






## Middlebury Stereo Evaluation - Version 2

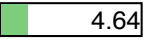

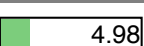


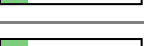


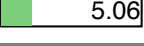

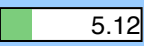
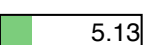


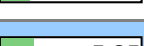


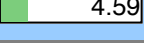
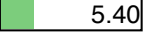
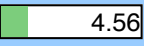
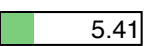
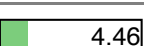


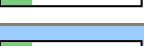

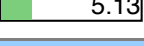
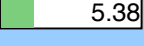
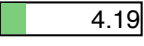
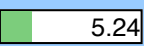
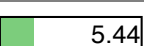
New features and main differences to the old table.

**Evaluate your own results.**


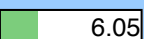
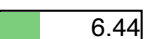
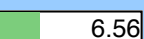
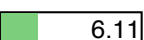

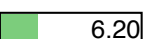

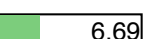
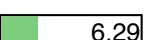








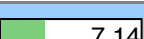
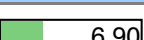

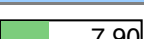






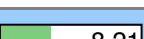
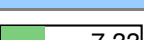
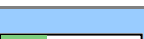
☐ Open a new window for each link

Submit your results to the permanent table

Error Threshold = 1		Sort by nonocc			Sort by all			Sort by disc						
Error Threshold... 														
Algorithm	Avg.	<u>Tsukuba</u> ground truth			<u>Venus</u> ground truth			<u>Teddy</u> ground truth			<u>Cones</u> ground truth			Average Percent Bad Pixels
	Rank 	nonocc	all	disc	nonocc	all	disc	nonocc	all	disc	nonocc	all	disc	
<a href="#">IGSM [157]</a>	10.2	<u>0.93</u> 10	1.37 12	5.05 12	<u>0.07</u> 3	0.17 5	1.04 3	<u>4.08</u> 20	5.98 8	11.4 21	<u>2.14</u> 8	6.97 14	6.27 7	<div><div></div></div> 3.79
<a href="#">TSGO [142]</a>	12.7	<u>0.87</u> 4	<b>1.13</b> 1	4.66 6	<u>0.11</u> 10	0.24 12	1.47 13	<u>5.61</u> 44	8.09 19	13.8 37	<u>1.67</u> 2	6.16 2	4.95 2	<div><div></div></div> 4.06
<a href="#">LCU [155]</a>	12.8	<u>1.06</u> 20	1.34 8	5.50 17	<u>0.07</u> 2	0.26 19	1.03 2	<u>3.68</u> 17	9.95 38	10.4 16	<b>1.63</b> 1	6.87 12	<b>4.82</b> 1	<div><div></div></div> 3.89
<a href="#">JSOSP+GCP [150]</a>	14.5	<b>0.74</b> 1	1.34 9	<b>3.98</b> 1	<u>0.08</u> 4	<b>0.16</b> 1	1.15 4	<u>3.96</u> 18	10.1 39	11.8 22	<u>2.28</u> 18	7.91 36	6.74 21	<div><div></div></div> 4.18
<a href="#">SSCBP [159]</a>	17.0	<u>1.05</u> 18	1.39 14	5.57 19	<u>0.10</u> 7	0.16 2	1.39 10	<u>3.44</u> 13	8.32 24	9.95 14	<u>2.60</u> 33	7.13 18	7.23 32	<div><div></div></div> 4.03
<a href="#">ADCensus [82]</a>	17.7	<u>1.07</u> 23	1.48 21	5.73 26	<u>0.09</u> 5	0.25 16	1.15 4	<u>4.10</u> 21	6.22 9	10.9 18	<u>2.42</u> 24	7.25 20	6.95 25	<div><div></div></div> 3.97
<a href="#">CoopRegion [39]</a>	21.5	<u>0.87</u> 6	1.16 2	4.61 5	<u>0.11</u> 9	0.21 8	1.54 17	<u>5.16</u> 36	8.31 23	13.0 31	<u>2.79</u> 47	7.18 19	8.01 55	<div><div></div></div> 4.41
<a href="#">AdaptingBP [16]</a>	21.7	<u>1.11</u> 26	1.37 11	5.79 28	<u>0.10</u> 8	0.21 11	1.44 12	<u>4.22</u> 23	7.06 17	11.8 23	<u>2.48</u> 28	7.92 38	7.32 35	<div><div></div></div> 4.23
<a href="#">CCRADAR [151]</a>	26.2	<u>1.15</u> 28	1.42 18	6.23 41	<u>0.15</u> 22	0.27 20	1.89 27	<u>5.39</u> 39	10.6 44	14.7 48	<u>2.01</u> 3	7.37 22	5.88 3	<div><div></div></div> 4.75
<a href="#">RDP [87]</a>	28.0	<u>0.97</u> 12	1.39 15	5.00 11	<u>0.21</u> 45	0.38 37	1.89 27	<u>4.84</u> 28	9.94 37	12.6 28	<u>2.53</u> 32	7.69 28	7.38 36	<div><div></div></div> 4.57
<a href="#">MultiRBF [129]</a>	28.0	<u>1.33</u> 53	1.56 27	6.02 37	<u>0.13</u> 15	0.17 4	1.84 24	<u>5.09</u> 34	6.36 10	13.4 35	<u>2.90</u> 57	6.76 10	7.10 30	<div><div></div></div> 4.39
<a href="#">DoubleBP [34]</a>	28.2	<u>0.88</u> 8	1.29 6	4.76 9	<u>0.13</u> 16	0.45 55	1.87 26	<u>3.53</u> 16	8.30 22	9.63 10	<u>2.90</u> 56	8.78 67	7.79 47	<div><div></div></div> 4.19
<a href="#">OutlierConf [40]</a>	29.2	<u>0.88</u> 7	1.43 19	4.74 8	<u>0.18</u> 34	0.26 18	2.40 44	<u>5.01</u> 30	9.12 32	12.8 30	<u>2.78</u> 46	8.57 57	6.99 26	<div><div></div></div> 4.60
<a href="#">SeqAggr [145]</a>	29.4	<u>1.99</u> 98	2.39 88	8.59 96	<u>0.12</u> 11	0.21 10	1.68 19	<u>2.19</u> 2	3.73 2	7.02 2	<u>2.16</u> 10	6.52 5	6.37 10	<div><div></div></div> 3.58
<a href="#">CVW-RM [147]</a>	29.8	<u>1.12</u> 27	1.42 17	5.99 36	<u>0.16</u> 29	0.36 35	1.40 11	<u>4.70</u> 27	6.94 15	12.1 24	<u>2.96</u> 62	7.71 30	7.72 44	<div><div></div></div> 4.38
<a href="#">GC+LocalExp [160]</a>	31.3	<u>1.48</u> 68	1.88 62	6.95 66	<u>0.13</u> 14	0.25 15	1.52 16	<u>3.33</u> 11	4.88 4	8.87 6	<u>2.72</u> 40	7.42 23	7.94 51	<div><div></div></div> 3.95
<a href="#">SOS [135]</a>	34.2	<u>1.45</u> 64	1.63 33	7.83 84	<u>0.21</u> 43	0.32 28	2.29 43	<u>3.13</u> 10	8.45 26	9.74 11	<u>2.43</u> 25	7.10 17	7.02 27	<div><div></div></div> 4.30
<a href="#">SubPixSearch [109]</a>	34.8	<u>2.04</u> 102	2.48 92	6.40 47	<u>0.14</u> 20	0.40 44	1.74 21	<u>4.00</u> 19	6.39 11	11.0 19	<u>2.24</u> 15	6.87 12	6.50 15	<div><div></div></div> 4.18
<a href="#">AdaptiveGF [127]</a>	34.8	<u>1.04</u> 17	1.53 23	5.62 21	<u>0.17</u> 32	0.41 45	1.98 31	<u>5.71</u> 48	11.3 55	14.3 44	<u>2.44</u> 26	8.22 46	7.05 29	<div><div></div></div> 4.98
<a href="#">SurfaceStereo [71]</a>	36.2	<u>1.28</u> 46	1.65 36	6.78 57	<u>0.19</u> 36	0.28 21	2.61 59	<u>3.12</u> 9	5.10 5	8.65 5	<u>2.89</u> 54	7.95 41	8.26 66	<div><div></div></div> 4.06
<a href="#">SubPixDoubleBP [29]</a>	36.4	<u>1.24</u> 37	1.76 47	5.98 35	<u>0.12</u> 13	0.46 57	1.74 21	<u>3.45</u> 15	8.38 25	10.0 15	<u>2.93</u> 59	8.73 64	7.91 49	<div><div></div></div> 4.39

LLR [117]	38.8	1.05 <sub>19</sub>	1.65 <sub>35</sub>	5.64 <sub>22</sub>	0.29 <sub>75</sub>	0.81 <sub>90</sub>	3.07 <sub>74</sub>	4.56 <sub>24</sub>	9.81 <sub>35</sub>	12.2 <sub>25</sub>	2.17 <sub>11</sub>	8.02 <sub>42</sub>	6.42 <sub>13</sub>	
PM-GCP [162]	39.4	1.93 <sub>93</sub>	2.19 <sub>80</sub>	10.1 <sub>114</sub>	0.17 <sub>33</sub>	0.21 <sub>9</sub>	2.41 <sub>46</sub>	2.72 <sub>4</sub>	3.11 <sub>1</sub>	7.43 <sub>3</sub>	2.89 <sub>55</sub>	4.32 <sub>1</sub>	7.32 <sub>34</sub>	
WarpMat [50]	40.6	1.16 <sub>29</sub>	1.35 <sub>10</sub>	6.04 <sub>38</sub>	0.18 <sub>35</sub>	0.24 <sub>14</sub>	2.44 <sub>49</sub>	5.02 <sub>31</sub>	9.30 <sub>33</sub>	13.0 <sub>33</sub>	3.49 <sub>78</sub>	8.47 <sub>55</sub>	9.01 <sub>82</sub>	
MultiAgg [139]	40.7	1.52 <sub>71</sub>	1.82 <sub>51</sub>	8.20 <sub>92</sub>	0.16 <sub>25</sub>	0.39 <sub>43</sub>	2.03 <sub>33</sub>	5.09 <sub>33</sub>	10.5 <sub>43</sub>	13.8 <sub>38</sub>	2.27 <sub>16</sub>	7.49 <sub>24</sub>	6.71 <sub>19</sub>	
ObjectStereo [84]	41.2	1.22 <sub>36</sub>	1.62 <sub>30</sub>	6.36 <sub>44</sub>	0.59 <sub>103</sub>	0.69 <sub>82</sub>	4.61 <sub>103</sub>	4.13 <sub>22</sub>	7.59 <sub>18</sub>	11.2 <sub>20</sub>	2.20 <sub>13</sub>	6.99 <sub>15</sub>	6.36 <sub>9</sub>	
PM-PM [154]	41.2	2.94 <sub>126</sub>	3.23 <sub>108</sub>	9.34 <sub>105</sub>	0.16 <sub>29</sub>	0.30 <sub>24</sub>	2.08 <sub>35</sub>	3.00 <sub>7</sub>	8.27 <sub>21</sub>	9.88 <sub>13</sub>	2.18 <sub>12</sub>	6.43 <sub>4</sub>	6.37 <sub>11</sub>	
SGF [161]	42.3	1.21 <sub>35</sub>	1.47 <sub>20</sub>	6.54 <sub>50</sub>	0.24 <sub>57</sub>	0.31 <sub>25</sub>	3.42 <sub>88</sub>	4.57 <sub>25</sub>	9.84 <sub>36</sub>	12.4 <sub>27</sub>	2.83 <sub>50</sub>	7.60 <sub>26</sub>	8.44 <sub>69</sub>	
TreeFilter [148]	43.2	1.02 <sub>16</sub>	1.54 <sub>25</sub>	5.52 <sub>18</sub>	0.24 <sub>55</sub>	0.41 <sub>47</sub>	2.86 <sub>67</sub>	5.86 <sub>50</sub>	11.2 <sub>53</sub>	13.6 <sub>36</sub>	3.00 <sub>64</sub>	7.00 <sub>16</sub>	8.49 <sub>72</sub>	
PMF [119]	43.7	1.74 <sub>84</sub>	2.04 <sub>72</sub>	8.07 <sub>90</sub>	0.33 <sub>81</sub>	0.49 <sub>61</sub>	4.16 <sub>96</sub>	2.52 <sub>3</sub>	5.87 <sub>7</sub>	8.30 <sub>4</sub>	2.13 <sub>7</sub>	6.80 <sub>11</sub>	6.32 <sub>8</sub>	
LM3C [134]	43.7	2.10 <sub>105</sub>	2.44 <sub>89</sub>	8.01 <sub>89</sub>	0.12 <sub>12</sub>	0.39 <sub>42</sub>	1.23 <sub>6</sub>	5.46 <sub>41</sub>	10.9 <sub>48</sub>	14.9 <sub>56</sub>	2.12 <sub>6</sub>	7.59 <sub>25</sub>	6.14 <sub>5</sub>	
FastNLGC [138]	44.6	1.28 <sub>45</sub>	1.57 <sub>28</sub>	6.79 <sub>58</sub>	0.09 <sub>6</sub>	0.17 <sub>6</sub>	1.24 <sub>8</sub>	5.28 <sub>37</sub>	6.64 <sub>14</sub>	13.9 <sub>40</sub>	4.23 <sub>108</sub>	9.06 <sub>77</sub>	11.4 <sub>108</sub>	
TF ASW [130]	44.8	1.65 <sub>78</sub>	1.96 <sub>64</sub>	5.90 <sub>32</sub>	0.14 <sub>19</sub>	0.31 <sub>26</sub>	1.51 <sub>15</sub>	6.25 <sub>66</sub>	11.8 <sub>73</sub>	15.1 <sub>58</sub>	2.49 <sub>30</sub>	8.32 <sub>49</sub>	7.02 <sub>28</sub>	
LAMC-DSM [123]	45.2	1.61 <sub>76</sub>	2.18 <sub>79</sub>	5.86 <sub>30</sub>	0.24 <sub>57</sub>	0.60 <sub>71</sub>	3.12 <sub>75</sub>	4.63 <sub>26</sub>	10.4 <sub>42</sub>	12.7 <sub>29</sub>	2.09 <sub>5</sub>	8.31 <sub>48</sub>	6.10 <sub>4</sub>	
HybridTree [149]	45.8	1.29 <sub>48</sub>	1.71 <sub>40</sub>	6.95 <sub>67</sub>	0.15 <sub>23</sub>	0.30 <sub>23</sub>	1.23 <sub>6</sub>	6.12 <sub>59</sub>	11.4 <sub>59</sub>	15.8 <sub>67</sub>	2.82 <sub>49</sub>	8.68 <sub>63</sub>	7.76 <sub>45</sub>	
SegmentTree [126]	46.4	1.25 <sub>38</sub>	1.68 <sub>39</sub>	6.69 <sub>53</sub>	0.20 <sub>37</sub>	0.30 <sub>22</sub>	1.77 <sub>23</sub>	6.00 <sub>54</sub>	11.9 <sub>74</sub>	15.0 <sub>57</sub>	2.77 <sub>42</sub>	8.82 <sub>70</sub>	7.81 <sub>48</sub>	
PatchMatch [96]	46.7	2.09 <sub>104</sub>	2.33 <sub>85</sub>	9.31 <sub>104</sub>	0.21 <sub>42</sub>	0.39 <sub>40</sub>	2.62 <sub>60</sub>	2.99 <sub>6</sub>	8.16 <sub>20</sub>	9.62 <sub>9</sub>	2.47 <sub>27</sub>	7.80 <sub>32</sub>	7.11 <sub>31</sub>	
RelativeGrad [128]	46.8	1.18 <sub>31</sub>	1.27 <sub>4</sub>	5.91 <sub>33</sub>	0.23 <sub>52</sub>	0.24 <sub>13</sub>	1.28 <sub>9</sub>	6.89 <sub>88</sub>	12.3 <sub>86</sub>	16.0 <sub>69</sub>	3.31 <sub>74</sub>	7.94 <sub>40</sub>	8.24 <sub>63</sub>	
PM-Huber [125]	47.8	3.49 <sub>137</sub>	4.09 <sub>125</sub>	9.12 <sub>101</sub>	0.22 <sub>46</sub>	0.43 <sub>50</sub>	2.50 <sub>51</sub>	3.38 <sub>12</sub>	5.56 <sub>6</sub>	10.7 <sub>17</sub>	2.15 <sub>9</sub>	6.69 <sub>8</sub>	6.40 <sub>12</sub>	
HEBF [105]	48.2	1.10 <sub>25</sub>	1.38 <sub>13</sub>	5.74 <sub>27</sub>	0.22 <sub>48</sub>	0.33 <sub>31</sub>	2.41 <sub>46</sub>	6.54 <sub>76</sub>	11.8 <sub>69</sub>	15.2 <sub>59</sub>	2.78 <sub>45</sub>	9.28 <sub>81</sub>	8.10 <sub>58</sub>	
PMBP [113]	48.2	1.96 <sub>96</sub>	2.21 <sub>82</sub>	9.22 <sub>102</sub>	0.30 <sub>76</sub>	0.49 <sub>59</sub>	3.57 <sub>90</sub>	2.88 <sub>5</sub>	8.57 <sub>27</sub>	8.99 <sub>7</sub>	2.22 <sub>14</sub>	6.64 <sub>6</sub>	6.48 <sub>14</sub>	
RealtimeEDP [152]	48.2	1.29 <sub>50</sub>	2.12 <sub>78</sub>	5.88 <sub>31</sub>	0.25 <sub>67</sub>	0.54 <sub>67</sub>	2.84 <sub>64</sub>	5.67 <sub>45</sub>	10.9 <sub>49</sub>	14.7 <sub>51</sub>	2.27 <sub>16</sub>	8.03 <sub>43</sub>	6.70 <sub>18</sub>	
HistoAggr2 [122]	48.3	1.93 <sub>94</sub>	2.30 <sub>84</sub>	6.39 <sub>45</sub>	0.16 <sub>26</sub>	0.46 <sub>58</sub>	2.22 <sub>39</sub>	5.88 <sub>51</sub>	11.3 <sub>56</sub>	14.7 <sub>49</sub>	2.41 <sub>23</sub>	7.78 <sub>31</sub>	6.89 <sub>24</sub>	
imprNLCA [121]	48.8	1.38 <sub>56</sub>	1.83 <sub>54</sub>	7.38 <sub>74</sub>	0.21 <sub>44</sub>	0.41 <sub>46</sub>	2.26 <sub>41</sub>	5.99 <sub>52</sub>	11.5 <sub>61</sub>	14.3 <sub>45</sub>	2.85 <sub>52</sub>	6.68 <sub>7</sub>	7.98 <sub>54</sub>	
CrossLMF [108]	50.6	2.46 <sub>115</sub>	2.78 <sub>101</sub>	6.26 <sub>43</sub>	0.27 <sub>69</sub>	0.38 <sub>38</sub>	2.15 <sub>36</sub>	5.50 <sub>42</sub>	10.6 <sub>45</sub>	14.2 <sub>41</sub>	2.34 <sub>20</sub>	7.82 <sub>34</sub>	6.80 <sub>23</sub>	
SSMP [140]	51.4	1.60 <sub>75</sub>	1.97 <sub>66</sub>	6.44 <sub>48</sub>	0.20 <sub>40</sub>	0.38 <sub>38</sub>	2.51 <sub>53</sub>	6.15 <sub>60</sub>	11.5 <sub>62</sub>	15.8 <sub>66</sub>	2.60 <sub>34</sub>	7.92 <sub>37</sub>	7.48 <sub>38</sub>	
GC+LSL [136]	52.1	2.43 <sub>114</sub>	2.73 <sub>99</sub>	10.6 <sub>121</sub>	0.25 <sub>63</sub>	0.36 <sub>34</sub>	2.89 <sub>69</sub>	2.02 <sub>1</sub>	3.77 <sub>3</sub>	6.99 <sub>1</sub>	2.77 <sub>43</sub>	7.37 <sub>21</sub>	8.05 <sub>56</sub>	
DTAggr-P [120]	53.2	1.75 <sub>86</sub>	2.10 <sub>75</sub>	7.09 <sub>69</sub>	0.24 <sub>60</sub>	0.45 <sub>53</sub>	2.59 <sub>55</sub>	5.70 <sub>47</sub>	11.5 <sub>60</sub>	13.9 <sub>39</sub>	2.49 <sub>29</sub>	7.82 <sub>33</sub>	7.30 <sub>33</sub>	
CrossTrees+SP [153]	54.5	1.68 <sub>79</sub>	1.99 <sub>67</sub>	7.82 <sub>83</sub>	0.22 <sub>50</sub>	0.32 <sub>27</sub>	2.84 <sub>64</sub>	6.23 <sub>65</sub>	11.7 <sub>68</sub>	14.8 <sub>52</sub>	2.52 <sub>31</sub>	7.71 <sub>29</sub>	7.50 <sub>39</sub>	
CostFilter [83]	55.4	1.51 <sub>70</sub>	1.85 <sub>57</sub>	7.61 <sub>79</sub>	0.20 <sub>40</sub>	0.39 <sub>41</sub>	2.42 <sub>48</sub>	6.16 <sub>61</sub>	11.8 <sub>71</sub>	16.0 <sub>70</sub>	2.71 <sub>39</sub>	8.24 <sub>47</sub>	7.66 <sub>42</sub>	
AdaptOvrSegBP [32]	56.2	1.69 <sub>80</sub>	2.04 <sub>73</sub>	5.64 <sub>22</sub>	0.14 <sub>18</sub>	0.20 <sub>7</sub>	1.47 <sub>13</sub>	7.04 <sub>91</sub>	11.1 <sub>52</sub>	16.4 <sub>81</sub>	3.60 <sub>84</sub>	8.96 <sub>75</sub>	8.84 <sub>78</sub>	
ARAP [143]	56.3	3.07 <sub>129</sub>	3.55 <sub>129</sub>	11.8	0.38 <sub>89</sub>	0.53	4.86	3.01 <sub>8</sub>	6.47	9.51	2.08 <sub>4</sub>	6.73 <sub>9</sub>	6.17	

			115	127		64	105		12	8		6		
<u>InfoPermeable</u> [93]	56.6	<u>1.06</u> 22	1.53 24	5.64 22	<u>0.32</u> 78	0.88 96	4.15 95	<u>5.60</u> 43	13.0 93	14.5 46	<u>2.65</u> 38	9.16 79	7.69 43	<div><div></div></div> 5.51
<u>GlobalGCP</u> [89]	58.2	<u>0.87</u> 5	2.54 95	4.69 7	<u>0.16</u> 28	0.53 65	2.22 39	<u>6.44</u> 70	11.5 63	16.2 74	<u>3.59</u> 82	9.49 89	8.95 81	<div><div></div></div> 5.60
<u>SymBP+occ</u> [7]	58.7	<u>0.97</u> 12	1.75 45	5.09 14	<u>0.16</u> 24	0.33 30	2.19 38	<u>6.47</u> 72	10.7 47	17.0 89	<u>4.79</u> 118	10.7 110	10.9 105	<div><div></div></div> 5.92
<u>NonLocalFilter</u> [112]	59.2	<u>1.47</u> 67	1.85 57	7.88 86	<u>0.25</u> 65	0.42 48	2.60 57	<u>6.01</u> 55	11.6 66	14.3 43	<u>2.87</u> 53	8.45 54	8.10 59	<div><div></div></div> 5.48
<u>CSM</u> [102]	59.4	<u>0.82</u> 2	1.20 3	4.39 3	<u>0.34</u> 82	0.61 72	2.55 54	<u>7.67</u> 102	12.4 89	17.2 94	<u>3.33</u> 75	9.35 85	7.96 52	<div><div></div></div> 5.65
<u>PlaneFitBP</u> [31]	59.9	<u>0.97</u> 14	1.83 52	5.26 15	<u>0.17</u> 31	0.51 63	1.71 20	<u>6.65</u> 77	12.1 83	14.7 50	<u>4.17</u> 106	10.7 108	10.6 100	<div><div></div></div> 5.78
<u>HistAggrSlant</u> [103]	60.0	<u>2.25</u> 108	2.50 93	9.77 110	<u>0.29</u> 74	0.37 36	3.30 81	<u>3.44</u> 14	8.82 29	9.77 12	<u>2.90</u> 58	8.40 52	7.97 53	<div><div></div></div> 4.98
<u>GeoSup</u> [57]	60.1	<u>1.45</u> 62	1.83 55	7.71 81	<u>0.14</u> 21	0.26 17	1.90 29	<u>6.88</u> 86	13.2 97	16.1 72	<u>2.94</u> 60	8.89 73	8.32 68	<div><div></div></div> 5.80
<u>HOL</u> [144]	60.2	<u>1.31</u> 52	1.79 49	6.81 59	<u>0.28</u> 71	0.67 78	3.35 83	<u>6.81</u> 84	11.9 77	16.3 77	<u>2.30</u> 19	8.57 56	6.66 17	<div><div></div></div> 5.56
<u>ArtisticGC</u> [137]	60.8	<u>1.26</u> 40	1.55 26	6.69 53	<u>0.07</u> 1	0.16 2	<u>1.02</u> 1	<u>7.70</u> 103	8.59 28	20.3 128	<u>4.67</u> 116	10.6 107	12.8 125	<div><div></div></div> 6.29
<u>HCFilter</u> [133]	60.9	<u>1.56</u> 72	1.78 48	8.07 91	<u>0.22</u> 47	0.34 33	2.96 70	<u>6.18</u> 63	11.5 64	16.1 73	<u>3.02</u> 65	8.07 44	8.19 61	<div><div></div></div> 5.67
<u>P-LinearS</u> [85]	61.4	<u>1.10</u> 24	1.67 37	5.92 34	<u>0.53</u> 99	0.89 98	5.71 109	<u>6.69</u> 79	12.0 81	15.9 68	<u>2.60</u> 35	8.44 53	6.71 20	<div><div></div></div> 5.68
<u>GAOH</u> [118]	61.9	<u>1.26</u> 41	1.76 46	4.31 2	<u>0.20</u> 38	0.42 49	2.03 33	<u>7.52</u> 98	12.3 87	18.1 106	<u>3.94</u> 99	8.59 59	9.32 85	<div><div></div></div> 5.81
<u>BSM</u> [106]	63.6	<u>3.08</u> 130	3.38 110	7.80 82	<u>0.26</u> 68	0.70 83	2.40 44	<u>5.74</u> 49	8.95 31	14.8 55	<u>2.34</u> 21	8.79 68	6.80 22	<div><div></div></div> 5.42
<u>AdaptDispCalib</u> [35]	65.6	<u>1.19</u> 33	1.42 16	6.15 40	<u>0.23</u> 53	0.34 32	2.50 51	<u>7.80</u> 104	13.6 103	17.3 97	<u>3.62</u> 85	9.33 83	9.72 90	<div><div></div></div> 6.10
<u>AdaptLocalSeg</u> [107]	65.7	<u>1.33</u> 54	1.82 50	7.19 71	<u>0.32</u> 79	0.79 87	4.50 99	<u>5.32</u> 38	11.9 79	14.5 47	<u>2.73</u> 41	9.69 93	7.91 50	<div><div></div></div> 5.67
<u>RandomVote</u> [78]	65.8	<u>4.85</u> 153	5.54 145	17.7 149	<u>0.13</u> 17	0.45 55	1.86 25	<u>5.40</u> 40	9.54 34	14.8 54	<u>2.62</u> 37	7.93 39	7.54 41	<div><div></div></div> 6.53
<u>Segm+visib</u> [4]	66.0	<u>1.30</u> 51	1.57 29	6.92 65	<u>0.79</u> 111	1.06 105	6.76 117	<u>5.00</u> 29	6.54 13	12.3 26	<u>3.72</u> 89	8.62 62	10.2 95	<div><div></div></div> 5.40
<u>GeoDif</u> [88]	67.4	<u>1.88</u> 91	2.35 87	7.64 80	<u>0.38</u> 88	0.82 91	3.02 73	<u>5.99</u> 53	11.3 54	13.3 34	<u>2.84</u> 51	8.33 50	8.09 57	<div><div></div></div> 5.49
<u>ConfSuppWin</u> [97]	67.8	<u>1.28</u> 47	1.83 52	6.65 51	<u>0.28</u> 72	0.65 77	3.29 80	<u>6.88</u> 86	11.4 58	15.4 61	<u>3.64</u> 86	8.60 60	9.09 83	<div><div></div></div> 5.75
<u>IterAdaptWgt</u> [90]	70.0	<u>0.85</u> 3	1.28 5	4.59 4	<u>0.35</u> 85	0.86 93	4.53 101	<u>7.60</u> 99	14.5 122	17.3 99	<u>3.20</u> 72	9.36 86	8.49 71	<div><div></div></div> 6.08
<u>C-SemiGlob</u> [18]	70.1	<u>2.61</u> 118	3.29 109	9.89 112	<u>0.25</u> 64	0.57 68	3.24 77	<u>5.14</u> 35	11.8 70	13.0 31	<u>2.77</u> 44	8.35 51	8.20 62	<div><div></div></div> 5.76
<u>MultiResGC</u> [46]	70.6	<u>0.90</u> 9	1.32 7	4.82 10	<u>0.45</u> 95	0.84 92	3.32 82	<u>6.46</u> 71	11.8 72	17.0 90	<u>4.34</u> 111	10.5 106	10.7 102	<div><div></div></div> 6.04
<u>MVSeqBP</u> [59]	70.6	<u>1.06</u> 21	2.78 101	5.57 19	<u>0.20</u> 39	0.61 73	2.02 32	<u>6.53</u> 74	11.3 57	14.8 53	<u>5.29</u> 127	11.3 115	14.5 136	<div><div></div></div> 6.34
<u>SCoBeP</u> [114]	71.7	<u>1.47</u> 66	2.01 70	7.92 88	<u>0.24</u> 54	0.62 74	3.28 78	<u>6.22</u> 64	11.7 67	15.7 64	<u>3.49</u> 78	8.84 71	9.32 86	<div><div></div></div> 5.90
<u>SO+borders</u> [28]	71.9	<u>1.29</u> 48	1.71 41	6.83 61	<u>0.25</u> 66	0.53 66	2.26 41	<u>7.02</u> 90	12.2 84	16.3 78	<u>3.90</u> 95	9.85 97	10.2 96	<div><div></div></div> 6.03
<u>RecursiveBF</u> [104]	72.7	<u>1.85</u> 90	2.51 94	7.45 76	<u>0.35</u> 84	0.88 97	3.01 71	<u>6.28</u> 68	12.1 82	14.3 42	<u>2.80</u> 48	8.91 74	7.79 46	<div><div></div></div> 5.68
<u>LocallyConsist</u> [62]	74.2	<u>1.70</u> 82	2.21 81	5.67 25	<u>0.16</u> 27	0.32 28	1.63 18	<u>8.68</u> 125	13.9 109	17.0 88	<u>4.19</u> 107	10.8 111	9.72 89	<div><div></div></div> 6.33
<u>MSWLinRegr</u> [110]	74.2	<u>1.46</u> 65	1.72 42	7.89 87	<u>0.57</u> 102	0.92 100	6.71 115	<u>6.11</u> 58	11.0 50	15.6 62	<u>3.12</u> 70	8.76 66	8.52 73	<div><div></div></div> 6.04
<u>CurveletSupWgt</u> [66]	74.6	<u>1.40</u> 60	1.84 56	7.42 75	<u>1.00</u> 118	1.11 108	4.42 98	<u>7.85</u> 105	8.84 30	16.8 87	<u>3.82</u> 92	6.22 3	8.24 63	<div><div></div></div> 5.75

<u>DistinctSM [26]</u>	75.7	<u>1.21</u> 34	1.75 6.39 44 45	<u>0.35</u> 86	0.69 2.63 81 61	<u>7.45</u> 96	13.0 18.1 94 105	<u>3.91</u> 96	9.91 8.32 99 67		6.14
<u>iFBS [99]</u>	75.8	<u>1.78</u> 89	2.10 7.57 74 77	<u>0.31</u> 77	0.50 2.17 62 37	<u>7.94</u> 108	12.8 17.1 91 92	<u>3.07</u> 67	8.73 8.46 65 70		6.05
<u>SegmentSupport [27]</u>	77.8	<u>1.25</u> 38	1.62 6.68 32 52	<u>0.25</u> 61	0.64 2.59 75 55	<u>8.43</u> 120	14.2 18.2 115 107	<u>3.77</u> 90	9.87 9.77 98 91		6.44
<u>RegionTreeDP [17]</u>	78.2	<u>1.39</u> 59	1.64 6.85 34 63	<u>0.22</u> 51	0.57 1.93 68 30	<u>7.42</u> 95	11.9 16.8 78 85	<u>6.31</u> 140	11.9 11.8 122 113		6.56
<u>OverSegmBP [25]</u>	80.6	<u>1.69</u> 81	1.97 8.47 65 95	<u>0.51</u> 98	0.68 4.69 79 104	<u>6.74</u> 81	11.9 15.8 80 65	<u>3.19</u> 71	8.81 8.89 69 79		6.11
<u>SNCC+AM [101]</u>	81.8	<u>3.21</u> 132	3.57 13.6 117 134	<u>0.22</u> 49	0.45 3.01 52 71	<u>6.41</u> 69	10.4 17.7 41 102	<u>3.11</u> 69	8.61 9.27 61 84		6.63
<u>CostAggr+occ [37]</u>	81.8	<u>1.38</u> 57	1.96 7.14 63 70	<u>0.44</u> 94	1.13 4.87 109 106	<u>6.80</u> 83	11.9 17.3 76 96	<u>3.60</u> 83	8.57 9.36 58 87		6.20
<u>RTAdaptWgt [98]</u>	82.2	<u>1.45</u> 63	1.99 7.59 68 78	<u>0.40</u> 91	0.81 3.38 89 84	<u>7.65</u> 101	13.3 16.2 100 75	<u>3.48</u> 77	9.34 8.81 84 76		6.20
<u>EnhancedBP [23]</u>	84.4	<u>0.94</u> 11	1.74 5.05 43 12	<u>0.35</u> 87	0.86 4.34 94 97	<u>8.11</u> 114	13.3 18.5 99 111	<u>5.09</u> 125	11.1 11.0 114 106		6.69
<u>VSW [92]</u>	84.4	<u>1.62</u> 77	1.88 6.98 61 68	<u>0.47</u> 97	0.81 3.40 88 85	<u>8.67</u> 124	13.3 18.0 102 103	<u>3.37</u> 76	8.85 8.12 72 60		6.29
<u>RealtimeHD [116]</u>	87.0	<u>2.16</u> 106	2.46 10.1 91 115	<u>0.24</u> 56	0.44 3.40 51 85	<u>6.27</u> 67	10.7 16.6 46 84	<u>4.70</u> 117	10.1 12.8 102 124		6.66
<u>PUTv3 [56]</u>	87.6	<u>1.77</u> 88	3.86 9.42 123 107	<u>0.42</u> 93	0.95 5.72 102 110	<u>7.02</u> 89	14.2 18.3 114 109	<u>2.40</u> 22	9.11 6.56 78 16		6.64
<u>SMPF [158]</u>	88.4	<u>0.98</u> 15	1.53 5.31 22 16	<u>0.25</u> 62	0.69 2.60 80 57	<u>9.93</u> 137	14.5 22.6 123 137	<u>6.51</u> 142	13.1 14.8 133 137		7.73
<u>GradAdaptWgt [53]</u>	88.6	<u>2.26</u> 111	2.63 8.99 96 100	<u>0.99</u> 116	1.39 4.92 114 107	<u>8.00</u> 110	13.1 18.6 96 113	<u>2.61</u> 36	7.67 7.43 27 37		6.55
<u>RT-ColorAW [91]</u>	90.2	<u>1.40</u> 60	3.08 5.81 106 29	<u>0.72</u> 108	1.71 3.80 119 93	<u>6.69</u> 78	14.0 15.3 112 60	<u>4.03</u> 102	11.9 10.2 121 94		6.55
<u>AdaptWeight [12]</u>	90.8	<u>1.38</u> 57	1.85 6.90 59 64	<u>0.71</u> 107	1.19 6.13 111 111	<u>7.88</u> 106	13.3 18.6 101 114	<u>3.97</u> 100	9.79 8.26 95 65		6.67
<u>SegTreeDP [21]</u>	90.9	<u>2.21</u> 107	2.76 10.3 100 116	<u>0.46</u> 96	0.60 2.44 70 49	<u>9.58</u> 129	15.2 18.4 129 110	<u>3.23</u> 73	7.86 8.83 35 77		6.82
<u>InteriorPtLP [33]</u>	91.0	<u>1.27</u> 43	1.62 6.82 30 60	<u>1.15</u> 124	1.67 12.7 118 136	<u>8.07</u> 112	11.9 18.7 75 116	<u>3.92</u> 98	9.68 9.62 92 88		7.26
<u>TwoStep [141]</u>	96.1	<u>2.91</u> 125	3.68 13.3 121 133	<u>0.27</u> 69	0.45 2.63 54 61	<u>7.42</u> 94	12.6 18.0 90 103	<u>4.09</u> 103	10.1 10.3 103 97		7.14
<u>ImproveSubPix [24]</u>	96.7	<u>3.00</u> 127	3.61 10.9 118 123	<u>0.88</u> 113	1.47 7.10 115 120	<u>7.12</u> 92	12.4 16.6 88 83	<u>2.96</u> 62	8.22 8.55 45 74		6.90
<u>BP+DirectedDiff [54]</u>	96.8	<u>2.90</u> 122	4.47 15.1 132 143	<u>0.65</u> 106	1.20 4.52 112 100	<u>5.07</u> 32	14.7 15.7 124 63	<u>2.94</u> 61	12.6 7.50 128 39		7.29
<u>RealTimeABW [73]</u>	96.9	<u>1.26</u> 42	1.67 6.83 38 61	<u>0.33</u> 80	0.65 3.56 76 89	<u>10.7</u> 142	18.3 23.3 146 140	<u>4.81</u> 119	12.6 10.7 127 103		7.90
<u>SemiGlob [6]</u>	100.8	<u>3.26</u> 133	3.96 12.8 124 131	<u>1.00</u> 117	1.57 11.3 116 128	<u>6.02</u> 56	12.2 16.3 85 79	<u>3.06</u> 66	9.75 8.90 94 80		7.50
<u>SDDS [115]</u>	102.3	<u>3.31</u> 134	3.62 10.4 119 118	<u>0.39</u> 90	0.76 2.85 85 66	<u>7.65</u> 100	13.0 19.4 92 118	<u>3.99</u> 101	10.00 10.8 101 104		7.19
<u>FastBilateral [61]</u>	102.8	<u>2.38</u> 113	2.80 10.4 103 117	<u>0.34</u> 83	0.92 4.55 99 102	<u>9.83</u> 135	15.3 20.3 130 126	<u>3.10</u> 68	9.31 8.59 82 75		7.31
<u>2OP+occ [36]</u>	105.2	<u>2.91</u> 123	3.56 7.33 116 73	<u>0.24</u> 57	0.49 2.76 60 63	<u>10.9</u> 144	15.4 20.6 131 129	<u>5.42</u> 131	10.8 12.5 113 123		7.75
<u>RealtimeBFV [58]</u>	105.3	<u>1.71</u> 83	2.22 6.74 83 55	<u>0.55</u> 101	0.87 2.88 95 68	<u>9.90</u> 136	15.0 19.5 126 119	<u>6.66</u> 145	12.3 13.4 124 129		7.65
<u>BitPlaneNLF [132]</u>	105.4	<u>1.76</u> 87	2.33 8.83 86 97	<u>3.82</u> 155	4.16 5.65 150 108	<u>8.30</u> 117	13.6 17.1 104 91	<u>3.68</u> 87	9.68 9.91 91 92		7.40
<u>PlaneFitSGM [75]</u>	105.5	<u>3.13</u> 131	4.20 14.9 128 140	<u>1.08</u> 121	1.87 14.6 123 141	<u>5.68</u> 46	11.6 17.1 65 93	<u>3.79</u> 91	9.26 11.3 80 107		8.21
<u>HistoAggr [95]</u>	105.6	<u>2.47</u> 116	2.71 11.1 98 124	<u>0.74</u> 109	0.97 3.28 104 78	<u>8.31</u> 118	13.8 21.0 107 133	<u>3.86</u> 93	9.47 10.4 88 99		7.33
<u>VariableCross</u>	107.9	<u>1.99</u> 99	2.65 6.77	<u>0.62</u> 105	0.96 3.20	<u>9.75</u> 130	15.1 18.2	<u>6.28</u> 138	12.7 12.9		7.60

[42]		97	56	103	76	127	108	130	126	
<u>CostRelaxAW</u> [52]	108.1	2.91 <sub>124</sub>	3.49 <sub>113</sub> 11.4 <sub>125</sub>	0.60 <sub>104</sub>	1.11 <sub>107</sub> 6.45 <sub>114</sub>	7.92 <sub>107</sub>	13.7 <sub>105</sub> 20.9 <sub>132</sub>	3.59 <sub>81</sub>	9.43 <sub>87</sub> 10.3 <sub>98</sub>	7.66
<u>RealtimeBP</u> [20]	108.2	1.49 <sub>69</sub>	3.40 <sub>112</sub> 7.87 <sub>85</sub>	0.77 <sub>110</sub>	1.90 <sub>126</sub> 9.00 <sub>125</sub>	8.72 <sub>126</sub>	13.2 <sub>98</sub> 17.2 <sub>95</sub>	4.61 <sub>113</sub>	11.6 <sub>118</sub> 12.4 <sub>122</sub>	7.69
<u>BPcompressed</u> [51]	109.4	2.68 <sub>119</sub>	3.63 <sub>120</sub> 9.59 <sub>108</sub>	1.33 <sub>129</sub>	1.89 <sub>125</sub> 9.09 <sub>126</sub>	8.36 <sub>119</sub>	13.9 <sub>110</sub> 16.4 <sub>80</sub>	3.71 <sub>88</sub>	9.85 <sub>96</sub> 9.92 <sub>93</sub>	7.53
<u>FastAggreg</u> [43]	109.8	1.16 <sub>30</sub>	2.11 <sub>77</sub> 6.06 <sub>39</sub>	4.03 <sub>156</sub>	4.75 <sub>153</sub> 6.43 <sub>113</sub>	9.04 <sub>127</sub>	15.2 <sub>128</sub> 20.2 <sub>124</sub>	5.37 <sub>130</sub>	12.6 <sub>126</sub> 11.9 <sub>115</sub>	8.24
<u>GC+occ</u> [2]	110.2	1.19 <sub>32</sub>	2.01 <sub>71</sub> 6.24 <sub>42</sub>	1.64 <sub>138</sub>	2.19 <sub>130</sub> 6.75 <sub>116</sub>	11.2 <sub>148</sub>	17.4 <sub>143</sub> 19.8 <sub>121</sub>	5.36 <sub>129</sub>	12.4 <sub>125</sub> 13.0 <sub>127</sub>	8.26
<u>CCH+SeqAggr</u> [45]	110.4	1.74 <sub>84</sub>	2.11 <sub>76</sub> 9.23 <sub>103</sub>	0.41 <sub>92</sub>	0.94 <sub>101</sub> 3.97 <sub>94</sub>	8.08 <sub>113</sub>	14.3 <sub>117</sub> 19.8 <sub>122</sub>	7.07 <sub>147</sub>	12.9 <sub>131</sub> 16.3 <sub>145</sub>	8.07
<u>MultiCamGC</u> [3]	110.7	1.27 <sub>44</sub>	1.99 <sub>68</sub> 6.48 <sub>49</sub>	2.79 <sub>148</sub>	3.13 <sub>142</sub> 3.60 <sub>91</sub>	12.0 <sub>150</sub>	17.6 <sub>144</sub> 22.0 <sub>135</sub>	4.89 <sub>120</sub>	11.8 <sub>120</sub> 12.1 <sub>117</sub>	8.31
<u>VarMSOH</u> [49]	113.2	3.97 <sub>143</sub>	5.23 <sub>140</sub> 14.9 <sub>141</sub>	0.28 <sub>72</sub>	0.76 <sub>86</sub> 3.78 <sub>92</sub>	9.34 <sub>128</sub>	14.3 <sub>118</sub> 20.0 <sub>123</sub>	4.14 <sub>105</sub>	9.91 <sub>100</sub> 11.4 <sub>110</sub>	8.17
<u>AdaptAggrDP</u> [156]	113.8	1.57 <sub>73</sub>	3.50 <sub>114</sub> 8.27 <sub>93</sub>	1.53 <sub>136</sub>	2.69 <sub>136</sub> 12.4 <sub>134</sub>	6.79 <sub>82</sub>	14.3 <sub>116</sub> 16.2 <sub>76</sub>	5.53 <sub>133</sub>	13.2 <sub>134</sub> 14.8 <sub>139</sub>	8.40
<u>Unsupervised</u> [67]	114.0	3.89 <sub>142</sub>	4.39 <sub>130</sub> 18.8 <sub>152</sub>	1.01 <sub>119</sub>	1.14 <sub>110</sub> 11.3 <sub>128</sub>	6.72 <sub>80</sub>	6.98 <sub>16</sub> 16.1 <sub>71</sub>	9.93 <sub>154</sub>	10.7 <sub>109</sub> 22.5 <sub>157</sub>	9.45
<u>Layered</u> [5]	114.3	1.57 <sub>73</sub>	1.87 <sub>60</sub> 8.28 <sub>94</sub>	1.34 <sub>130</sub>	1.85 <sub>122</sub> 6.85 <sub>118</sub>	8.64 <sub>123</sub>	14.3 <sub>119</sub> 18.5 <sub>112</sub>	6.59 <sub>144</sub>	14.7 <sub>143</sub> 14.4 <sub>134</sub>	8.24
<u>SNCC</u> [70]	115.9	5.17 <sub>158</sub>	6.08 <sub>151</sub> 21.7 <sub>158</sub>	0.95 <sub>115</sub>	1.73 <sub>120</sub> 12.0 <sub>132</sub>	8.04 <sub>111</sub>	11.1 <sub>51</sub> 22.9 <sub>138</sub>	3.59 <sub>80</sub>	9.02 <sub>76</sub> 10.7 <sub>101</sub>	9.41
<u>ESAW</u> [76]	116.9	1.92 <sub>92</sub>	2.45 <sub>90</sub> 9.66 <sub>109</sub>	1.03 <sub>120</sub>	1.65 <sub>117</sub> 6.89 <sub>119</sub>	8.48 <sub>121</sub>	14.2 <sub>113</sub> 18.7 <sub>115</sub>	6.56 <sub>143</sub>	12.7 <sub>129</sub> 14.4 <sub>135</sub>	8.21
<u>AdaptPolygon</u> [41]	119.2	2.29 <sub>112</sub>	2.88 <sub>105</sub> 8.94 <sub>99</sub>	0.80 <sub>112</sub>	1.11 <sub>106</sub> 3.41 <sub>87</sub>	10.5 <sub>140</sub>	15.9 <sub>136</sub> 21.3 <sub>134</sub>	6.13 <sub>137</sub>	13.2 <sub>135</sub> 13.3 <sub>128</sub>	8.32
<u>OptimizedDP</u> [63]	119.5	1.97 <sub>97</sub>	3.78 <sub>122</sub> 9.80 <sub>111</sub>	3.33 <sub>151</sub>	4.74 <sub>152</sub> 13.0 <sub>138</sub>	6.53 <sub>75</sub>	13.9 <sub>111</sub> 16.6 <sub>82</sub>	5.17 <sub>126</sub>	13.7 <sub>139</sub> 13.4 <sub>130</sub>	8.83
<u>RealtimeVar</u> [65]	119.9	3.33 <sub>135</sub>	5.48 <sub>143</sub> 16.8 <sub>148</sub>	1.15 <sub>125</sub>	2.35 <sub>131</sub> 12.8 <sub>137</sub>	6.18 <sub>62</sub>	13.1 <sub>95</sub> 17.3 <sub>98</sub>	4.66 <sub>115</sub>	11.7 <sub>119</sub> 13.7 <sub>131</sub>	9.05
<u>StereoSONN</u> [64]	120.2	4.04 <sub>144</sub>	4.74 <sub>133</sub> 18.1 <sub>151</sub>	0.53 <sub>100</sub>	0.75 <sub>84</sub> 6.21 <sub>112</sub>	8.53 <sub>122</sub>	13.7 <sub>106</sub> 20.2 <sub>124</sub>	5.07 <sub>123</sub>	10.8 <sub>112</sub> 14.0 <sub>132</sub>	8.89
<u>ConvexTV</u> [44]	121.1	3.61 <sub>139</sub>	5.72 <sub>146</sub> 18.0 <sub>150</sub>	1.16 <sub>126</sub>	2.50 <sub>134</sub> 12.4 <sub>135</sub>	6.10 <sub>57</sub>	15.7 <sub>133</sub> 16.8 <sub>86</sub>	3.88 <sub>94</sub>	14.4 <sub>142</sub> 11.5 <sub>111</sub>	9.30
<u>SGMDDW</u> [124]	123.5	2.26 <sub>110</sub>	4.40 <sub>131</sub> 11.8 <sub>128</sub>	1.22 <sub>127</sub>	2.72 <sub>137</sub> 16.8 <sub>142</sub>	6.52 <sub>73</sub>	14.5 <sub>121</sub> 17.5 <sub>100</sub>	5.59 <sub>134</sub>	14.2 <sub>141</sub> 14.8 <sub>138</sub>	9.36
<u>GenModel</u> [19]	125.1	2.57 <sub>117</sub>	4.74 <sub>134</sub> 13.0 <sub>132</sub>	1.72 <sub>140</sub>	3.08 <sub>140</sub> 16.9 <sub>144</sub>	6.86 <sub>85</sub>	15.0 <sub>125</sub> 19.2 <sub>117</sub>	4.64 <sub>114</sub>	14.9 <sub>144</sub> 11.4 <sub>109</sub>	9.50
<u>Differential</u> [131]	126.2	4.74 <sub>149</sub>	6.77 <sub>156</sub> 19.4 <sub>154</sub>	1.69 <sub>139</sub>	2.62 <sub>135</sub> 20.4 <sub>153</sub>	8.29 <sub>116</sub>	10.1 <sub>40</sub> 23.3 <sub>141</sub>	4.25 <sub>109</sub>	10.3 <sub>105</sub> 12.2 <sub>118</sub>	10.3
<u>TensorVoting</u> [9]	126.8	3.79 <sub>141</sub>	4.79 <sub>135</sub> 8.86 <sub>98</sub>	1.23 <sub>128</sub>	1.88 <sub>124</sub> 11.5 <sub>130</sub>	9.76 <sub>131</sub>	17.0 <sub>140</sub> 24.0 <sub>146</sub>	4.38 <sub>112</sub>	11.4 <sub>116</sub> 12.2 <sub>120</sub>	9.25
<u>ReliabilityDP</u> [13]	127.2	1.36 <sub>55</sub>	3.39 <sub>111</sub> 7.25 <sub>72</sub>	2.35 <sub>145</sub>	3.48 <sub>148</sub> 12.2 <sub>133</sub>	9.82 <sub>134</sub>	16.9 <sub>139</sub> 19.5 <sub>120</sub>	12.9 <sub>160</sub>	19.9 <sub>159</sub> 19.7 <sub>151</sub>	10.7
<u>RealTimeGPU</u> [14]	127.2	2.05 <sub>103</sub>	4.22 <sub>129</sub> 10.6 <sub>122</sub>	1.92 <sub>143</sub>	2.98 <sub>139</sub> 20.3 <sub>151</sub>	7.23 <sub>93</sub>	14.4 <sub>120</sub> 17.6 <sub>101</sub>	6.41 <sub>141</sub>	13.7 <sub>138</sub> 16.5 <sub>147</sub>	9.82
<u>RTCensus</u> [47]	127.4	5.08 <sub>157</sub>	6.25 <sub>153</sub> 19.2 <sub>153</sub>	1.58 <sub>137</sub>	2.42 <sub>132</sub> 14.2 <sub>140</sub>	7.96 <sub>109</sub>	13.8 <sub>108</sub> 20.3 <sub>127</sub>	4.10 <sub>104</sub>	9.54 <sub>90</sub> 12.2 <sub>119</sub>	9.73
<u>TwoWin</u> [80]	128.7	2.25 <sub>108</sub>	3.08 <sub>107</sub> 11.6 <sub>126</sub>	0.92 <sub>114</sub>	1.31 <sub>113</sub> 7.53 <sub>121</sub>	10.7 <sub>143</sub>	15.8 <sub>135</sub> 23.6 <sub>143</sub>	8.25 <sub>150</sub>	13.5 <sub>136</sub> 16.6 <sub>148</sub>	9.59
<u>HRMBIL</u> [81]	130.0	3.60 <sub>138</sub>	4.79 <sub>135</sub> 16.8 <sub>147</sub>	1.38 <sub>132</sub>	2.72 <sub>138</sub> 17.3 <sub>145</sub>	7.48 <sub>97</sub>	15.8 <sub>134</sub> 20.8 <sub>131</sub>	4.29 <sub>110</sub>	13.7 <sub>137</sub> 12.0 <sub>116</sub>	10.0
<u>CostRelax</u> [11]	132.2	4.76 <sub>151</sub>	6.08 <sub>152</sub> 20.3 <sub>156</sub>	1.41 <sub>134</sub>	2.48 <sub>133</sub> 18.5 <sub>149</sub>	8.18 <sub>115</sub>	15.9 <sub>137</sub> 23.8 <sub>144</sub>	3.91 <sub>97</sub>	10.2 <sub>104</sub> 11.8 <sub>114</sub>	10.6
<u>TreeDP</u> [8]	135.9	1.99 <sub>100</sub>	2.84 <sub>104</sub> 9.96 <sub>113</sub>	1.41 <sub>133</sub>	2.10 <sub>129</sub> 7.74 <sub>122</sub>	15.9 <sub>157</sub>	23.9 <sub>159</sub> 27.1 <sub>154</sub>	10.0 <sub>155</sub>	18.3 <sub>155</sub> 18.9 <sub>150</sub>	11.7
<u>GC</u> [1d]	137.5	1.94 <sub>95</sub>	4.12 <sub>126</sub> 9.39 <sub>106</sub>	1.79 <sub>142</sub>	3.44 <sub>147</sub> 8.75 <sub>124</sub>	16.5 <sub>158</sub>	25.0 <sub>161</sub> 24.9 <sub>147</sub>	7.70 <sub>148</sub>	18.2 <sub>154</sub> 15.3 <sub>142</sub>	11.4



<u>CSBP [74]</u>	138.1	2.00 <sub>101</sub>	4.17 <sub>127</sub>	10.5 <sub>120</sub>	1.48 <sub>135</sub>	3.11 <sub>141</sub>	17.7 <sub>147</sub>	11.1 <sub>147</sub>	20.2 <sub>152</sub>	27.5 <sub>156</sub>	5.98 <sub>136</sub>	16.5 <sub>151</sub>	16.0 <sub>144</sub>	11.4
<u>DCBGrid [77]</u>	139.2	5.90 <sub>161</sub>	7.26 <sub>161</sub>	21.0 <sub>157</sub>	1.35 <sub>131</sub>	1.91 <sub>127</sub>	11.2 <sub>127</sub>	10.5 <sub>139</sub>	17.2 <sub>141</sub>	22.2 <sub>136</sub>	5.34 <sub>128</sub>	11.9 <sub>123</sub>	14.9 <sub>140</sub>	10.9
<u>BioPsyASW [72]</u>	139.3	3.62 <sub>140</sub>	5.52 <sub>144</sub>	14.6 <sub>138</sub>	3.15 <sub>149</sub>	4.20 <sub>151</sub>	20.4 <sub>152</sub>	11.5 <sub>149</sub>	18.2 <sub>145</sub>	23.2 <sub>139</sub>	4.93 <sub>121</sub>	13.0 <sub>132</sub>	11.7 <sub>112</sub>	11.2
<u>RINCensus [146]</u>	139.8	4.78 <sub>152</sub>	6.00 <sub>150</sub>	14.4 <sub>136</sub>	1.11 <sub>122</sub>	1.76 <sub>121</sub>	7.91 <sub>123</sub>	9.76 <sub>132</sub>	17.3 <sub>142</sub>	26.1 <sub>151</sub>	8.09 <sub>149</sub>	16.2 <sub>150</sub>	17.6 <sub>149</sub>	10.9
<u>HBpStereoGpu [86]</u>	140.2	3.37 <sub>136</sub>	5.34 <sub>142</sub>	13.6 <sub>135</sub>	1.12 <sub>123</sub>	2.06 <sub>128</sub>	14.1 <sub>139</sub>	12.2 <sub>151</sub>	19.0 <sub>149</sub>	27.2 <sub>155</sub>	6.29 <sub>139</sub>	14.2 <sub>140</sub>	16.4 <sub>146</sub>	11.2
<u>BP+MLH [38]</u>	140.8	4.17 <sub>146</sub>	6.34 <sub>154</sub>	14.6 <sub>139</sub>	1.96 <sub>144</sub>	3.31 <sub>145</sub>	16.8 <sub>143</sub>	10.2 <sub>138</sub>	18.9 <sub>148</sub>	24.0 <sub>145</sub>	4.93 <sub>122</sub>	15.5 <sub>145</sub>	12.3 <sub>121</sub>	11.1
<u>H-Cut [69]</u>	140.9	2.85 <sub>120</sub>	4.86 <sub>138</sub>	14.4 <sub>137</sub>	1.73 <sub>141</sub>	3.14 <sub>143</sub>	20.2 <sub>150</sub>	10.7 <sub>141</sub>	19.5 <sub>150</sub>	25.8 <sub>150</sub>	5.46 <sub>132</sub>	15.6 <sub>146</sub>	15.7 <sub>143</sub>	11.7
<u>SAD-IGMCT [48]</u>	143.9	5.81 <sub>160</sub>	7.14 <sub>159</sub>	22.6 <sub>160</sub>	2.61 <sub>147</sub>	3.33 <sub>146</sub>	25.3 <sub>159</sub>	9.79 <sub>133</sub>	15.5 <sub>132</sub>	25.7 <sub>149</sub>	5.08 <sub>124</sub>	11.5 <sub>117</sub>	15.0 <sub>141</sub>	12.5
<u>FLTG-DDE [79]</u>	145.2	3.03 <sub>128</sub>	5.28 <sub>141</sub>	15.0 <sub>142</sub>	3.39 <sub>152</sub>	5.02 <sub>155</sub>	25.0 <sub>158</sub>	11.0 <sub>145</sub>	19.5 <sub>151</sub>	26.3 <sub>153</sub>	5.78 <sub>135</sub>	16.0 <sub>149</sub>	14.2 <sub>133</sub>	12.5
<u>2DPOC [94]</u>	149.2	2.88 <sub>121</sub>	4.80 <sub>137</sub>	10.5 <sub>119</sub>	6.55 <sub>159</sub>	7.82 <sub>159</sub>	17.4 <sub>146</sub>	14.4 <sub>154</sub>	22.1 <sub>155</sub>	27.9 <sub>157</sub>	15.2 <sub>163</sub>	22.7 <sub>162</sub>	24.5 <sub>159</sub>	14.7
<u>DP [1b]</u>	149.8	4.12 <sub>145</sub>	5.04 <sub>139</sub>	12.0 <sub>129</sub>	10.1 <sub>164</sub>	11.0 <sub>164</sub>	21.0 <sub>154</sub>	14.0 <sub>153</sub>	21.6 <sub>154</sub>	20.6 <sub>129</sub>	10.5 <sub>156</sub>	19.1 <sub>157</sub>	21.1 <sub>154</sub>	14.2
<u>DPVI [60]</u>	149.8	4.76 <sub>150</sub>	5.83 <sub>147</sub>	16.6 <sub>146</sub>	4.89 <sub>158</sub>	5.66 <sub>158</sub>	22.9 <sub>156</sub>	11.0 <sub>146</sub>	16.2 <sub>138</sub>	23.4 <sub>142</sub>	9.64 <sub>152</sub>	15.6 <sub>147</sub>	23.5 <sub>158</sub>	13.3
<u>PhaseBased [30]</u>	154.9	4.26 <sub>147</sub>	6.53 <sub>155</sub>	15.4 <sub>144</sub>	6.71 <sub>160</sub>	8.16 <sub>160</sub>	26.4 <sub>161</sub>	14.5 <sub>155</sub>	23.1 <sub>156</sub>	25.5 <sub>148</sub>	10.8 <sub>158</sub>	20.5 <sub>160</sub>	21.2 <sub>155</sub>	15.3
<u>IMCT [55]</u>	155.3	4.54 <sub>148</sub>	5.90 <sub>149</sub>	19.8 <sub>155</sub>	3.16 <sub>150</sub>	3.83 <sub>149</sub>	23.2 <sub>157</sub>	18.0 <sub>161</sub>	23.1 <sub>157</sub>	35.3 <sub>161</sub>	12.7 <sub>159</sub>	18.5 <sub>156</sub>	27.9 <sub>162</sub>	16.3
<u>FW-DLR [111]</u>	155.6	4.87 <sub>154</sub>	5.89 <sub>148</sub>	22.9 <sub>161</sub>	2.50 <sub>146</sub>	3.22 <sub>144</sub>	18.3 <sub>148</sub>	18.2 <sub>162</sub>	18.7 <sub>147</sub>	37.2 <sub>162</sub>	24.2 <sub>165</sub>	27.9 <sub>164</sub>	42.1 <sub>166</sub>	18.8
<u>SSD+MF [1a]</u>	156.0	5.23 <sub>159</sub>	7.07 <sub>157</sub>	24.1 <sub>162</sub>	3.74 <sub>154</sub>	5.16 <sub>156</sub>	11.9 <sub>131</sub>	16.5 <sub>159</sub>	24.8 <sub>160</sub>	32.9 <sub>159</sub>	10.6 <sub>157</sub>	19.8 <sub>158</sub>	26.3 <sub>160</sub>	15.7
<u>BioDEM [100]</u>	156.0	6.57 <sub>163</sub>	8.43 <sub>163</sub>	28.1 <sub>165</sub>	3.61 <sub>153</sub>	4.80 <sub>154</sub>	33.7 <sub>163</sub>	13.2 <sub>152</sub>	21.3 <sub>153</sub>	34.5 <sub>160</sub>	6.84 <sub>146</sub>	16.0 <sub>148</sub>	19.8 <sub>152</sub>	16.4
<u>SO [1c]</u>	157.2	5.08 <sub>156</sub>	7.22 <sub>160</sub>	12.2 <sub>130</sub>	9.44 <sub>163</sub>	10.9 <sub>163</sub>	21.9 <sub>155</sub>	19.9 <sub>163</sub>	28.2 <sub>165</sub>	26.3 <sub>152</sub>	13.0 <sub>161</sub>	22.8 <sub>163</sub>	22.3 <sub>156</sub>	16.6
<u>PhaseDiff [22]</u>	159.8	4.89 <sub>155</sub>	7.11 <sub>158</sub>	16.3 <sub>145</sub>	8.34 <sub>162</sub>	9.76 <sub>162</sub>	26.0 <sub>160</sub>	20.0 <sub>164</sub>	28.0 <sub>164</sub>	29.0 <sub>158</sub>	19.8 <sub>164</sub>	28.5 <sub>165</sub>	27.5 <sub>161</sub>	18.8
<u>LCDM+AdaptWgt [68]</u>	160.5	5.98 <sub>162</sub>	7.84 <sub>162</sub>	22.2 <sub>159</sub>	14.5 <sub>165</sub>	15.4 <sub>165</sub>	35.9 <sub>165</sub>	20.8 <sub>165</sub>	27.3 <sub>163</sub>	38.3 <sub>164</sub>	8.90 <sub>151</sub>	17.2 <sub>152</sub>	20.0 <sub>153</sub>	19.5
<u>STICA [15]</u>	160.6	7.70 <sub>164</sub>	9.63 <sub>165</sub>	27.8 <sub>164</sub>	8.19 <sub>161</sub>	9.58 <sub>161</sub>	40.3 <sub>166</sub>	15.8 <sub>156</sub>	23.2 <sub>158</sub>	37.7 <sub>163</sub>	9.80 <sub>153</sub>	17.8 <sub>153</sub>	28.7 <sub>163</sub>	19.7
<u>Infection [10]</u>	162.2	7.95 <sub>165</sub>	9.54 <sub>164</sub>	28.9 <sub>166</sub>	4.41 <sub>157</sub>	5.53 <sub>157</sub>	31.7 <sub>162</sub>	17.7 <sub>160</sub>	25.1 <sub>162</sub>	44.4 <sub>166</sub>	14.3 <sub>162</sub>	21.3 <sub>161</sub>	38.0 <sub>165</sub>	20.7
<b>YOUR METHOD</b>	165.3	31.0 <sub>166</sub>	32.4 <sub>166</sub>	27.3 <sub>163</sub>	38.2 <sub>166</sub>	39.3 <sub>166</sub>	35.0 <sub>164</sub>	34.6 <sub>166</sub>	41.3 <sub>166</sub>	39.5 <sub>165</sub>	26.8 <sub>166</sub>	35.0 <sub>166</sub>	33.6 <sub>164</sub>	34.5

[1] D. Scharstein and R. Szeliski. A taxonomy and evaluation of dense two-frame stereo correspondence algorithms. IJCV 2002.

a - SSD + min-filter (i.e., shiftable windows), window size = 21

b - Dynamic programming, similar to Bobick and Ittile (IJCV 1999)

c - Scanline optimization (1D optimization using horizontal smoothness terms)

d - Graph cuts using alpha-beta swaps (Boykov, Veksler, and Zabih, PAMI 2001)

[2] V. Kolmogorov and R. Zabih. Computing visual correspondence with occlusions using graph cuts. ICCV 2001.

[3] V. Kolmogorov and R. Zabih. Multi-camera scene reconstruction via graph cuts. ECCV 2002.

[4] M. Bleyer and M. Gelautz. A layered stereo algorithm using image segmentation and global visibility constraints. ICIP 2004.

[5] L. Zitnick, S.B. Kang, M. Uyttendaele, S. Winder, and R. Szeliski. High-quality video view interpolation using a layered representation. SIGGRAPH 2004.

[6] H. Hirschmüller. Accurate and efficient stereo processing by semi-global matching and mutual information. CVPR 2005,

PAMI 30(2):328-341, 2008.

- [7] J. Sun, Y. Li, S.B. Kang, and H.-Y. Shum. Symmetric stereo matching for occlusion handling. CVPR 2005.
- [8] O. Veksler. Stereo correspondence by dynamic programming on a tree. CVPR 2005.
- [9] P. Mordohai and G. Medioni. Stereo using monocular cues within the tensor voting framework. PAMI 28(6):968-982, 2006.
- [10] G. Olague, F. Fernández, C. Pérez, and E. Lutton. The infection algorithm: an artificial epidemic approach for dense stereo correspondence. Artificial Life, 2006.
- [11] R. Brockers, M. Hund, and B. Mertsching. Stereo vision using cost-relaxation with 3D support regions. Image and Vision Computing New Zealand (IVCNZ), 2005.
- [12] K.-J. Yoon and I.-S. Kweon. Adaptive support-weight approach for correspondence search. PAMI 28(4):650-656, 2006.
- [13] M. Gong and Y.-H. Yang. Near real-time reliable stereo matching using programmable graphics hardware. CVPR 2005.
- [14] L. Wang, M. Liao, M. Gong, R. Yang, and D. Nistér. High-quality real-time stereo using adaptive cost aggregation and dynamic programming. 3DPVT 2006.
- [15] H. Audirac, A. Beloiarov, F. Núñez, and J. Villegas. Dense disparity map based on STICA algorithm. Expo Forestal, Mexico, 2005.
- [16] A. Klaus, M. Sormann and K. Karner. Segment-based stereo matching using belief propagation and a self-adapting dissimilarity measure. ICPR 2006.
- [17] C. Lei, J. Selzer, and Y. Yang. Region-tree based stereo using dynamic programming optimization. CVPR 2006.
- [18] H. Hirschmüller. Stereo vision in structured environments by consistent semi-global matching. CVPR 2006, PAMI 30(2):328-341, 2008.
- [19] C. Strecha, R. Fransens, and L. Van Gool. Combined depth and outlier estimation in multi-view stereo. CVPR 2006.
- [20] Q. Yang, L. Wang, R. Yang, S. Wang, M. Liao, and D. Nistér. Real-time global stereo matching using hierarchical belief propagation. BMVC 2006.
- [21] Y. Deng and X. Lin. A fast line segment based dense stereo algorithm using tree dynamic programming. ECCV 2006.
- [22] S. El-Etriby, A. Al-Hamadi, and B. Michaelis. Dense depth map reconstruction by phase difference-based algorithm under influence of perspective distortion. ICCVG 2006 / J. Machine Graphics and Vision.
- [23] S. Larsen, P. Mordohai, M. Pollefeys, and H. Fuchs. Temporally consistent reconstruction from multiple video streams using enhanced belief propagation. ICCV 2007.
- [24] S. Gehrig and U. Franke. Improving sub-pixel accuracy for long range stereo. ICCV VRML workshop 2007.
- [25] L. Zitnick and S.B. Kang. Stereo for image-based rendering using image over-segmentation. IJCV 2007.
- [26] K.-J. Yoon and I. S. Kweon. Stereo matching with the distinctive similarity measure. ICCV 2007.
- [27] F. Tombari, S. Mattoccia, and L. Di Stefano. Segmentation-based adaptive support for accurate stereo correspondence. PSIVT 2007.
- [28] S. Mattoccia, F. Tombari, and L. Di Stefano. Stereo vision enabling precise border localization within a scanline optimization framework. ACCV 2007.
- [29] Q. Yang, R. Yang, J. Davis, and D. Nistér. Spatial-depth super resolution for range images. CVPR 2007.
- [30] S. El-Etriby, A. Al-Hamadi, and B. Michaelis. Dense stereo correspondence with slanted surface using phase-based algorithm. IEEE ISIE 2007.
- [31] Q. Yang, C. Engels, and A. Akbarzadeh. Near real-time stereo for weakly-textured scenes. BMVC 2008.
- [32] Y. Taguchi, B. Wilburn, and L. Zitnick. Stereo reconstruction with mixed pixels using adaptive over-segmentation. CVPR 2008.
- [33] A. Bhusnurmath and C.J. Taylor. Solving stereo matching problems using interior point methods. 3DPVT 2008.
- [34] Q. Yang, L. Wang, R. Yang, H. Stewénus, and D. Nistér. Stereo matching with color-weighted correlation, hierarchical belief propagation and occlusion handling. PAMI 2008.
- [35] Z. Gu, X. Su, Y. Liu, and Q. Zhang. Local stereo matching with adaptive support-weight, rank transform and disparity calibration. Pattern Recognition Letters, 2008.
- [36] O. Woodford, P. Torr, I. Reid, and A. Fitzgibbon. Global stereo reconstruction under second order smoothness priors. CVPR 2008.
- [37] D. Min and K. Sohn. Cost aggregation and occlusion handling with WLS in stereo matching. IEEE TIP 2008.
- [38] O. Stankiewicz and K. Wegner. Depth map estimation software version 2. ISO/IEC MPEG meeting M15338, 2008.
- [39] Z. Wang and Z. Zheng. A region based stereo matching algorithm using cooperative optimization. CVPR 2008.
- [40] L. Xu and J. Jia. Stereo matching: an outlier confidence approach. ECCV 2008.
- [41] J. Lu, G. Lafruit, and F. Catthoor. Anisotropic local high-confidence voting for accurate stereo correspondence. Proc. SPIE, vol. 6812, 2008.
- [42] K. Zhang, J. Lu, and G. Lafruit. Cross-based local stereo matching using orthogonal integral images. IEEE TCSVT 2009.
- [43] F. Tombari, S. Mattoccia, L. Di Stefano, and E. Addimanda. Near real-time stereo based on effective cost aggregation. ICPR 2008.
- [44] T. Pock, T. Schoenemann, G. Graber, H. Bischof, and D. Cremers. A convex formulation of continuous multilabel problems. ECCV 2008.

- [45] T. Liu, P. Zhang, and L. Luo. Dense stereo correspondence with contrast context histogram, segmentation-based two-pass aggregation and occlusion handling. PSIVT 2009.
- [46] N. Papadakis and V. Caselles. Multi-label depth estimation for graph cuts stereo problems. JMIV 38(1):70-82, 2010.
- [47] M. Humenberger, C. Zinner, M. Weber, W. Kubinger, and M. Vincze. A fast stereo matching algorithm suitable for embedded real-time systems. CVIU 2010.
- [48] K. Ambrosch and W. Kubinger. Accurate hardware-based stereo vision. CVIU 2010.
- [49] R. Ben-Ari and N. Sochen. Stereo matching with Mumford-Shah regularization and occlusion handling. PAMI 32(11): 2071-2084, 2010.
- [50] M. Bleyer, M. Gelautz, C. Rother, and C. Rhemann. A stereo approach that handles the matting problem via image warping. CVPR 2009.
- [51] T. Yu, R.-S. Lin, B. Super, and B. Tang. Efficient message representations for belief propagation. ICCV 2007.
- [52] R. Brockers. Cooperative stereo matching with color-based adaptive local support. CAIP 2009.
- [53] L. De-Maeztu, A. Villanueva, and R. Cabeza. Stereo matching using gradient similarity and locally adaptive support-weight. Pattern Recognition Letters 32(13): 1643-1651, 2011.
- [54] A. Banno and K. Ikeuchi. Disparity map refinement and 3D surface smoothing via directed anisotropic diffusion. 3DIM 2009.
- [55] I. Cabezas. An iterative disparity estimation technique: on computing an initial map. Technical report 2009, Laboratorio Multimedia y Vision, Universidad del Valle, Cali - Colombia.
- [56] O. Stankiewicz and K. Wegner. Depth map estimation software version 3. ISO/IEC MPEG meeting M15540, 2008.
- [57] A. Hosni, M. Bleyer, M. Gelautz, and C. Rhemann. Local stereo matching using geodesic support weights. ICIIP 2009.
- [58] K. Zhang, J. Lu, G. Lafruit, R. Lauwereins, and L. Van Gool. Real-time accurate stereo with bitwise fast voting on CUDA. ICCVW 2009.
- [59] T. Montserrat, J. Civit, O. Escoda, and J.-L. Landabaso. Depth estimation based on multiview matching with depth/color segmentation and memory efficient belief propagation. ICIIP 2009.
- [60] V. González and I. Cabezas. Estimación de puntos correspondientes mediante programación dinámica. Congreso Multimedia 2009.
- [61] S. Mattoccia, S. Giardino, and A. Gambini. Accurate and efficient cost aggregation strategy for stereo correspondence based on approximated joint bilateral filtering. ACCV 2009.
- [62] S. Mattoccia. A locally global approach to stereo correspondence. 3DIM 2009.
- [63] J. Salmen, M. Schlipf, J. Edelbrunner, S. Hegemann, and S. Lueke. Real-time stereo vision: making more out of dynamic programming. CAIP 2009.
- [64] M. Vanetti, I. Gallo, and E. Binaghi. Dense two-frame stereo correspondence by self-organizing neural network. ICIAP 2009.
- [65] S. Kosov, T. Thormählen, and H.-P. Seidel. Accurate real-time disparity estimation with variational methods. ISVC 2009.
- [66] D. Mukherjee, G. Wang, and J. Wu. Stereo matching algorithm based on curvelet decomposition and modified support weights. ICASSP 2010.
- [67] H. Trinh and D. McAllester. Unsupervised learning of stereo vision with monocular cues. BMVC 2009.
- [68] L. Nalpantidis and A. Gasteratos. Stereo vision for robotic applications in the presence of non-ideal lighting conditions. Image and Vision Computing 2010.
- [69] D. Miyazaki, Y. Matsushita, and K. Ikeuchi. Interactive shadow removal from a single image using hierarchical graph cut. ACCV 2009.
- [70] N. Einecke and J. Eggert. A two-stage correlation method for stereoscopic depth estimation. DICTA 2010.
- [71] M. Bleyer, C. Rother, and P. Kohli. Surface stereo with soft segmentation. CVPR 2010.
- [72] L. Nalpantidis and A. Gasteratos. Biologically and psychophysically inspired adaptive support weights algorithm for stereo correspondence. Robotics and Autonomous Systems 2010.
- [73] R. Gupta and S.-Y. Cho. Real-time stereo matching using adaptive binary window. 3DPVT 2010.
- [74] Q. Yang, L. Wang, and N. Ahuja. A constant-space belief propagation algorithm for stereo matching. CVPR 2010.
- [75] M. Humenberger, T. Engelke, and W. Kubinger. A census-based stereo vision algorithm using modified semi-global matching and plane-fitting to improve matching quality. CVPR ECV workshop 2010.
- [76] W. Yu, T. Chen, F. Franchetti, and J. Hoe. High performance stereo vision designed for massively data parallel platforms. IEEE TCSVT 2010.
- [77] C. Richardt, D. Orr, I. Davies, A. Criminisi, and N. Dodgson. Real-time spatiotemporal stereo matching using the dual-cross-bilateral grid. ECCV 2010.
- [78] G. Gales, A. Crouzil, and S. Chambon. A region-based randomized voting scheme for stereo matching. ISVC 2010.
- [79] C. Cassisa. Local vs global energy minimization methods: application to stereo matching. PIC 2010.
- [80] R. Gupta and S.-Y. Cho. A correlation-based approach for real-time stereo matching. ISVC 2010.
- [81] S. Röhl, S. Speidel, D. Gonzalez-Aguirre, S. Suwelack, H. Kenngott, T. Asfour, B. Müller-Stich, and R. Dillmann. From stereo image sequences to smooth and robust surface models using temporal information and bilateral postprocessing. ROBIO 2011.



- [82] X. Mei, X. Sun, M. Zhou, S. Jiao, H. Wang, and X. Zhang. On building an accurate stereo matching system on graphics hardware. GPUVCV 2011.
- [83] C. Rhemann, A. Hosni, M. Bleyer, C. Rother, and M. Gelautz. Fast cost-volume filtering for visual correspondence and beyond. CVPR 2011.
- [84] M. Bleyer, C. Rother, P. Kohli, D. Scharstein, and S. Sinha. Object stereo - joint stereo matching and object segmentation. CVPR 2011.
- [85] L. De-Maeztu, S. Mattoccia, A. Villanueva, and R. Cabeza. Linear stereo matching. ICCV 2011.
- [86] S. Grauer-Gray and C. Kambhampettu. Hierarchical belief propagation to reduce search space using CUDA for stereo and motion estimation. WACV 2009.
- [87] X. Sun, X. Mei, S. Jiao, M. Zhou, and H. Wang. Stereo matching with reliable disparity propagation. 3DIMPVT 2011.
- [88] L. De-Maeztu, A. Villanueva, and R. Cabeza. Near real-time stereo matching using geodesic diffusion. PAMI 34(2):410-416, 2012.
- [89] L. Wang and R. Yang. Global stereo matching leveraged by sparse ground control points. CVPR 2011.
- [90] E. Psota, J. Kowalczyk, J. Carlson, and L. Pérez. A local iterative refinement method for adaptive support-weight stereo matching. IPCV 2011.
- [91] X. Chang, Z. Zhou, L. Wang, Y. Shi, and Q. Zhao. Real-time accurate stereo matching using modified two-pass aggregation and winner-take-all guided dynamic programming. 3DIMPVT 2011.
- [92] W. Hu, K. Zhang, L. Sun, J. Li, Y. Li, and S. Yang. Virtual support window for adaptive-weight stereo matching. VCIP 2011.
- [93] C. Cigla and A. Alatan. Information permeability for stereo matching. Signal Processing: Image Communication, 2013.
- [94] F. Hawi and M. Sawan. Phase-based passive stereovision systems dedicated to cortical visual stimulators. ICCD 2012.
- [95] D. Min, J. Lu, and M. Do. A revisit to cost aggregation in stereo matching: how far can we reduce its computational redundancy? ICCV 2011.
- [96] M. Bleyer, C. Rhemann, and C. Rother. PatchMatch stereo - stereo matching with slanted support windows. BMVC 2011
- [97] C. Shi, G. Wang, X. Pei, B. He, and X. Lin. Stereo matching using local plane fitting in confidence-based support window. IEICE Trans. 95-D(2):699-702, 2012.
- [98] J. Kowalczyk, E. Psota, and L. Pérez. Real-time stereo matching on CUDA using an iterative refinement method for adaptive support-weight correspondences. IEEE TCSVT 23(1):94-104, 2013.
- [99] L. De-Maeztu, S. Mattoccia, A. Villanueva, and R. Cabeza. Efficient aggregation via iterative block-based adapting support-weights. IC3D 2011.
- [100] J. Martins, J. Rodrigues, and J. du Buf. Disparity energy model using a trained neuronal population. ISSPIT 2011.
- [101] N. Einecke and J. Eggert. Anisotropic median filtering for stereo disparity map refinement. VISAPP 2013.
- [102] I. Jung, T. Chung, J. Sim, and C. Kim. Consistent stereo matching under varying radiometric conditions. IEEE Transactions on Multimedia 2013.
- [103] M. Antunes and J. Barreto. Efficient stereo matching using histogram aggregation with multiple slant hypothesis. IbPRIA 2013.
- [104] Q. Yang. Recursive bilateral filtering. ECCV 2012.
- [105] Q. Yang. Hardware-efficient bilateral filtering for stereo matching. PAMI 2013.
- [106] K. Zhang, J. Li, Y. Li, W. Hu, L. Sun, and S. Yang. Binary stereo matching. ICPR 2012.
- [107] S. Damjanovic, F. van der Heijden, and L. Spreeuwens. Local stereo matching using adaptive local segmentation. ISRN Machine Vision 2012.
- [108] J. Lu, K. Shi, D. Min, L. Lin, and M. Do. Cross-based local multipoint filtering. CVPR 2012.
- [109] Y. Mizukami, K. Okada, A. Nomura, S. Nakanishi, and K. Tadamura. Sub-pixel disparity search for binocular stereo vision. ICPR 2012.
- [110] T. Liu, X. Dai, Z. Huo, X. Zhu, and L. Luo. A cost construction via MSW and linear regression for stereo matching. ICPR 2012.
- [111] N. Manap and J. Soraghan. Disparity refinement based on depth image layers separation for stereo matching algorithms. J Telecom., Elec. Comp. Eng. 4(1), 2012.
- [112] Q. Yang. A non-local cost aggregation method for stereo matching. CVPR 2012.
- [113] F. Besse, C. Rother, A. Fitzgibbon, and J. Kautz. PMBP: PatchMatch belief propagation for correspondence field estimation. BMVC 2012.
- [114] N. Barzigar, A. Roozgard, S. Cheng, and P. Verma. SCoBeP: Dense image registration using sparse coding and belief propagation. JVIS 2012.
- [115] Y. Wang, E. Dunn, and J.-M. Frahm. Increasing the efficiency of local stereo by leveraging smoothness constraints. 3DIMPVT2012.
- [116] V. Drazic and N. Sabater. A precise real-time stereo algorithm. IVCNZ 2012.
- [117] S. Zhu, L. Zhang, and H. Jin. A locally linear regression model for boundary preserving regularization in stereo matching. ECCV 2012.
- [118] A. Arranz, M. Alvar, J. Boal, A. Sanchez-Mirallas, and A. de la Escalera. Genetic algorithm for stereo correspondence with a novel fitness function and occlusion handling. IVAPP 2013.

- [119] J. Lu, H. Yang, D. Min, and M. Do. PatchMatch filter: efficient edge-aware filtering meets randomized search for fast correspondence field estimation. CVPR 2013.
- [120] C. Pham and J. Jeon. Domain transformation-based efficient cost aggregation for local stereo matching. IEEE TCSVT 2012.
- [121] D. Chen, M. Ardabilian, X Wang, and L. Chen. An improved non-local cost aggregation method for stereo matching based on color and boundary cue. ICME 2013.
- [122] D. Min, J. Lu, and M. Do. Joint histogram based cost aggregation for stereo matching. PAMI 2013.
- [123] C. Stentoumis, L. Grammatikopoulos, I. Kalisperakis, E. Petsa, and G. Karras. A local adaptive approach for dense stereo matching in architectural scene reconstruction. ISPRS 3D-ARCH 2013.
- [124] M. Michael, J. Salmen, J. Stallkamp, and M. Schlipsing. Real-time stereo vision: optimizing semi-global matching. IV 2013.
- [125] P. Heise, S. Klose, B. Jensen, and A. Knoll. PatchMatch with Huber regularization for stereo matching. ICCV 2013.
- [126] X. Mei, X. Sun, W. Dong, H. Wang, and X. Zhang. Segment-tree based cost aggregation for stereo matching. CVPR 2013.
- [127] Q. Yang, P. Ji, D. Li, S. Yao, and M. Zhang. Near real-time stereo matching using adaptive guided filtering. Submitted to Image and Vision Computing 2013.
- [128] X. Zhou and P. Boulanger. Radiometric invariant stereo matching based on relative gradients. ICIP, pp. 2989-2992, 2012.
- [129] X. Zhou and P. Boulanger. New eye contact correction using radial basis function for wide baseline videoconference system. Pacific-Rim Conference on Multimedia (PCM), pp. 68-79, 2012.
- [130] D. Chen, L. Chen, and M. Ardabilian. A novel trilateral filter based adaptive support weight method for stereo matching. BMVC 2013.
- [131] Anonymous. A new fast and robust stereo matching algorithm for robotic systems. Submitted to IC2IT 2013.
- [132] C.-C. Kao and H.-Y. Lin. Stereo matching bit-plane slicing. Technical Report, 2013.
- [133] Y. Lin, N. Lu, X. Lou, F. Zou, Y. Yao, and Z. Du. Matching cost filtering for dense stereo correspondence. Mathematical Problems in Engineering, 2013.
- [134] Z. Lee, J. Juang, and T. Nguyen. Local disparity estimation with three-moded cross census and advanced support weight. IEEE Transactions on Multimedia 2013.
- [135] Y. Wang, K. Wang, E. Dunn, and J.-M. Frahm. Stereo under sequential optimal sampling: a statistical analysis framework for search space reduction. CVPR 2014.
- [136] T. Taniai, Y. Matsushita, and T. Naemura. Graph cut based continuous stereo matching using locally shared labels. CVPR 2014.
- [137] D. Altantawy, M. Obbaya, and S. Kishk. An artistic segment-based disparity map estimation method using gradient similarity and graph cuts. Submitted to CVIU 2013.
- [138] D. Altantawy, M. Obbaya, and S. Kishk. A fast non-local based stereo matching algorithm using graph cuts. Submitted to IMAVIS 2013.
- [139] X. Tan, C. Sun, D. Wang, Y. Guo, and T. Pham. Soft cost aggregation with multi-resolution fusion. ECCV 2014.
- [140] B. Ham, D. Min, C. Oh, M. Do, and K. Sohn. Probability-based rendering for view synthesis. IEEE TIP 2014.
- [141] L. Wang, Z. Liu, and Z. Zhang. Feature based stereo matching using two-step expansion. Mathematical Problems in Engineering, 2014.
- [142] M. Mozerov and J. van Weijer. Accurate stereo matching by two step global optimization. To appear in TIP 2015.
- [143] C. Zhang, Z. Li, R. Cai, H. Chao, and Y. Rui. As-rigid-as-possible stereo under second order smoothness priors. ECCV 2014.
- [144] H. Jung, H. Park, I. Park, K. Lee, and S. Lee. Stereo reconstruction using high-order likelihoods. Submitted to CVIU 2014.
- [145] V. Muninder, U. Soumik, and A. Krishna. Robust segment-based stereo using cost aggregation. BMVC 2014.
- [146] L. Ma. Modified census transform based on the related information of neighborhood for stereo matching algorithm. Submitted to Computer Engineering and Applications 2014.
- [147] X. Tan, C. Sun, X. Sirault, R. Furbank, and T. Pham. Stereo matching using cost volume watershed and region merging. Submitted to Signal Processing: Image Communication, 2014.
- [148] Q. Yang. Stereo matching using tree filtering. PAMI, preprint, 2014.
- [149] D. Vu, B. Chidester, H. Yang, M. Do, and J. Lu. Efficient hybrid tree-based stereo matching with applications to post-capture image refocusing. IEEE TIP 2014.
- [150] J. Liu, C. Li, F. Mei, and Z. Wang. 3D entity-based stereo matching with ground control points and joint second order smoothness prior. To appear in Visual Computer, 2014.
- [151] J. Jiao, R. Wang, W. Wang, S. Dong, Z. Wang, and W. Gao. Local stereo matching with improved matching cost and disparity refinement. IEEE Multimedia 2014. (An earlier version appeared at ICME 2014.)
- [152] X. Sun, X. Mei, S. Jiao, M. Zhou, Z. Liu, and H. Wang. Real-time local stereo via edge-aware disparity propagation. Pattern Recognition Letters, 2014.
- [153] F. Cheng, H. Zhang, M. Sun, and D. Yuan. Cross-trees, edge and superpixel priors-based cost aggregation for stereo matching. Submitted to PR 2014.
- [154] S. Xu, F. Zhang, X. He, X. Shen, and X. Zhang. PM-PM: PatchMatch with Potts model for object segmentation and stereo matching. TIP 2015.

- [155] Anonymous. Using local cues to improve dense stereo matching. CVPR 2015 submission 973.
- [156] L. Wang, R. Yang, M. Gong, and M. Liao. Real-time stereo using approximated joint bilateral filtering and dynamic programming. *Journal of Real-Time Image Processing* 9(3):447-461, 2014.
- [157] Y. Zhan, Y. Gu, K. Huang, C. Zhang, and K. Hu. Accurate image-guided stereo matching with efficient matching cost and disparity refinement. Submitted to IEEE TCSVT, 2015.
- [158] S. Ploumpis, A. Amanatiadis, and A. Gasteratos. A stereo matching approach based on particle filters and scattered control landmarks. To appear in *Image and Vision Computing* 2015.
- [159] Y. Peng, G. Li, R. Wang, and W. Wang. Stereo matching with space-constrained cost aggregation and segmentation-based disparity refinement. 3DIPM 2015.
- [160] T. Taniai, Y. Matsushita, Y. Sato, and T. Naemura. Continuous stereo matching using local expansion moves. Submitted to PAMI 2015.
- [161] Anonymous. Segment graph based image filtering: fast structure-preserving smoothing. ICCV 2015 submission 492.
- [162] X. Huang, C. Yuan, and J. Zhang. Graph cuts stereo matching based on Patch-Match and ground control points constraint. Submitted to PCM 2015.

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