

This file compares the time efficiency of the 3 implemented algorithms.

Abbreviations :

ccl - connected component labelling algorithm

minCut - graph min cut algorithm

mst - minimum spanning tree algorithm

Image Size	Time Taken (seconds)			
	ccl	minCut (w/o capacity scaling)	minCut (with capacity scaling)	mst
10 * 10	0	0	0	0
64 * 64	0	27	27	1.5
289 * 97	0	72	33	41
204 * 204	0	1390	748	93

Clearly, connected component labelling is extremely time efficient, however it requires manual input of the seed nodes.

The graph cut approach is very time inefficient and even though capacity scaling reduces times by almost 50% in larger images, it is still not able to compete with the other algorithms.

The minimum spanning tree takes more time than connected component labelling, however it requires no user input in the form of seed nodes or otherwise.

The best approach therefore would be to automate seed node selection using an algorithm like SIFT and then combine that with connected component labelling.