

| Pipeline             | MegaDepth |           |        |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                 |          | ScanNet   |        |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                 |          |           | Plane3 |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                  | IMC PhotoTourism                 |                                 |                                  |                                  |                                 |                                  |                                  |                                 |       |       |       |       |     |     |
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|                      | Filtered  | Precision | Recall | AUC <sup>P</sup> <sub>0.5</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.2</sub> | Filtered | Precision | Recall | AUC <sup>P</sup> <sub>0.5</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.2</sub> | Filtered | Precision | Recall | AUC <sup>P</sup> <sub>0.5</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> | AUC <sup>P</sup> <sub>0.10</sub> | AUC <sup>P</sup> <sub>0.20</sub> | AUC <sup>P</sup> <sub>0.3</sub> |       |       |       |       |     |     |
| SIFT+NNR             | 0.00      | 53.52     | 100.00 | 0.06                            | 0.12                             | 0.73                             | 0.30                            | 45.63                            | 62.56                            | 76.23                           | 61.47                           | 0.00     | 25.21     | 90.12  | 0.00                            | 0.05                             | 0.39                             | 0.15                            | 9.10                             | 19.78                            | 32.39                           | 20.42                           | 0.00     | 44.38     | 90.42  | 0.00                            | 0.41                             | 0.70                             | 22.88                           | 0.00                             | 39.31                            | 90.94                           | 0.01                             | 0.08                             | 0.56                            | 0.21                             | 42.70                            | 57.56                           | 69.45                            | 56.57                            | 0.03                            | 0.12                             | 0.63                             | 0.26                            | 18.63 | 30.67 | 44.43 | 31.24 |     |     |
| +MAGSAC <sub>1</sub> | 51.10     | 93.20     | 85.09  | 31.59                           | 44.59                            | 56.67                            | 44.29                           | 45.04                            | 63.53                            | 77.20                           | 61.92                           | 78.15    | 55.30     | 46.62  | 5.69                            | 13.72                            | 23.87                            | 14.43                           | 10.63                            | 22.12                            | 34.86                           | 22.54                           | 69.07    | 73.35     | 50.04  | 36.61                           | 60.11                            | 86.76                            | 48.13                           | 63.48                            | 83.04                            | 76.37                           | 22.52                            | 32.90                            | 44.20                           | 33.21                            | 43.51                            | 59.08                           | 71.32                            | 57.97                            | 9.66                            | 16.49                            | 25.08                            | 17.07                           | 18.50 | 30.62 | 44.71 | 31.28 |     |     |
| +MAGSAC <sub>2</sub> | 54.52     | 93.83     | 79.32  | 34.21                           | 47.21                            | 59.15                            | 46.86                           | 45.53                            | 63.70                            | 77.37                           | 62.20                           | 80.84    | 55.24     | 40.60  | 6.11                            | 13.92                            | 24.21                            | 14.74                           | 10.53                            | 22.00                            | 34.55                           | 22.36                           | 75.34    | 73.43     | 39.88  | 36.43                           | 49.49                            | 54.66                            | 45.12                           | 66.19                            | 83.69                            | 70.76                           | 24.15                            | 34.46                            | 45.43                           | 34.68                            | 43.07                            | 58.32                           | 70.60                            | 57.93                            | 10.78                           | 17.81                            | 26.70                            | 18.43                           | 18.23 | 30.17 | 44.12 | 30.84 |     |     |
| +ACNe                | 47.98     | 92.51     | 90.88  | 12.60                           | 27.58                            | 47.58                            | 29.25                           | 45.29                            | 64.09                            | 78.30                           | 62.56                           | 67.72    | 55.42     | 71.08  | 3.13                            | 10.55                            | 24.44                            | 12.71                           | 11.97                            | 26.37                            | 39.84                           | 26.73                           | 54.05    | 66.12     | 70.87  | 17.48                           | 24.20                            | 27.72                            | 35.07                           | 61.26                            | 84.45                            | 84.77                           | 8.15                             | 20.41                            | 39.57                           | 22.71                            | 46.38                            | 62.80                           | 74.61                            | 61.01                            | 2.96                            | 7.31                             | 15.26                            | 8.51                            | 18.48 | 31.30 | 46.82 | 32.27 |     |     |
| +MAGSAC <sub>1</sub> | 53.64     | 96.39     | 83.39  | 38.61                           | 54.83                            | 69.60                            | 54.34                           | 45.82                            | 64.23                            | 78.43                           | 62.83                           | 79.85    | 60.96     | 47.76  | 7.81                            | 18.27                            | 31.87                            | 19.31                           | 11.97                            | 24.97                            | 39.84                           | 28.59                           | 72.80    | 74.25     | 44.48  | 32.24                           | 46.98                            | 53.98                            | 44.42                           | 66.56                            | 89.79                            | 75.67                           | 31.20                            | 45.12                            | 69.30                           | 45.17                            | 96.05                            | 62.04                           | 74.37                            | 60.79                            | 13.16                           | 22.43                            | 33.65                            | 23.08                           | 18.41 | 31.31 | 46.57 | 32.10 |     |     |
| +MAGSAC <sub>2</sub> | 56.55     | 96.80     | 78.35  | 39.03                           | 55.13                            | 69.94                            | 54.70                           | 44.78                            | 63.57                            | 77.79                           | 62.05                           | 82.11    | 60.98     | 42.28  | 7.99                            | 18.60                            | 31.94                            | 19.49                           | 11.58                            | 24.70                            | 39.49                           | 25.26                           | 72.78    | 74.17     | 35.81  | 31.65                           | 45.78                            | 52.56                            | 41.45                           | 68.51                            | 90.12                            | 71.18                           | 32.16                            | 46.05                            | 69.01                           | 46.08                            | 45.74                            | 61.95                           | 74.16                            | 60.63                            | 13.59                           | 23.05                            | 34.61                            | 23.72                           | 18.24 | 31.25 | 46.43 | 31.97 |     |     |
| +AdaLAM              | 52.59     | 93.53     | 27.39  | 8.08                            | 14.92                            | 27.14                            | 16.72                           | 36.98                            | 53.54                            | 67.84                           | 52.79                           | 92.98    | 53.61     | 15.17  | 1.08                            | 3.04                             | 6.71                             | 3.61                            | 6.34                             | 13.92                            | 23.05                           | 14.44                           | 80.67    | 63.16     | 25.89  | 20.81                           | 31.08                            | 35.36                            | 28.29                           | 91.08                            | 83.75                            | 16.71                           | 8.06                             | 13.27                            | 20.88                           | 14.07                            | 28.35                            | 40.29                           | 51.30                            | 39.98                            | 3.49                            | 6.45                             | 10.84                            | 6.93                            | 12.10 | 20.71 | 31.19 | 21.33 |     |     |
| +MAGSAC <sub>1</sub> | 53.68     | 92.40     | 26.08  | 34.18                           | 47.11                            | 60.09                            | 47.13                           | 35.37                            | 51.91                            | 66.19                           | 51.16                           | 94.38    | 46.42     | 12.23  | 4.41                            | 9.88                             | 17.38                            | 10.56                           | 5.90                             | 13.13                            | 22.04                           | 13.69                           | 84.95    | 60.73     | 20.41  | 27.04                           | 39.75                            | 45.23                            | 33.11                           | 91.83                            | 73.33                            | 15.77                           | 21.53                            | 30.17                            | 39.48                           | 30.39                            | 27.70                            | 39.72                           | 50.47                            | 39.30                            | 10.72                           | 17.34                            | 24.91                            | 17.66                           | 11.90 | 20.17 | 30.35 | 20.81 |     |     |
| +MAGSAC <sub>2</sub> | 54.26     | 92.64     | 25.22  | 34.29                           | 47.41                            | 60.65                            | 47.45                           | 34.12                            | 51.04                            | 65.97                           | 50.38                           | 94.38    | 46.41     | 11.32  | 4.76                            | 10.47                            | 18.14                            | 11.12                           | 6.46                             | 13.86                            | 22.75                           | 14.36                           | 87.28    | 60.99     | 17.28  | 27.16                           | 39.64                            | 44.98                            | 32.26                           | 91.78                            | 73.42                            | 15.36                           | 21.66                            | 30.38                            | 39.73                           | 30.59                            | 27.83                            | 39.74                           | 50.45                            | 39.34                            | 10.97                           | 17.46                            | 25.08                            | 17.84                           | 11.89 | 20.21 | 30.41 | 20.84 |     |     |
| +CC                  | 46.83     | 92.78     | 89.32  | 15.38                           | 25.86                            | 39.48                            | 26.91                           | 43.41                            | 61.04                            | 75.03                           | 59.83                           | 40.87    | 52.01     | 81.18  | 1.49                            | 4.21                             | 9.53                             | 5.08                            | 7.83                             | 17.31                            | 29.22                           | 18.12                           | 27.33    | 66.77     | 90.62  | 34.37                           | 46.11                            | 50.96                            | 85.36                           | 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   | n/a | n/a |
| +MAGSAC <sub>1</sub> | 54.12     | 96.28     | 80.70  | 38.08                           | 52.51                            | 66.09                            | 52.23                           | 42.51                            | 60.61                            | 74.97                           | 59.36                           | 81.21    | 59.26     | 41.56  | 5.19                            | 11.94                            | 20.91                            | 12.68                           | 7.90                             | 17.81                            | 30.04                           | 18.59                           | 69.29    | 73.36     | 49.55  | 36.27                           | 49.40                            | 54.71                            | 47.48                           | 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   | n/a | n/a |
| +MAGSAC <sub>2</sub> | 57.00     | 96.69     | 75.85  | 38.90                           | 53.23                            | 66.67                            | 52.94                           | 43.38                            | 61.45                            | 75.54                           | 60.12                           | 83.00    | 59.14     | 36.73  | 5.17                            | 11.85                            | 21.00                            | 12.67                           | 7.63                             | 17.41                            | 29.57                           | 18.20                           | 75.61    | 73.44     | 39.61  | 36.36                           | 48.93                            | 54.18                            | 44.77                           | 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   | n/a | n/a |
| +CLNet               | 48.86     | 91.30     | 87.88  | 1.26                            | 7.06                             | 16.61                            | 8.97                            | 40.37                            | 59.60                            | 74.60                           | 58.19                           | 77.09    | 58.23     | 52.82  | 0.56                            | 2.18                             | 6.54                             | 3.10                            | 8.56                             | 19.80                            | 31.99                           | 19.98                           | 50.71    | 68.34     | 76.41  | 20.40                           | 28.16                            | 33.69                            | 39.66                           | 62.34                            | 85.58                            | 83.07                           | 7.94                             | 14.92                            | 26.26                           | 16.37                            | 43.96                            | 60.43                           | 73.13                            | 59.17                            | 1.71                            | 4.18                             | 9.26                             | 5.05                            | 17.32 | 29.74 | 44.76 | 30.61 |     |     |
| +MAGSAC <sub>1</sub> | 55.64     | 96.13     | 79.14  | 28.81                           | 42.79                            | 58.08                            | 43.23                           | 38.44                            | 57.90                            | 73.89                           | 56.75                           | 83.33    | 61.54     | 39.84  | 3.90                            | 9.71                             | 19.37                            | 10.99                           | 8.07                             | 18.68                            | 31.37                           | 19.37                           | 69.31    | 74.19     | 49.16  | 36.14                           | 49.35                            | 55.05                            | 47.42                           | 67.41                            | 90.32                            | 73.95                           | 26.78                            | 39.41                            | 53.47                           | 39.88                            | 43.51                            | 60.08                           | 72.83                            | 58.80                            | 11.57                           | 19.50                            | 29.46                            | 20.18                           | 16.94 | 29.35 | 44.42 | 30.24 |     |     |
| +MAGSAC <sub>2</sub> | 58.52     | 96.59     | 74.21  | 29.34                           | 43.59                            | 58.76                            | 43.90                           | 39.67                            | 59.05                            | 74.44                           | 57.72                           | 85.15    | 61.33     | 35.34  | 4.05                            | 9.76                             | 19.07                            | 10.96                           | 7.94                             | 18.47                            | 30.64                           | 19.02                           | 75.56    | 74.24     | 39.01  | 35.87                           | 48.53                            | 54.17                            | 44.39                           | 69.38                            | 90.66                            | 69.44                           | 27.86                            | 40.54                            | 54.52                           | 40.97                            | 43.39                            | 59.83                           | 72.75                            | 58.65                            | 12.06                           | 20.18                            | 30.38                            | 20.87                           | 16.79 | 29.07 | 44.08 | 29.98 |     |     |
| +ConvMatch           | 57.48     | 88.99     | 79.39  | 15.93                           | 27.69                            | 42.12                            | 28.58                           | 39.88                            | 57.97                            | 72.15                           | 56.66                           | 69.50    | 56.86     | 70.05  | 2.23                            | 7.00                             | 16.99                            | 8.74                            | 11.20                            | 23.55                            | 37.11                           | 23.92                           | 71.07    | 63.96     | 50.96  | 17.74                           | 29.15                            | 35.42                            | 33.32                           | 63.69                            | 84.05                            | 83.00                           | 11.81                            | 24.16                            | 39.39                           | 25.99                            | 45.30                            | 61.77                           | 74.36                            | 60.45                            | 4.90                            | 9.98                             | 17.90                            | 10.92                           | 17.46 | 30.37 | 45.94 | 31.26 |     |     |
| +MAGSAC <sub>1</sub> | 62.89     | 92.85     | 71.39  | 32.47                           | 46.75                            | 60.19                            | 46.47                           | 40.80                            | 58.21                            | 72.15                           | 57.05                           | 80.86    | 61.77     | 46.67  | 7.21                            | 16.48                            | 28.04                            | 17.24                           | 10.95                            | 23.40                            | 37.18                           | 23.85                           | 84.62    | 70.11     | 30.68  | 22.79                           | 37.13                            | 44.28                            | 33.72                           | 69.50                            | 90.27                            | 72.00                           | 29.94                            | 43.15                            | 56.99                           | 43.36                            | 44.72                            | 61.17                           | 73.95                            | 59.95                            | 12.85                           | 21.73                            | 32.63                            | 22.40                           | 17.42 | 30.11 | 45.41 | 30.98 |     |     |
| +MAGSAC <sub>2</sub> | 65.25     | 93.24     | 67.01  | 33.63                           | 47.53                            | 60.74                            | 47.30                           | 40.98                            | 58.70                            | 72.60                           | 57.43                           | 83.00    | 61.77     | 41.37  | 7.35                            | 16.79                            | 28.37                            | 17.50                           | 10.32                            | 22.55                            |                                 |                                 |          |           |        |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                  |                                  |                                 |                                  |                                  |                                 |       |       |       |       |     |     |