 53.76	65.08 77.98 80.89	62.47 66.55 66.38	65.72 43.33 37.51	1.84 4.74 5.31	6.40 12.09 12.66	16.43 23.98 24.38	8.22 13.60 14.12	8.57 10.65 10.41	21.11 22.73 22.56	35.54 36.98 36.95	21.74 23.46 23.30
+DeMatch +MAGSAC↑ +MAGSAC⊥	51.43 64.19 68.70	87.94 94.79 95.38	80.27 63.54 55.92	9.58 22.62 22.86	18.90 35.44 35.65	32.07 50.12 50.13	20.19 36.06 36.21	33.75 35.99 36.86	53.04 55.57 56.31	69.90 72.08 72.54	52.23 54.55 55.24	66.07 78.63 81.46	60.87 64.81 64.73	62.02 40.89 35.32	1.39 4.44 4.50	4.96 10.49 11.19	12.75 21.74 21.71	6.37 12.22 12.46	7.58 8.81 8.30	18.64 20.05 19.51	32.29 33.98 33.85	19.51 20.95 20.55
+FC-GNN +MAGSAC↑ +MAGSAC↓	50.06 53.11 54.47	94.27 96.65 96.87	84.19 80.83 78.59	14.28 45.09 45.85	24.85 59.64 60.52	40.47 72.86 73.28	26.53 59.19 59.88	48.09 46.63 48.11	64.96 64.44 64.87	77.72 77.53	63.59 62.86 63.41	72.92 76.26 77.57	67.12 68.99 69.07	49.46 44.51 42.13	3.77 8.15 8.69	9.02 17.35	17.74 29.14 29.77	10.18 18.22 18.78	12.85 12.53 12.58	25.96 25.05 25.70	39.83 39.35	26.21 25.64 26.02
+GMS +MAGSAC↑ +MAGSAC	52.55 65.30 69.51	81.19 86.33 86.89	68.66 54.27 48.11	8.47 32.57 32.93	16.29 45.47 45.49	28.75 57.52 57.22	17.84 45.19 45.21	36.40 38.22 39.46	52.88 53.39 55.18	65.99 66.01 67.38	51.76 52.54 54.01	79.39 85.67 87.43	56.51 55.02 54.96	33.54 24.39 21.49	1.13 2.84 2.76	3.83 7.65 7.52	8.77 14.66 13.96	4.58 8.38 8.08	5.47 5.16 4.96	12.11 12.63 12.26	21.95 22.12 21.27	13.17 13.30 12.83
+MS <sup>2</sup> DG-Net +MAGSAC <sub>↑</sub> +MAGSAC <sub>⊥</sub>	66.90 77.72 80.41	78.67 90.52 91.07	52.70 41.80 36.98	0.00 22.90 23.22	0.22 36.57 37.67	0.92 52.03 52.91	0.38 37.17 37.93	29.97 29.34 28.55	46.80 46.54 46.67	62.41 62.59 62.94	46.39 46.16 46.05	64.15 82.01 84.12	51.72 63.27 63.12	55.98 34.44 30.26	0.00 3.04 3.68	0.12 8.65 9.17	0.74 17.48 17.46	0.29 9.72 10.10	6.52 6.43 6.78	15.58 15.42 15.73	26.94 27.26 26.86	16.35 16.37 16.46
+NCC +MAGSAC↑ +MAGSAC↓	0.00 52.59 56.46	55.27 92.74 93.35	100.11 80.67 74.45	0.00 32.08 34.22	0.09 44.31 47.51	0.69 56.35 59.51	0.26 44.25 47.08	47.13 45.39 43.93	64.21 63.07 62.26	76.85 76.80 76.45	62.73 61.75 60.88	0.00 69.30 72.88	34.55 60.73 60.66	100.04 53.46 47.04	0.07 7.32 7.61	0.18 16.75 16.70	1.08 28.39 27.90	0.44 17.49 17.40	10.87 12.24 11.96	23.08 25.28 24.48	36.95 39.38 38.65	23.63 25.64 25.03
+NCMNet +MAGSAC↑ +MAGSACı	45.95 60.68 65.58	93.33 87.48 94.71 95.44	85.85 67.68 59.78	1.83 21.46 20.87	4.67 34.22 34.37	12.84 50.30 50.32	6.45 35.33 35.18	36.39 35.60 36.90	56.43 55.19 56.08	72.79 71.88 72.26	55.20 54.22 55.08	70.14 79.42 81.95	61.42 64.34 64.40	51.98 37.46 32.94	1.06 2.99 3.67	3.39 8.12 8.46	8.56 16.38 16.59	4.34 9.16 9.57	7.73 7.03 7.43	16.98 17.23 16.92	29.58 29.58 29.18	18.10 17.95 17.84
+OANet +MAGSAC↑ +MAGSAC	68.37 75.10 78.16	89.69 94.55 95.09	56.00 46.49 41.09	6.29 16.02 15.55	14.97 28.48 27.57	27.20 44.08 43.41	16.15 29.53 28.84	32.74 33.16 31.15	50.87 51.57 50.61	67.78 67.86 67.10	50.46 50.87 49.62	81.01 86.22 87.66	59.55 61.68 61.54	35.42 26.29 23.55	1.83 2.90 3.11	5.88 8.01 8.12	13.08 16.84 17.15	6.93 9.25 9.46	4.82 6.34 5.38	12.85 15.07 14.15	24.84 26.25 25.88	14.17 15.89 15.14
+MOP <sub>0.5K</sub> +MiHo +MAGSAC <sub>↑</sub> +MAGSAC <sub>⊥</sub>	34.40 56.66 62.12	80.55 93.79	95.13 73.39 64.76	1.18 37.54 37.59	3.02 52.48 52.48	9.31 65.60 66.05	4.50 51.87 52.04	46.17 46.13 45.50	62.93 63.79 62.66	76.58 76.84	61.89 62.25 61.48	43.48 72.88 76.71	50.24 63.42 63.33	82.69 49.04 42.10	0.38 6.92 8.02	0.95 15.60 17.21	3.81	1.71 16.73 18.08	11.55 12.32 12.92	23.85 24.68 25.24	37.95 38.66 39.30	24.45 25.22 25.82
+MOP <sub>0.5K</sub> +MiHo+NCC +MAGSAC <sub>↑</sub> +MAGSAC <sub>↓</sub>	34.40 51.27	81.17 94.73	97.17 83.79 78.96	1.13 38.71	3.02 52.63	9.17 65.93	4.44 52.42 53.89	49.25 46.24	66.34 64.33	78.91 77.57	64.83 62.71	43.48 69.76 72.62	50.39 64.39	83.80 56.04 50.79	0.22 8.44	0.80 18.36	3.70 30.08	1.57	13.86 13.98	27.23 28.21	41.98 <b>42.79</b>	27.69 28.33
+MOP <sub>1.0K</sub> +MiHo +MAGSAC <sub>↑</sub> +MAGSAC <sub>⊥</sub>	54.22 33.67 56.53	90.06 93.78	95.73 73.70	39.95 0.52 37.47	2.41 51.62	8.10 64.23	3.67 51.11	46.74 46.03	64.05 63.01	77.10 76.05	62.63 61.70	42.29 72.73	64.53 49.97 63.52	84.19 49.73	0.21 7.73	0.68 16.96	3.59 28.83	1.49 17.84	12.56 12.60	25.17 24.87	39.35 39.24	25.69 25.57
+MOP <sub>1.0K</sub> +MiHo+NCC +MAGSAC <sub>↑</sub> +MAGSAC <sub>↓</sub>	62.05 33.67 51.14 54.10	94.56 80.77 94.84	97.86 84.29 79.53	39.21 0.73 40.26 41.50	2.69 54.05 <b>55.53</b>	8.17 67.02	52.98 3.86 53.78	45.01 49.22 47.46 48.28	62.29 66.13 65.62	75.42 78.71 78.55	60.91 64.69 63.88 64.16	76.51 42.29 69.47	63.38 50.23 64.65 64.63	42.78 86.06 56.98 51.42	7.54 0.20 9.34 8.68	16.63 0.65 19.21 19.05	3.31 30.57 30.37	17.48 1.39 19.71	12.82 13.40 13.60 13.76	25.66 27.79 26.77	42.34 41.30	26.14 27.85 27.22
+MOP <sub>1.5K</sub> +MiHo +MAGSAC <sub>↑</sub> +MAGSAC <sub>1</sub>	33.33 56.49 62.01	79.84 93.87	95.97 73.91 65.19	0.83 37.12	2.65 51.37	8.06 64.66 65.75	3.85 51.05 52.21	46.86 46.18 45.99	65.69 63.85 62.98	76.90 75.93	62.53 61.70 61.55	72.39 41.50 72.61 76.38	49.45 63.53 63.70	84.74 49.82 43.10	0.25 7.85 7.89	0.81 16.61	4.06 28.40	1.71 17.62 17.72	11.95 11.73 12.22	24.14 24.34	38.57 38.46 39.37	24.89 24.84 25.58
+MOP <sub>1.5K</sub> +MiHo+NCC +MAGSAC <sub>↑</sub> +MAGSAC	33.33 51.07 54.05	94.59 80.57 94.85	98.19 84.49	38.28 0.94 38.69	52.60 2.98 53.32	8.26 66.17	4.06 52.73	48.71 49.11	62.61 66.23 66.68	79.24 79.14	64.73 <b>64.97</b>	41.50 69.37	49.66 64.43 64.54	86.41 56.94	0.20 8.23 8.86	0.72 17.91 18.74	4.24 29.50 30.39	1.72 1.72 18.55 19.33	13.92 13.23	25.14 27.76 26.56	42.53 41.56 42.57	28.07 27.12 28.10
+MOP <sub>2,0K</sub> +MiHo +MAGSAC <sub>↑</sub> +MAGSAC <sub>1</sub>	33.04 56.41	79.54 93.80	96.31 74.16	0.73 36.60	2.84 50.65	8.32 64.58	3.96 50.61	46.81 46.58	64.04 64.07	77.04 76.97	62.63 62.54	72.27 41.01 72.52	49.50 63.73	85.48 50.25	0.17 7.09	0.65 15.76	3.51 27.63	1.45 16.83	13.79 12.23 11.82	27.93 25.00 24.47	39.51 38.55	25.58 24.95
+MOP <sub>2.0K</sub> +MiHo+NCC +MAGSAC <sub>↑</sub> +MAGSAC <sub>↓</sub>	61.98 33.04 51.01 53.94	94.51 80.26 94.83	98.53 84.80	37.78 0.72 40.67 40.98	52.20 2.92 54.64	8.22 67.58	3.96 54.29	43.77 49.41 49.51	61.47 66.87 66.84	79.25 79.20	60.29 65.08 65.18	76.34 41.01 69.24 72.15	49.73 64.55 64.67	43.21 87.18 57.14	7.21 0.09 8.73 8.30	0.43 18.15	3.33 29.83	16.83 1.29 18.90	12.19 14.26 13.74	25.29 27.55 27.29	39.28 42.34 41.80	28.05 27.61
+MOP <sub>0.5K</sub> +MAGSAC <sub>↑</sub> +MAGSAC <sub>↑</sub>	39.06 57.24 62.62	95.33 84.26 93.18 93.83	91.79 71.67 63.23	3.90 37.71 38.39	55.12 8.06 51.40 52.10	17.36 63.94 64.99	54.79 9.77 51.01 51.83	48.44 43.86 45.92 46.13	65.93 61.60 63.08 62.95	78.84 74.73 76.07 75.84	60.06 61.69 61.64	72.15 55.88 75.25 78.70	55.43 62.63 62.46	70.52 44.77 38.52	0.94 6.38 6.95	2.80 14.53 14.87	8.08 25.93 26.06	3.94 15.61 15.96	11.59 11.60 11.33	27.41 23.76 23.82 23.26	37.41 37.28 37.01	24.25 24.23 23.87
+MOP <sub>0.5K</sub> +NCC +MAGSAC <sub>↑</sub> +MAGSAC <sub>↓</sub>	39.06 52.01 54.88	93.83 84.78 93.92 94.38	93.61 81.55 76.93	3.68 39.69 41.15	7.35 52.92 54.68	15.92 64.98 66.53	8.98 52.53 54.12	46.26 46.00 44.36	63.78 63.70 62.47	76.33 76.57 75.30	62.12 62.09 60.71	55.88 72.07 74.55	55.34 63.34 63.46	71.35 51.30 46.82	1.06 8.15 8.50	2.59 17.77 18.18	7.42 28.65 29.14	3.69 18.19 18.61	13.18 13.23 13.00	26.40 26.51 25.66	40.26 40.01 39.18	26.62 26.59 25.95
+MOP <sub>1.0K</sub> +MAGSAC <sub>↑</sub> +MAGSAC <sub>↑</sub>	38.46 57.09 62.51	94.38 84.00 93.25	92.58 72.11 63.57	3.35 37.48 38.05	7.59 52.11 52.43	16.61 65.28 65.57	9.18 51.63 52.01	44.73 44.89 45.04	62.47 61.53 62.35 62.63	74.83 75.66 75.84	60.71 60.36 60.96 61.17	74.55 55.19 75.01 78.50	55.67 63.10 63.01	72.04 45.55 39.28	1.20 7.58 6.93	3.31 16.06 15.09	7.97 26.85 26.63	4.16 16.83 16.22	11.57 11.55 11.54	24.30 23.77 23.37	37.83 37.78 36.28	24.57 24.37 23.73
+MOP <sub>1.0K</sub> +NCC +MAGSAC <sub>↑</sub> +MAGSAC <sub>↑</sub>	38.46 51.83	93.94 84.56 94.23	94.44 82.18	2.71 39.67	6.91 53.90	15.75 66.57	8.46 53.38	47.05 46.16	64.47 64.31	75.84 77.18 77.16	62.90 62.54 63.64	55.19 71.87	55.70 63.86	73.07 52.30	0.87 8.51	2.81 17.97	7.57 29.29	3.75 18.59	12.97 13.55	26.00 26.76	40.34 41.19	26.44 27.17
+MAGSAC <sub>1</sub> +MOP <sub>1.5K</sub> +MAGSAC <sub>↑</sub> +MAGSAC <sub>1</sub>	54.67 38.24 57.01	94.56 83.88 93.27	77.57 93.02 72.39	3.08 36.96	7.45 51.39	67.61 16.09 64.95	54.44 8.87 51.10	47.79 44.94 44.95	65.37 62.55 62.53	77.76 76.09 75.77	61.19 61.09	74.42 54.86 74.91	63.93 55.57 63.04	47.55 72.76 45.78	8.51 1.10 7.37	3.00 16.18	8.31 27.35	4.14 16.97	11.35 12.09	26.94 24.05 23.77	37.46 37.64	24.28 24.50
+MAGSAC <sub>↓</sub> +MOP <sub>1.5K</sub> +NCC +MAGSAC <sub>↑</sub> +MAGSAC <sub>↓</sub>	62.41 38.24 51.68	93.94 84.46 94.19	94.94 82.65	38.35 3.02 40.01	52.66 7.04 53.40	65.68 15.44 66.29	52.23 8.50 53.23	44.62 47.39 47.94	62.36 65.17 65.35	75.82 77.45 77.87	60.93 63.34 63.72	78.41 54.86 71.66	63.02 55.50 63.86	39.50 73.49 52.69	7.60 0.69 7.95	16.53 2.52 17.32	7.52 29.03	3.57 18.10	11.23 13.52 14.01	24.32 26.44 26.66	38.33 41.27 40.67	24.63 27.08 27.11
$+MOP_{2.0K} + MAGSAC_{\uparrow}$	54.57 38.02 56.94	94.57 83.91 93.43	77.95 93.37 72.67	3.87 37.62	55.50 8.25 51.55	68.14 17.39 64.85	9.84 51.34	46.51 45.40 45.79	64.43 62.99 63.51	77.28 75.70 76.39	62.74 61.36 61.90	74.30 54.66 74.78	64.07 55.71 63.15	47.83 72.97 45.77	8.50 0.52 7.40	2.63 15.54	8.04 27.11	3.73 16.68	13.13 11.46 12.18	26.39 24.27 23.95	37.55 37.36	24.43 24.49
$+MAGSAC_{\downarrow}$ $+MOP_{2,0K}+NCC$ $+MAGSAC_{\uparrow}$	62.37 38.02 51.67	94.12 84.45 94.27	95.23 82.76	38.76 3.74 38.19	52.96 8.08 52.34	66.20 16.84 65.38	9.55 51.97	45.76 48.80 46.74	63.08 65.76 64.62	76.08 77.81 77.56	61.64 64.12 62.97	78.41 54.66 71.54	63.34 55.67 64.18	39.45 73.77 53.01	7.17 0.64 8.63	15.39 2.40 17.99	26.74 7.75 29.47	3.60 18.70	12.62 14.07 13.57	24.61 26.84 26.82	37.53 41.20 40.63	24.92 27.37 27.01
$+MAGSAC_{\downarrow}$	54.51	94.65	78.12	40.14	54.13	67.03	53.77	47.52	65.16	77.85	63.51	74.19	64.31	48.12	8.69	18.43	30.17	19.10	13.14	25.94	39.74	26.27