| Pipeline | MegaDepth | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Filtered | Precision | Recall | $\text{AUC}^F_{@5}$ | $\text{AUC}^F_{@10}$ | $\text{AUC}^F_{@20}$ | $\text{AUC}^F_{\angle}$ | $\text{AUC}^E_{@5}$ | $\text{AUC}^E_{@10}$ | $\text{AUC}^E_{@20}$ | $\text{AUC}^E_{\angle}$ |
| DISK+LightGlue | 0.00 | 92.27 | **99.93** | 43.66 | 59.07 | 71.94 | 58.22 | 48.98 | 66.30 | 79.10 | 64.79 |
| +MAGSAC$_\uparrow$ | 20.27 | 95.36 | 83.11 | 49.66 | 64.28 | 75.89 | 63.27 | 49.18 | 66.40 | 79.33 | 64.97 |
| +MAGSAC$_\downarrow$ | 31.13 | 96.11 | 72.68 | 49.51 | 64.14 | 75.76 | 63.14 | 49.45 | 66.85 | 79.66 | 65.32 |
| +ACNe | 46.64 | 92.95 | 53.85 | 22.83 | 36.98 | 52.87 | 37.56 | 34.52 | 54.11 | 70.76 | 53.13 |
| +MAGSAC$_\uparrow$ | 56.04 | 95.25 | 45.84 | 26.10 | 40.69 | 56.17 | 40.99 | 34.75 | 54.68 | 71.18 | 53.54 |
| +MAGSAC$_\downarrow$ | 61.72 | 95.96 | 40.39 | 26.15 | 41.20 | 56.96 | 41.43 | 35.46 | 55.45 | 71.77 | 54.23 |
| +AdaLAM | 0.00 | 92.27 | **99.93** | 43.66 | 59.07 | 71.94 | 58.22 | 48.98 | 66.30 | 79.10 | 64.79 |
| +MAGSAC$_\uparrow$ | 20.27 | 95.36 | 83.11 | 49.66 | 64.28 | 75.89 | 63.27 | 49.18 | 66.40 | 79.33 | 64.97 |
| +MAGSAC$_\downarrow$ | 31.13 | 96.11 | 72.68 | 49.51 | 64.14 | 75.76 | 63.14 | 49.45 | 66.85 | 79.66 | 65.32 |
| +CC | 16.37 | 85.47 | 83.94 | 32.94 | 46.70 | 60.62 | 46.76 | 40.49 | 57.43 | 70.83 | 56.25 |
| +MAGSAC$_\uparrow$ | 32.81 | 87.99 | 70.01 | 36.55 | 50.56 | 63.32 | 50.14 | 42.38 | 59.66 | 72.44 | 58.16 |
| +MAGSAC$_\downarrow$ | 41.90 | 88.68 | 61.28 | 36.98 | 51.14 | 63.92 | 50.68 | 42.67 | 59.61 | 72.34 | 58.21 |
| +CLNet | 13.94 | 92.83 | 86.48 | 22.14 | 35.99 | 52.22 | 36.78 | 37.81 | 57.03 | 73.15 | 56.00 |
| +MAGSAC$_\uparrow$ | 30.14 | 95.26 | 72.61 | 26.48 | 41.21 | 58.07 | 41.92 | 38.70 | 58.17 | 73.99 | 56.95 |
| +MAGSAC$_\downarrow$ | 39.51 | 96.00 | 63.61 | 26.52 | 41.51 | 57.83 | 41.95 | 40.02 | 58.82 | 74.37 | 57.74 |
| +ConvMatch | 64.76 | 92.87 | 35.72 | 14.34 | 25.98 | 40.55 | 26.96 | 24.93 | 43.00 | 61.26 | 43.06 |
| +MAGSAC$_\uparrow$ | 70.23 | 94.36 | 30.99 | 17.61 | 29.28 | 44.17 | 30.35 | 25.80 | 43.68 | 61.50 | 43.66 |
| +MAGSAC$_\downarrow$ | 73.90 | 94.99 | 27.45 | 17.84 | 29.79 | 44.94 | 30.86 | 25.75 | 43.75 | 61.57 | 43.69 |
| +DeMatch | 64.91 | 92.73 | 35.35 | 13.58 | 25.36 | 40.82 | 26.59 | 24.41 | 42.76 | 60.72 | 42.63 |
| +MAGSAC$_\uparrow$ | 70.55 | 94.64 | 30.49 | 15.43 | 28.07 | 43.42 | 28.97 | 24.15 | 42.59 | 61.17 | 42.64 |
| +MAGSAC$_\downarrow$ | 74.23 | 95.26 | 26.96 | 15.59 | 28.09 | 43.29 | 28.99 | 23.81 | 42.34 | 60.91 | 42.35 |
| +FC-GNN | 9.99 | **97.04** | 96.66 | **53.00** | **67.43** | **78.57** | **66.33** | 49.70 | 67.04 | 80.12 | 65.62 |
| +MAGSAC$_\uparrow$ | 11.58 | **97.33** | 95.29 | **54.76** | **68.87** | **79.80** | **67.81** | **51.90** | **68.81** | **81.13** | **67.28** |
| +MAGSAC$_\downarrow$ | 13.11 | **97.45** | 93.80 | **54.69** | **68.83** | **79.85** | **67.79** | **51.27** | **68.55** | **80.83** | **66.88** |
| +GMS | 13.70 | 90.59 | 86.54 | 42.92 | 57.67 | 69.96 | 56.85 | 44.42 | 61.20 | 74.16 | 59.93 |
| +MAGSAC$_\uparrow$ | 30.39 | 92.74 | 72.30 | 46.14 | 60.08 | 71.49 | 59.24 | 46.82 | 63.06 | 75.52 | 61.80 |
| +MAGSAC$_\downarrow$ | 39.64 | 93.44 | 63.40 | 46.02 | 60.27 | 71.87 | 59.39 | 48.00 | 64.08 | 76.12 | 62.73 |
| +MS$^2$DG-Net | 75.84 | 93.65 | 24.65 | 26.48 | 41.89 | 57.57 | 41.98 | 21.76 | 38.41 | 56.34 | 38.84 |
| +MAGSAC$_\uparrow$ | 79.77 | 95.51 | 21.32 | 27.27 | 42.23 | 57.96 | 42.49 | 22.79 | 39.77 | 57.51 | 40.02 |
| +MAGSAC$_\downarrow$ | 82.24 | 96.18 | 18.91 | 27.61 | 42.43 | 57.88 | 42.64 | 23.35 | 40.95 | 59.04 | 41.11 |
| +NCMNet | 12.44 | 92.76 | 87.97 | 20.80 | 35.60 | 52.35 | 36.25 | 36.86 | 56.21 | 72.28 | 55.12 |
| +MAGSAC$_\uparrow$ | 28.92 | 95.08 | 73.87 | 25.70 | 40.81 | 57.27 | 41.26 | 38.33 | 58.58 | 74.62 | 57.18 |
| +MAGSAC$_\downarrow$ | 38.44 | 95.83 | 64.74 | 26.41 | 41.40 | 57.55 | 41.79 | 37.05 | 56.69 | 73.16 | 55.63 |
| +OANet | **89.94** | 93.79 | 10.34 | 7.59 | 15.95 | 28.13 | 17.22 | 12.98 | 26.04 | 43.83 | 27.62 |
| +MAGSAC$_\uparrow$ | **91.19** | 94.70 | 9.18 | 7.20 | 15.50 | 28.31 | 17.00 | 13.01 | 26.91 | 44.34 | 28.09 |
| +MAGSAC$_\downarrow$ | **92.08** | 95.14 | 8.32 | 7.99 | 16.21 | 28.50 | 17.57 | 13.22 | 27.16 | 45.08 | 28.49 |
| **+MOP** | 0.67 | 92.39 | 99.53 | 44.59 | 59.93 | 72.77 | 59.10 | 47.90 | 65.59 | 78.62 | 64.04 |
| +MAGSAC$_\uparrow$ | 20.47 | 95.32 | 82.93 | 49.59 | 64.08 | 75.68 | 63.12 | 49.12 | 66.32 | 79.26 | 64.90 |
| +MAGSAC$_\downarrow$ | 31.34 | 96.11 | 72.54 | 48.97 | 63.58 | 75.30 | 62.62 | **50.46** | **67.64** | **80.22** | **66.11** |
| **+MOP+MiHo** | 0.34 | 92.33 | **99.78** | 44.29 | 59.64 | 72.49 | 58.81 | 48.93 | 66.35 | 79.14 | 64.81 |
| +MAGSAC$_\uparrow$ | 20.37 | 95.35 | 83.08 | 49.74 | 64.24 | 75.82 | 63.27 | 49.24 | 66.46 | 79.32 | 65.01 |
| +MAGSAC$_\downarrow$ | 31.24 | 96.14 | 72.66 | 49.43 | 64.09 | 75.66 | 63.06 | 49.46 | 66.85 | 79.75 | 65.35 |
| **+MOP+MiHo+NCC** | 0.34 | 85.06 | 92.27 | 19.22 | 32.93 | 49.05 | 33.73 | 46.87 | 65.02 | 78.51 | 63.47 |
| +MAGSAC$_\uparrow$ | 27.72 | 96.00 | 76.50 | 43.11 | 56.91 | 69.27 | 56.43 | 47.47 | 65.67 | 79.26 | 64.13 |
| +MAGSAC$_\downarrow$ | 32.47 | 96.46 | 71.94 | 43.99 | 58.15 | 70.75 | 57.63 | 47.53 | 65.70 | 78.91 | 64.05 |
| **+MOP+NCC** | 0.67 | 84.83 | 91.69 | 17.91 | 30.87 | 46.37 | 31.72 | 46.37 | 64.34 | 77.97 | 62.89 |
| +MAGSAC$_\uparrow$ | 28.17 | 95.86 | 75.93 | 42.11 | 56.17 | 68.68 | 55.66 | 46.49 | 64.83 | 78.38 | 63.23 |
| +MAGSAC$_\downarrow$ | 32.85 | 96.34 | 71.49 | 42.53 | 56.81 | 69.23 | 56.19 | 47.07 | 65.02 | 78.38 | 63.49 |
| **+NCC** | 0.00 | 74.62 | 79.29 | 14.99 | 26.96 | 42.48 | 28.14 | 32.33 | 47.39 | 61.76 | 47.16 |
| +MAGSAC$_\uparrow$ | 44.48 | 89.05 | 55.27 | 27.49 | 38.19 | 50.29 | 38.65 | 32.88 | 48.27 | 63.02 | 48.06 |
| +MAGSAC$_\downarrow$ | 50.78 | 89.54 | 49.54 | 27.92 | 38.83 | 50.07 | 38.94 | 33.43 | 48.87 | 63.35 | 48.55 |

| Pipeline | ScanNet | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Filtered | Precision | Recall | $\text{AUC}^F_{@5}$ | $\text{AUC}^F_{@10}$ | $\text{AUC}^F_{@20}$ | $\text{AUC}^F_{\angle}$ | $\text{AUC}^E_{@5}$ | $\text{AUC}^E_{@10}$ | $\text{AUC}^E_{@20}$ | $\text{AUC}^E_{\angle}$ |
| DISK+LightGlue | 0.00 | 63.40 | **89.67** | 4.58 | 10.93 | 20.65 | 12.05 | 12.11 | 24.81 | 37.96 | 24.96 |
| +MAGSAC$_\uparrow$ | 37.07 | 64.24 | 60.05 | 8.93 | **18.65** | **29.37** | **18.98** | 12.75 | 25.17 | 37.87 | 25.26 |
| +MAGSAC$_\downarrow$ | 45.54 | 64.38 | 51.60 | **9.10** | 18.24 | 28.96 | 18.77 | 12.38 | 24.31 | 37.06 | 24.59 |
| +ACNe | 48.36 | 65.26 | 46.54 | 2.88 | 7.52 | 15.81 | 8.74 | 6.90 | 16.18 | 27.97 | 17.02 |
| +MAGSAC$_\uparrow$ | 67.25 | 63.39 | 31.84 | 3.92 | 10.04 | 19.44 | 11.13 | 7.06 | 16.37 | 28.38 | 17.27 |
| +MAGSAC$_\downarrow$ | 71.26 | 63.50 | 27.71 | 3.71 | 9.66 | 19.19 | 10.86 | 7.67 | 17.12 | 29.15 | 17.98 |
| +AdaLAM | 0.00 | 63.40 | **89.67** | 4.58 | 10.93 | 20.65 | 12.05 | 12.11 | 24.81 | 37.96 | 24.96 |
| +MAGSAC$_\uparrow$ | 37.08 | 64.24 | 60.05 | 8.93 | 18.65 | 29.36 | 18.98 | 12.75 | 25.17 | 37.87 | 25.26 |
| +MAGSAC$_\downarrow$ | 45.54 | 64.38 | 51.60 | 9.10 | 18.24 | 28.96 | 18.77 | 12.38 | 24.31 | 37.06 | 24.59 |
| +CC | 23.68 | 52.79 | 66.68 | 4.46 | 10.31 | 18.61 | 11.13 | 9.91 | 19.87 | 30.40 | 20.06 |
| +MAGSAC$_\uparrow$ | 52.00 | 52.62 | 45.09 | 6.59 | 13.92 | 22.27 | 14.26 | 10.38 | 20.41 | 31.08 | 20.62 |
| +MAGSAC$_\downarrow$ | 58.08 | 52.78 | 39.09 | 6.86 | 14.19 | 22.67 | 14.57 | 9.73 | 19.69 | 30.50 | 19.97 |
| +CLNet | 34.98 | 65.74 | 58.37 | 2.46 | 5.79 | 11.92 | 6.72 | 8.36 | 18.03 | 29.80 | 18.73 |
| +MAGSAC$_\uparrow$ | 57.80 | 61.43 | 40.60 | 3.33 | 8.45 | 17.00 | 9.59 | 8.24 | 17.56 | 29.60 | 18.47 |
| +MAGSAC$_\downarrow$ | 63.39 | 61.55 | 35.00 | 3.34 | 8.19 | 16.75 | 9.43 | 7.59 | 17.47 | 29.40 | 18.15 |
| +ConvMatch | 65.35 | 65.33 | 31.80 | 1.89 | 5.91 | 13.41 | 7.07 | 6.18 | 14.91 | 26.54 | 15.88 |
| +MAGSAC$_\uparrow$ | 78.22 | 60.33 | 21.89 | 2.47 | 7.62 | 15.89 | 8.66 | 5.31 | 14.19 | 26.04 | 15.18 |
| +MAGSAC$_\downarrow$ | 80.88 | 60.39 | 19.08 | 2.78 | 7.71 | 16.00 | 8.83 | 6.02 | 15.14 | 26.76 | 15.97 |
| +DeMatch | 67.46 | 64.84 | 29.57 | 1.14 | 3.87 | 9.74 | 4.92 | 4.43 | 11.36 | 21.14 | 12.31 |
| +MAGSAC$_\uparrow$ | 79.04 | 60.69 | 20.88 | 1.79 | 4.97 | 11.33 | 6.03 | 4.17 | 10.97 | 20.94 | 12.03 |
| +MAGSAC$_\downarrow$ | 81.60 | 60.74 | 18.18 | 1.61 | 5.13 | 11.91 | 6.22 | 4.70 | 12.07 | 22.26 | 13.01 |
| +FC-GNN | 20.88 | **67.10** | 72.61 | 7.45 | 16.13 | 27.06 | 16.88 | 12.75 | 25.04 | **38.37** | 25.39 |
| +MAGSAC$_\uparrow$ | 35.09 | **66.01** | 63.56 | **10.28** | **20.70** | **31.99** | **20.99** | **13.05** | **25.37** | **38.33** | **25.58** |
| +MAGSAC$_\downarrow$ | 38.13 | **66.09** | 60.48 | **10.40** | **20.81** | **31.79** | **21.00** | **12.84** | **25.37** | **38.09** | **25.44** |
| +GMS | 34.62 | 60.51 | 64.55 | 5.28 | 11.92 | 21.57 | 12.92 | 11.56 | 23.36 | 35.61 | 23.51 |
| +MAGSAC$_\uparrow$ | 53.51 | 59.67 | 45.99 | 7.94 | 16.47 | 26.43 | 16.95 | 10.97 | 22.64 | 34.98 | 22.86 |
| +MAGSAC$_\downarrow$ | 60.62 | 59.84 | 38.87 | 8.30 | 16.91 | 26.94 | 17.39 | 10.92 | 22.78 | 35.13 | 22.94 |
| +MS$^2$DG-Net | 57.11 | 65.05 | 33.56 | 2.41 | 6.55 | 14.19 | 7.72 | 5.04 | 11.70 | 21.74 | 12.83 |
| +MAGSAC$_\uparrow$ | 72.95 | 64.03 | 23.40 | 3.85 | 8.92 | 16.74 | 9.84 | 5.23 | 11.94 | 21.80 | 12.99 |
| +MAGSAC$_\downarrow$ | 75.35 | 64.17 | 21.07 | 3.72 | 8.63 | 16.30 | 9.55 | 4.65 | 11.94 | 21.65 | 12.75 |
| +NCMNet | 31.04 | 65.40 | 62.14 | 2.85 | 7.33 | 15.11 | 8.43 | 7.81 | 17.76 | 29.94 | 18.50 |
| +MAGSAC$_\uparrow$ | 54.86 | 61.57 | 43.66 | 3.91 | 9.45 | 18.36 | 10.58 | 8.08 | 17.66 | 29.95 | 18.56 |
| +MAGSAC$_\downarrow$ | 60.90 | 61.68 | 37.55 | 4.08 | 9.86 | 18.37 | 10.77 | 8.58 | 18.69 | 30.80 | 19.36 |
| +OANet | **86.70** | 64.39 | 10.77 | 0.69 | 2.80 | 7.93 | 3.81 | 2.74 | 7.15 | 15.00 | 8.30 |
| +MAGSAC$_\uparrow$ | **92.60** | 56.01 | 6.66 | 0.98 | 3.22 | 8.71 | 4.30 | 2.34 | 6.96 | 14.80 | 8.03 |
| +MAGSAC$_\downarrow$ | **93.26** | 56.02 | 5.99 | 1.13 | 3.70 | 9.04 | 4.62 | 2.62 | 7.29 | 15.22 | 8.37 |
| **+MOP** | 23.90 | 59.81 | 75.39 | 4.95 | 11.68 | 21.76 | 12.79 | 11.19 | 23.72 | 36.74 | 23.88 |
| +MAGSAC$_\uparrow$ | 46.66 | 61.53 | 53.21 | 8.87 | 18.06 | 28.66 | 18.53 | 12.56 | 24.74 | 37.10 | 24.80 |
| +MAGSAC$_\downarrow$ | 54.79 | 61.63 | 44.92 | 8.92 | 18.52 | 29.08 | 18.84 | 11.65 | 23.86 | 36.74 | 24.08 |
| **+MOP+MiHo** | 19.62 | 61.40 | 79.44 | 4.72 | 10.98 | 21.11 | 12.27 | 11.75 | 24.54 | 37.72 | 24.67 |
| +MAGSAC$_\uparrow$ | 43.65 | 63.27 | 56.15 | 8.96 | 18.48 | 29.21 | 18.88 | **12.96** | **25.45** | 38.01 | **25.47** |
| +MAGSAC$_\downarrow$ | 51.89 | 63.43 | 47.76 | 8.92 | 18.34 | 29.23 | 18.83 | 12.16 | 24.61 | 37.38 | 24.71 |
| **+MOP+MiHo+NCC** | 19.62 | 57.84 | 78.37 | 2.63 | 6.94 | 14.73 | 8.10 | 11.78 | 24.31 | 37.24 | 24.44 |
| +MAGSAC$_\uparrow$ | 48.65 | 62.98 | 51.51 | 8.33 | 17.67 | 28.24 | 18.08 | 12.48 | 24.61 | 37.09 | 24.72 |
| +MAGSAC$_\downarrow$ | 53.54 | 63.09 | 46.69 | 8.73 | 18.22 | 28.47 | 18.47 | 12.49 | 24.41 | 36.81 | 24.57 |
| **+MOP+NCC** | 23.90 | 56.30 | 74.04 | 2.97 | 7.29 | 14.75 | 8.34 | 11.89 | 24.36 | 37.03 | 24.43 |
| +MAGSAC$_\uparrow$ | 51.17 | 61.35 | 48.99 | 8.50 | 17.83 | 28.50 | 18.28 | 12.30 | 24.66 | 37.16 | 24.71 |
| +MAGSAC$_\downarrow$ | 55.88 | 61.49 | 44.29 | 8.54 | 18.43 | 28.88 | 18.62 | 12.57 | 24.84 | 37.37 | 24.93 |
| **+NCC** | 0.00 | 58.52 | **88.72** | 2.38 | 6.40 | 13.94 | 7.57 | 9.95 | 21.56 | 34.25 | 21.92 |
| +MAGSAC$_\uparrow$ | 46.90 | 63.42 | 50.70 | 7.14 | 15.38 | 25.84 | 16.12 | 10.16 | 21.61 | 33.94 | 21.90 |
| +MAGSAC$_\downarrow$ | 52.41 | 63.58 | 45.28 | 7.08 | 15.35 | 25.80 | 16.08 | 10.53 | 21.88 | 34.50 | 22.30 |

| Pipeline | Planar | | | | | | |
|---|---|---|---|---|---|---|---|
| | Filtered | Precision | Recall | $\text{AUC}^H_{@5}$ | $\text{AUC}^H_{@10}$ | $\text{AUC}^H_{@15}$ | $\text{AUC}^H_{\square}$ |
| DISK+LightGlue | 0.00 | 72.89 | **86.47** | 38.33 | 52.97 | 59.27 | **59.26** |
| +MAGSAC$_\uparrow$ | 55.05 | 77.58 | 43.73 | 40.65 | 54.46 | 60.66 | 49.87 |
| +MAGSAC$_\downarrow$ | 67.08 | **78.21** | 31.03 | 41.22 | **55.28** | **61.60** | 47.28 |
| +ACNe | 58.26 | 74.01 | 36.20 | 30.01 | 45.54 | 53.56 | 41.33 |
| +MAGSAC$_\uparrow$ | 79.69 | 77.57 | 20.46 | 32.44 | 47.91 | 55.07 | 38.97 |
| +MAGSAC$_\downarrow$ | 84.91 | 78.11 | 14.99 | 31.95 | 47.39 | 54.74 | 37.27 |
| +AdaLAM | 0.00 | 72.89 | **86.47** | 38.33 | 52.97 | 59.27 | 59.26 |
| +MAGSAC$_\uparrow$ | 55.05 | 77.58 | 43.73 | 40.65 | 54.46 | 60.66 | 49.87 |
| +MAGSAC$_\downarrow$ | 67.08 | **78.21** | 31.03 | 41.22 | 55.28 | **61.60** | 47.28 |
| +CC | 72.38 | 10.70 | 14.29 | 3.53 | 5.41 | 6.31 | 7.38 |
| +MAGSAC$_\uparrow$ | 90.64 | 11.49 | 5.02 | 3.78 | 5.50 | 6.14 | 5.11 |
| +MAGSAC$_\downarrow$ | **92.00** | 11.61 | 3.62 | 3.83 | 5.45 | 6.55 | 4.86 |
| +CLNet | 8.94 | 73.50 | 81.78 | 39.59 | 54.12 | 60.36 | 58.97 |
| +MAGSAC$_\uparrow$ | 57.48 | 77.55 | 41.87 | 40.94 | 54.90 | 60.65 | 49.59 |
| +MAGSAC$_\downarrow$ | 68.95 | 78.05 | 29.80 | 40.52 | 54.67 | 60.53 | 46.38 |
| +ConvMatch | 60.31 | 73.93 | 34.98 | 29.35 | 44.83 | 52.75 | 40.48 |
| +MAGSAC$_\uparrow$ | 80.45 | 76.37 | 19.66 | 31.53 | 46.67 | 53.95 | 37.95 |
| +MAGSAC$_\downarrow$ | 85.48 | 76.85 | 14.38 | 31.56 | 46.95 | 54.27 | 36.79 |
| +DeMatch | 66.10 | 73.56 | 29.01 | 24.66 | 40.41 | 48.88 | 35.74 |
| +MAGSAC$_\uparrow$ | 83.22 | 76.73 | 16.78 | 28.30 | 44.23 | 51.90 | 35.31 |
| +MAGSAC$_\downarrow$ | 87.53 | 77.11 | 12.15 | 28.53 | 44.38 | 51.96 | 34.26 |
| +FC-GNN | 5.74 | 76.15 | **87.54** | 39.19 | 53.70 | 60.39 | **60.21** |
| +MAGSAC$_\uparrow$ | 33.10 | 77.90 | 68.97 | 40.35 | 55.03 | 61.12 | 56.37 |
| +MAGSAC$_\downarrow$ | 42.59 | **78.25** | 59.22 | 40.06 | 54.44 | 60.91 | 53.66 |
| +GMS | 24.01 | 72.62 | 75.84 | 39.36 | 53.70 | 60.05 | 57.24 |
| +MAGSAC$_\uparrow$ | 62.32 | 76.83 | 40.13 | 41.48 | 54.69 | 60.82 | 49.28 |
| +MAGSAC$_\downarrow$ | 73.27 | 77.51 | 28.66 | **42.13** | **55.37** | 61.39 | 46.89 |
| +MS$^2$DG-Net | 63.61 | 74.41 | 23.80 | 26.88 | 44.68 | 52.48 | 36.96 |
| +MAGSAC$_\uparrow$ | 83.14 | 77.11 | 13.00 | 29.12 | 47.82 | 55.40 | 36.33 |
| +MAGSAC$_\downarrow$ | 86.40 | 77.67 | 9.65 | 29.69 | 47.90 | 55.79 | 35.76 |
| +NCMNet | 7.23 | 73.42 | 83.52 | 40.34 | 54.15 | 60.53 | **59.63** |
| +MAGSAC$_\uparrow$ | 56.98 | 77.51 | 42.81 | 41.39 | 54.88 | 60.86 | 49.99 |
| +MAGSAC$_\downarrow$ | 68.62 | 78.14 | 30.67 | 41.57 | 54.65 | 60.88 | 46.94 |
| +OANet | 87.82 | 73.24 | 8.37 | 22.86 | 37.32 | 44.74 | 28.32 |
| +MAGSAC$_\uparrow$ | **94.31** | 75.29 | 5.24 | 22.66 | 38.73 | 46.31 | 28.24 |
| +MAGSAC$_\downarrow$ | **95.59** | 75.80 | 3.93 | 21.97 | 37.85 | 45.64 | 27.35 |
| **+MOP** | 15.86 | 72.70 | 83.65 | 38.37 | 53.35 | 60.15 | 58.88 |
| +MAGSAC$_\uparrow$ | 59.48 | 77.47 | 43.51 | 40.75 | 54.46 | 60.67 | 49.85 |
| +MAGSAC$_\downarrow$ | 71.42 | 78.07 | 30.82 | **41.60** | **55.31** | 61.39 | 47.28 |
| **+MOP+MiHo** | 15.81 | 72.66 | 83.65 | 38.45 | 53.32 | 60.22 | 58.91 |
| +MAGSAC$_\uparrow$ | 59.53 | 77.45 | 43.40 | 40.90 | 54.56 | 60.91 | 49.94 |
| +MAGSAC$_\downarrow$ | 71.40 | 78.07 | 30.87 | **41.57** | 55.18 | 61.35 | 47.24 |
| **+MOP+MiHo+NCC** | 15.81 | 71.29 | 82.96 | 36.32 | 52.31 | 59.48 | 57.77 |
| +MAGSAC$_\uparrow$ | 41.60 | 77.40 | 63.04 | 40.08 | 54.93 | 61.53 | 54.90 |
| +MAGSAC$_\downarrow$ | 50.10 | 77.75 | 54.01 | 39.91 | 54.67 | 61.13 | 52.43 |
| **+MOP+NCC** | 15.86 | 70.91 | 82.44 | 36.05 | 51.65 | 58.87 | 57.25 |
| +MAGSAC$_\uparrow$ | 42.05 | 77.38 | 62.50 | 40.52 | 55.27 | **61.91** | 55.05 |
| +MAGSAC$_\downarrow$ | 50.37 | 77.77 | 53.79 | 40.13 | 54.79 | 61.41 | 52.53 |
| **+NCC** | 0.00 | 53.62 | 61.61 | 33.23 | 48.74 | 55.60 | 49.80 |
| +MAGSAC$_\uparrow$ | 70.33 | 77.47 | 28.05 | 38.08 | 52.89 | 59.60 | 44.66 |
| +MAGSAC$_\downarrow$ | 76.42 | 77.97 | 21.64 | 38.49 | 52.98 | 59.26 | 43.09 |

| Pipeline | IMC PhotoTourism | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Filtered | Precision | Recall | $\text{AUC}^F_{@5}$ | $\text{AUC}^F_{@10}$ | $\text{AUC}^F_{@20}$ | $\text{AUC}^F_{\angle}$ | $\text{AUC}^E_{@5}$ | $\text{AUC}^E_{@10}$ | $\text{AUC}^E_{@20}$ | $\text{AUC}^E_{\angle}$ | $\text{AUC}^F_{@(5,\frac{1}{2})}$ | $\text{AUC}^F_{@(10,1)}$ | $\text{AUC}^F_{@(20,2)}$ | $\text{AUC}^F_{\square}$ | $\text{AUC}^E_{@(5,\frac{1}{2})}$ | $\text{AUC}^E_{@(10,1)}$ | $\text{AUC}^E_{@(20,2)}$ | $\text{AUC}^E_{\square}$ |
| DISK+LightGlue | 0.00 | 93.58 | **99.59** | 41.75 | 56.71 | 69.88 | 56.11 | 58.25 | 73.63 | 84.06 | 71.98 | 17.75 | 29.39 | 42.78 | 29.97 | 24.21 | 40.54 | 57.97 | 40.91 |
| +MAGSAC$_\uparrow$ | 17.92 | 95.93 | 84.44 | 49.89 | 64.63 | 76.59 | 63.70 | 58.79 | 74.00 | 84.32 | 72.37 | 22.53 | 35.57 | 50.03 | 36.04 | 24.92 | 41.19 | 58.28 | 41.46 |
| +MAGSAC$_\downarrow$ | 28.09 | 96.55 | 74.66 | 49.86 | 64.68 | 76.70 | 63.75 | 58.74 | 73.94 | 84.30 | 72.33 | 22.67 | 35.73 | 50.18 | 36.19 | 24.78 | 41.23 | 58.39 | 41.47 |
| +ACNe | 51.14 | 94.36 | 49.15 | 30.58 | 46.24 | 61.70 | 46.17 | 47.42 | 65.35 | 78.53 | 63.76 | 11.00 | 20.20 | 32.37 | 21.19 | 17.28 | 31.12 | 47.64 | 32.01 |
| +MAGSAC$_\uparrow$ | 58.58 | 95.97 | 42.66 | 34.26 | 50.12 | 65.07 | 49.82 | 47.92 | 65.88 | 78.91 | 64.24 | 12.96 | 23.06 | 35.78 | 23.94 | 17.45 | 31.34 | 48.09 | 32.29 |
| +MAGSAC$_\downarrow$ | 63.33 | 96.52 | 38.07 | 34.34 | 50.33 | 65.37 | 50.01 | 48.03 | 65.86 | 78.83 | 64.24 | 12.89 | 23.01 | 35.84 | 23.91 | 17.46 | 31.36 | 47.85 | 32.22 |
| +AdaLAM | 0.00 | 93.58 | **99.59** | 41.75 | 56.71 | 69.88 | 56.11 | 58.25 | 73.63 | 84.06 | 71.98 | 17.75 | 29.39 | 42.78 | 29.97 | 24.21 | 40.54 | 57.97 | 40.91 |
| +MAGSAC$_\uparrow$ | 17.92 | 95.93 | 84.44 | 49.89 | 64.63 | 76.59 | 63.70 | 58.79 | 74.00 | 84.32 | 72.37 | 22.53 | 35.57 | 50.03 | 36.04 | 24.92 | 41.19 | 58.28 | 41.46 |
| +MAGSAC$_\downarrow$ | 28.09 | 96.55 | 74.66 | 49.86 | 64.68 | 76.70 | 63.75 | 58.74 | 73.94 | 84.30 | 72.33 | 22.67 | 35.73 | 50.18 | 36.19 | 24.78 | 41.23 | 58.39 | 41.47 |
| +CC | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| +MAGSAC$_\uparrow$ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| +MAGSAC$_\downarrow$ | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| +CLNet | 19.32 | 94.16 | 80.91 | 27.56 | 42.75 | 59.11 | 43.14 | 50.07 | 67.46 | 79.78 | 65.77 | 10.08 | 18.94 | 30.73 | 19.91 | 18.39 | 33.20 | 50.22 | 33.94 |
| +MAGSAC$_\uparrow$ | 32.37 | 95.85 | 69.56 | 32.21 | 48.19 | 64.38 | 48.26 | 50.50 | 67.71 | 79.97 | 66.06 | 12.57 | 22.28 | 34.61 | 23.15 | 18.40 | 33.14 | 50.24 | 33.93 |
| +MAGSAC$_\downarrow$ | 40.49 | 96.44 | 61.73 | 32.47 | 48.57 | 64.63 | 48.56 | 50.54 | 67.87 | 80.19 | 66.20 | 12.77 | 22.59 | 35.00 | 23.45 | 18.66 | 33.46 | 50.53 | 34.21 |
| +ConvMatch | 63.16 | 94.19 | 37.06 | 22.24 | 37.27 | 53.66 | 37.72 | 38.23 | 56.87 | 72.16 | 55.75 | 7.41 | 14.71 | 25.50 | 15.87 | 12.75 | 24.82 | 40.43 | 26.00 |
| +MAGSAC$_\uparrow$ | 68.29 | 95.37 | 32.59 | 25.15 | 40.81 | 56.88 | 40.95 | 38.66 | 57.34 | 72.58 | 56.19 | 8.62 | 16.79 | 28.16 | 17.86 | 13.13 | 25.45 | 40.89 | 26.49 |
| +MAGSAC$_\downarrow$ | 71.82 | 95.88 | 29.18 | 25.53 | 41.05 | 57.10 | 41.23 | 38.62 | 57.46 | 72.59 | 56.22 | 8.87 | 17.04 | 28.43 | 18.11 | 13.13 | 25.20 | 40.66 | 26.33 |
| +DeMatch | 65.10 | 94.16 | 35.05 | 19.47 | 34.35 | 51.19 | 35.01 | 35.14 | 54.49 | 70.55 | 53.39 | 6.20 | 12.99 | 23.23 | 14.14 | 11.60 | 22.87 | 37.86 | 24.11 |
| +MAGSAC$_\uparrow$ | 70.08 | 95.52 | 30.72 | 22.32 | 37.82 | 54.37 | 38.17 | 35.70 | 54.93 | 70.93 | 53.85 | 7.38 | 14.82 | 25.70 | 15.96 | 11.84 | 23.26 | 38.31 | 24.47 |
| +MAGSAC$_\downarrow$ | 73.43 | 96.03 | 27.48 | 22.77 | 38.36 | 54.93 | 38.69 | 35.40 | 54.73 | 70.87 | 53.67 | 7.49 | 15.16 | 26.17 | 16.27 | 11.43 | 22.87 | 37.99 | 24.10 |
| +FC-GNN | 10.29 | **97.00** | 93.86 | **51.01** | **65.48** | **77.05** | **64.51** | **60.86** | **75.26** | **84.93** | **73.68** | **23.89** | **37.25** | **51.29** | **37.48** | **27.24** | **43.73** | **60.57** | **43.85** |
| +MAGSAC$_\uparrow$ | 12.25 | **97.30** | 92.25 | **54.16** | **68.63** | **79.74** | **67.51** | **60.72** | **75.19** | **84.98** | **73.63** | **25.74** | **39.52** | **53.95** | **39.73** | **26.65** | **43.36** | **60.46** | **43.49** |
| +MAGSAC$_\downarrow$ | 13.95 | **97.40** | 90.59 | **54.22** | **68.67** | **79.78** | **67.56** | **61.07** | **75.39** | **85.06** | **73.84** | **25.88** | **39.52** | **53.96** | **39.79** | **27.18** | **43.79** | **60.74** | **43.90** |
| +GMS | 12.29 | 93.38 | 87.89 | 42.54 | 57.44 | 70.48 | 56.82 | 55.94 | 71.32 | 82.01 | 69.76 | 18.20 | 29.94 | 43.52 | 30.55 | 23.35 | 38.89 | 55.75 | 39.33 |
| +MAGSAC$_\uparrow$ | 26.91 | 95.19 | 75.15 | 47.03 | 61.88 | 74.24 | 61.05 | 56.49 | 71.81 | 82.33 | 70.21 | 20.99 | 33.33 | 47.37 | 33.89 | 23.55 | 39.45 | 56.41 | 39.80 |
| +MAGSAC$_\downarrow$ | 35.81 | 95.79 | 66.59 | 47.03 | 61.87 | 74.29 | 61.06 | 56.50 | 71.95 | 82.50 | 70.32 | 20.98 | 33.33 | 47.41 | 33.91 | 23.55 | 39.46 | 56.33 | 39.78 |
| +MS$^2$DG-Net | 74.52 | 94.62 | 25.55 | 27.88 | 42.56 | 57.61 | 42.68 | 33.75 | 51.84 | 67.80 | 51.13 | 10.09 | 18.67 | 30.06 | 19.61 | 11.25 | 21.86 | 36.16 | 23.09 |
| +MAGSAC$_\uparrow$ | 78.18 | 95.83 | 22.45 | 31.32 | 46.12 | 60.75 | 46.06 | 33.33 | 51.55 | 67.95 | 50.95 | 11.85 | 20.99 | 32.76 | 21.87 | 11.17 | 21.54 | 35.95 | 22.88 |
| +MAGSAC$_\downarrow$ | 80.51 | 96.35 | 20.20 | 31.48 | 46.36 | 60.88 | 46.24 | 33.91 | 52.20 | 68.32 | 51.48 | 11.86 | 21.22 | 33.11 | 22.06 | 11.44 | 21.82 | 36.15 | 23.14 |
| +NCMNet | 16.35 | 94.18 | 83.91 | 28.09 | 43.24 | 59.22 | 43.52 | 49.50 | 67.06 | 79.69 | 65.42 | 10.60 | 19.32 | 30.94 | 20.29 | 18.07 | 32.51 | 49.39 | 33.32 |
| +MAGSAC$_\uparrow$ | 29.96 | 95.87 | 72.06 | 32.71 | 48.56 | 64.28 | 48.52 | 49.90 | 67.36 | 79.87 | 65.71 | 12.74 | 22.42 | 34.81 | 23.33 | 18.49 | 32.72 | 49.65 | 33.62 |
| +MAGSAC$_\downarrow$ | 38.43 | 96.46 | 63.90 | 32.92 | 48.83 | 64.53 | 48.76 | 50.16 | 67.66 | 80.20 | 66.01 | 12.90 | 22.67 | 35.00 | 23.53 | 18.66 | 32.94 | 49.94 | 33.85 |
| +OANet | **89.48** | 94.59 | 10.55 | 9.54 | 19.73 | 34.42 | 21.23 | 21.64 | 38.40 | 56.01 | 38.68 | 2.89 | 7.02 | 14.00 | 7.97 | 6.60 | 14.42 | 25.98 | 15.67 |
| +MAGSAC$_\uparrow$ | **90.80** | 95.24 | 9.41 | 10.63 | 21.12 | 35.67 | 22.47 | 21.79 | 38.64 | 56.48 | 38.97 | 3.29 | 7.66 | 14.80 | 8.58 | 6.57 | 14.22 | 26.17 | 15.65 |
| +MAGSAC$_\downarrow$ | **91.68** | 95.64 | 8.55 | 10.87 | 21.65 | 36.21 | 22.91 | 22.11 | 39.08 | 56.87 | 39.35 | 3.40 | 7.72 | 15.10 | 8.74 | 6.77 | 14.67 | 26.50 | 15.98 |
| **+MOP** | 1.22 | 93.58 | 98.82 | 43.50 | 58.58 | 71.49 | 57.86 | 58.43 | 73.71 | 84.03 | 72.06 | 18.59 | 30.70 | 44.49 | 31.26 | 24.45 | 40.78 | 58.07 | 41.10 |
| +MAGSAC$_\uparrow$ | 18.38 | 95.81 | 84.05 | 49.48 | 64.33 | 76.41 | 63.41 | 58.59 | 73.85 | 84.19 | 72.21 | 22.48 | 35.52 | 49.91 | 35.97 | 24.59 | 40.89 | 58.08 | 41.19 |
| +MAGSAC$_\downarrow$ | 28.51 | 96.43 | 74.29 | 49.60 | 64.46 | 76.51 | 63.52 | 58.58 | 73.76 | 84.13 | 72.16 | 22.66 | 35.69 | 49.99 | 36.11 | 24.75 | 41.23 | 58.19 | 41.39 |
| **+MOP+MiHo** | 0.85 | 93.60 | **99.08** | 42.93 | 57.99 | 71.07 | 57.33 | 58.29 | 73.71 | 84.06 | 72.02 | 18.27 | 30.22 | 43.93 | 30.81 | 24.28 | 40.56 | 57.95 | 40.93 |
| +MAGSAC$_\uparrow$ | 18.18 | 95.88 | 84.21 | 49.67 | 64.41 | 76.44 | 63.51 | 58.69 | 73.91 | 84.28 | 72.29 | 22.52 | 35.58 | 49.98 | 36.03 | 24.92 | 41.11 | 58.17 | 41.40 |
| +MAGSAC$_\downarrow$ | 28.34 | 96.51 | 74.45 | 49.74 | 64.53 | 76.54 | 63.60 | 58.69 | 73.88 | 84.27 | 72.28 | 22.65 | 35.78 | 50.13 | 36.19 | 24.71 | 41.16 | 58.39 | 41.42 |
| **+MOP+MiHo+NCC** | 0.85 | 84.03 | 88.71 | 16.68 | 28.56 | 42.98 | 29.40 | 56.78 | 72.06 | 82.75 | 70.53 | 5.46 | 10.64 | 18.87 | 11.65 | 23.70 | 39.25 | 56.31 | 39.76 |
| +MAGSAC$_\uparrow$ | 33.19 | 95.90 | 69.01 | 40.79 | 54.93 | 67.56 | 54.43 | 56.47 | 71.64 | 82.41 | 70.17 | 17.72 | 28.40 | 40.59 | 28.90 | 23.89 | 39.37 | 56.01 | 39.76 |
| +MAGSAC$_\downarrow$ | 38.04 | 96.33 | 64.36 | 41.36 | 55.46 | 68.00 | 54.94 | 56.19 | 71.34 | 82.21 | 69.91 | 18.25 | 28.87 | 41.15 | 29.42 | 23.56 | 38.96 | 55.60 | 39.37 |
| **+MOP+NCC** | 1.22 | 83.64 | 88.09 | 16.17 | 27.57 | 41.49 | 28.41 | 56.54 | 71.80 | 82.56 | 70.30 | 5.54 | 10.70 | 18.71 | 11.65 | 23.89 | 39.53 | 56.35 | 39.92 |
| +MAGSAC$_\uparrow$ | 33.48 | 95.73 | 68.69 | 40.17 | 54.09 | 66.65 | 53.64 | 55.98 | 71.35 | 82.18 | 69.84 | 17.65 | 28.11 | 40.21 | 28.66 | 23.35 | 38.77 | 55.59 | 39.24 |
| +MAGSAC$_\downarrow$ | 38.28 | 96.15 | 64.10 | 40.80 | 54.73 | 67.20 | 54.24 | 55.85 | 71.02 | 81.89 | 69.58 | 18.02 | 28.53 | 40.75 | 29.10 | 23.58 | 38.83 | 55.48 | 39.29 |
| **+NCC** | 0.00 | 74.40 | 77.94 | 13.05 | 23.37 | 36.99 | 24.47 | 41.55 | 56.68 | 69.92 | 56.05 | 4.12 | 8.45 | 15.57 | 9.38 | 16.29 | 28.43 | 42.80 | 29.18 |
| +MAGSAC$_\uparrow$ | 50.91 | 90.88 | 48.39 | 26.04 | 38.03 | 50.68 | 38.25 | 42.35 | 57.11 | 70.03 | 56.50 | 10.44 | 17.87 | 27.38 | 18.57 | 16.74 | 29.04 | 43.20 | 29.66 |
| +MAGSAC$_\downarrow$ | 57.22 | 91.41 | 42.56 | 26.13 | 38.07 | 50.65 | 38.28 | 42.20 | 56.77 | 69.68 | 56.22 | 10.66 | 18.07 | 27.47 | 18.73 | 16.81 | 28.90 | 43.09 | 29.60 |