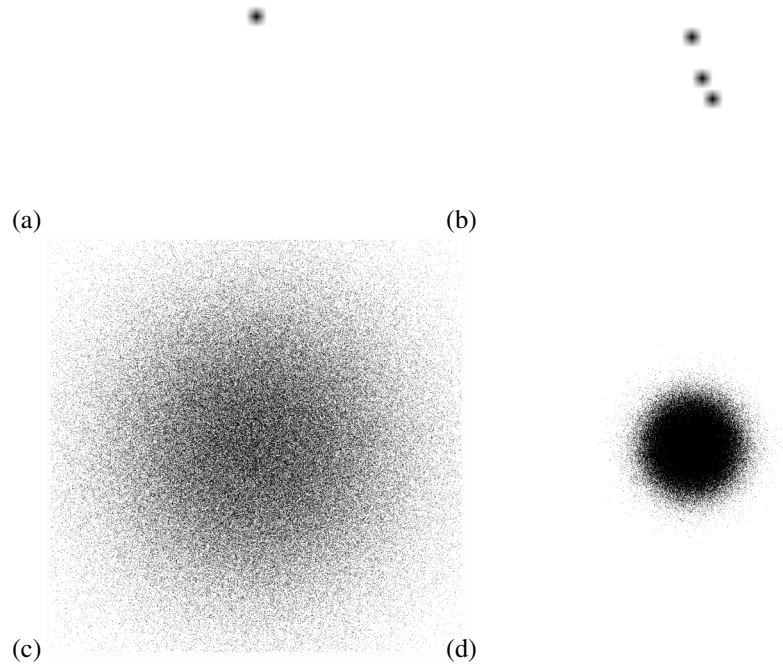


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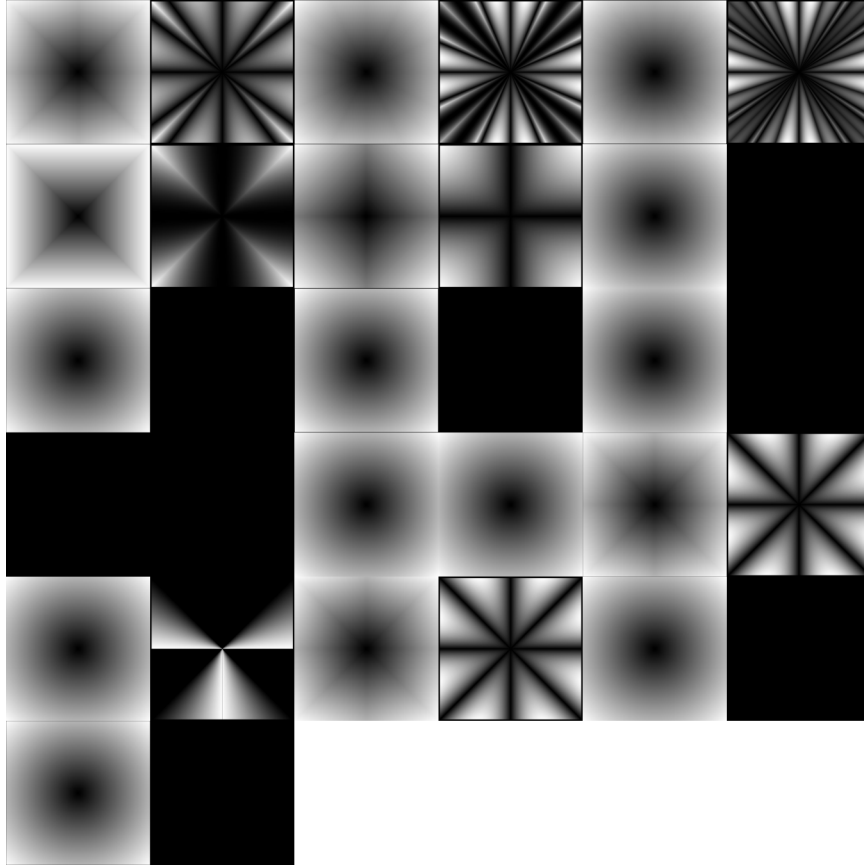
	forward pass	backward pass
CDA 3×3	4 3 4 3 u - - - -	- - - - u 3 4 3 4
city block	- 1 - 1 u - - - -	- - - - u 1 - 1 -
chessboard	1 1 1 1 u - - - -	- - - - u 1 1 1 1
CDA 5×5	- 11 - 11 - 11 7 5 7 11 - 5 u - - - - - - - - - - - -	- - - - - - - - - - - - u 5 - 11 7 5 7 11 - 11 - 11 -
CDA 7×7	- 43 38 - 38 43 - 43 - 27 - 27 - 43 38 27 17 12 17 27 38 - - 12 u -	- u 12 - 38 27 17 12 17 27 38 43 - 27 - 27 - 43 - 43 38 - 38 43 -
Euclidean 3x3	$\sqrt{2}$ 1 $\sqrt{2}$ 1 u - - - -	- - - - u 1 $\sqrt{2}$ 1 $\sqrt{2}$

**Figure 1.** Various windows used by the Chamfer distance algorithm. 'u' indicates the center of the window. '-' indicates that the point is not used (considered) during that pass of the algorithm.



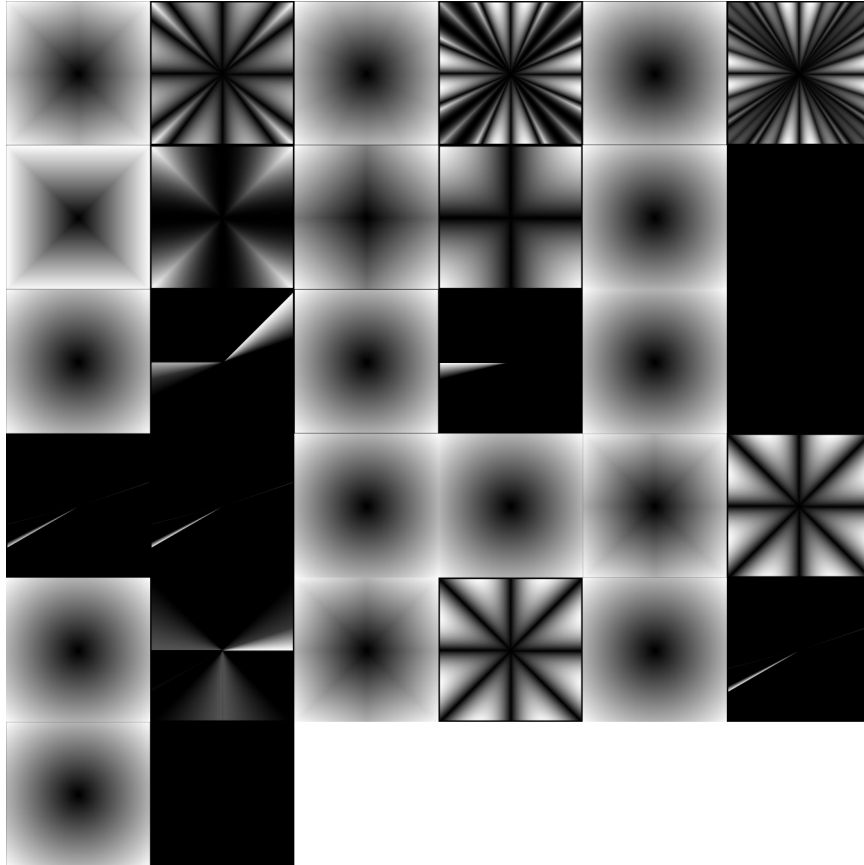
**Figure 2.** Sample test images consisting of (a) a single, solitary point-object, (b) a configuration of three single point-objects that is a known problematic configuration, (c) and (d) randomly generated test images by sampling from a normal distribution (with different standard deviations).

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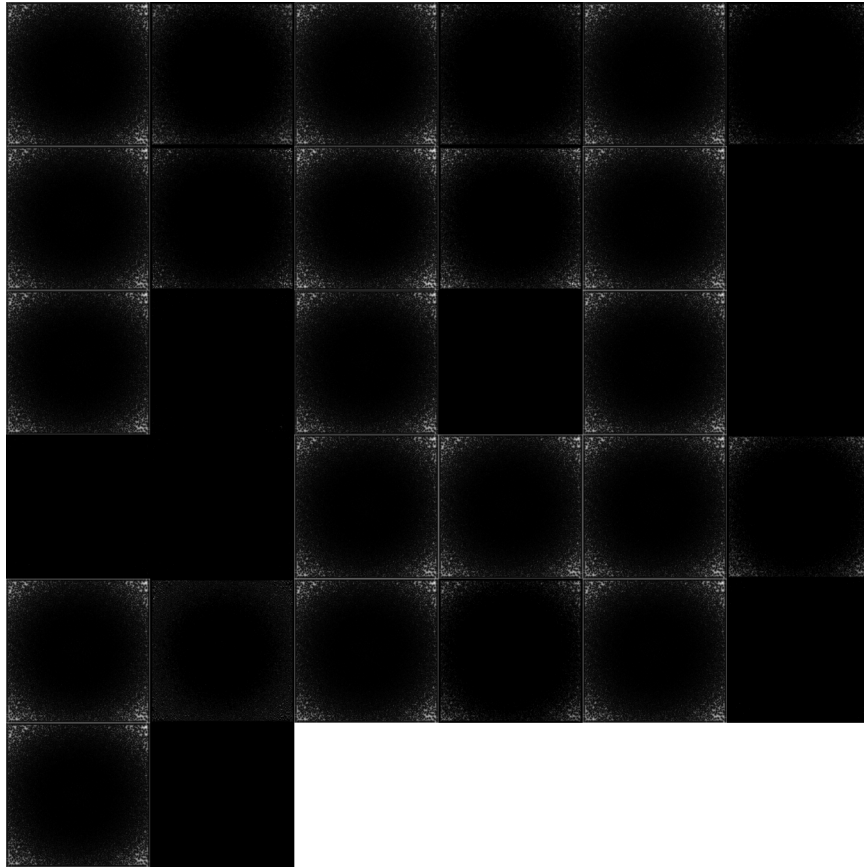
**Figure 3.** Results of various distance transform algorithms applied to an image consisting of a solitary object consisting of a single point at the center of the image, and the magnitude of the differences for the method. Top row, left to right: CDA 3x3 and differences, CDA 5x5 and differences, CDA 7x7 and differences. Second row, left to right: Chessboard and differences, Cityblock and differences, CSED and difference. Third row, left to right: DRA 3x3 and differences, DRA 7x7 and differences, DV and differences. Fourth row, left to right: 8SED and differences, 8SED modified and differences, Euclidean 3x3 and difference. Fifth row, left to right: 4SED and differences, MD and differences, MDDR and differences. Sixth row: SimpleList and differences.

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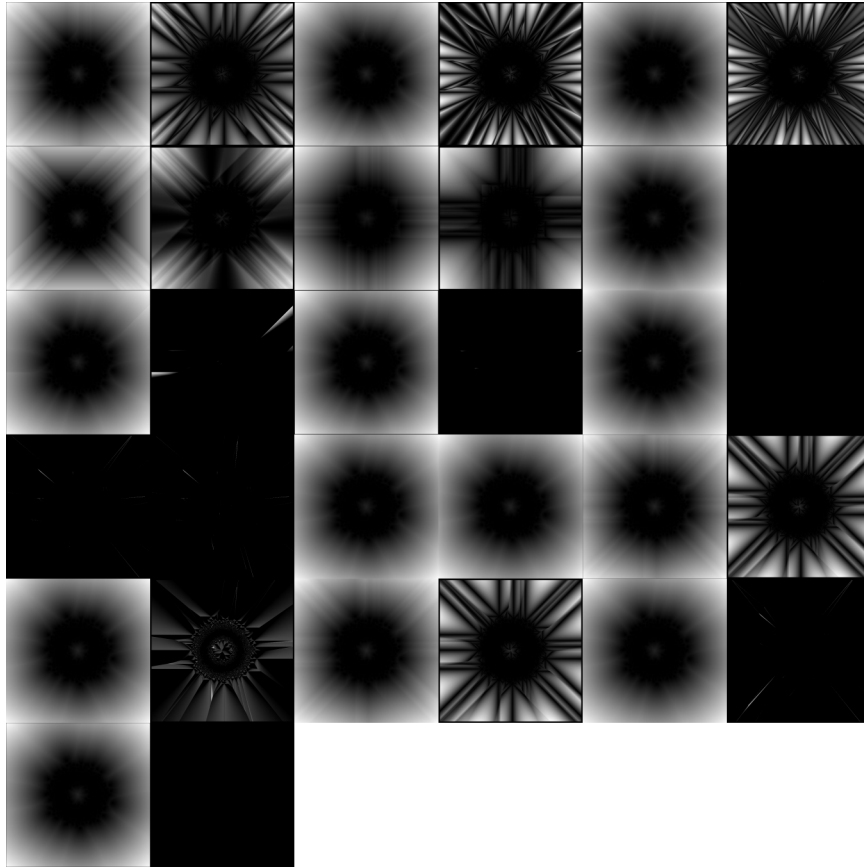


**Figure 4.** Results of various distance transform algorithms applied to an image consisting of 3 single-point objects. Top row, left to right: CDA 3x3, CDA 5x5, CDA 7x7. Second row, left to right: Chessboard, Cityblock, CSED. Third row, left to right: DRA 3x3, DRA 7x7, DV. Fourth row, left to right: 8SED, 8SED modified, Euclidean 3x3. Fifth row, left to right: 4SED, MD, MDDR. Sixth row: SimpleList.

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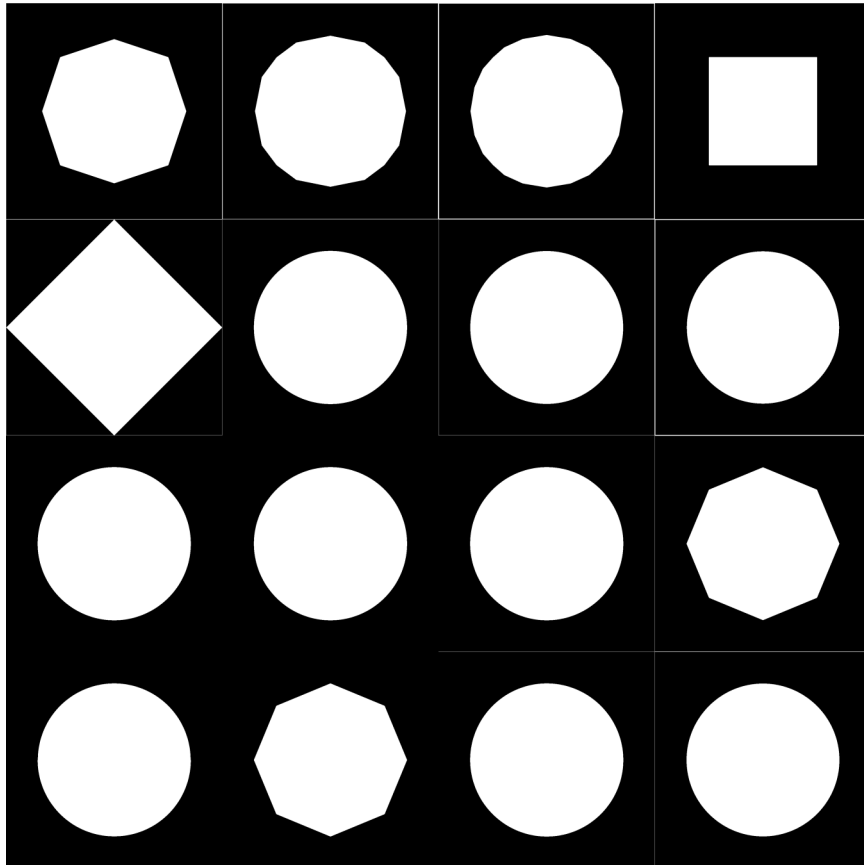


**Figure 5.** Results of various distance transform algorithms applied to an image consisting of a randomly generated set of objects created by sampling from a normal distribution with a mean of the center of the image and a standard deviation of 0.20. Top row, left to right: CDA 3x3, CDA 5x5, CDA 7x7. Second row, left to right: Chessboard, Cityblock, CSED. Third row, left to right: DRA 3x3, DRA 7x7, DV. Fourth row, left to right: 8SED, 8SED modified, Euclidean 3x3. Fifth row, left to right: 4SED, MD, MDDR. Sixth row: SimpleList.



**Figure 6.** Results of various distance transform algorithms applied to an image consisting of a randomly generated set of objects created by sampling from a normal distribution with a mean of the center of the image and a standard deviation of 0.05. Top row, left to right: CDA 3x3, CDA 5x5, CDA 7x7. Second row, left to right: Chessboard, Cityblock, CSED. Third row, left to right: DRA 3x3, DRA 7x7, DV. Fourth row, left to right: 8SED, 8SED modified, Euclidean 3x3. Fifth row, left to right: 4SED, MD, MDDR. Sixth row: SimpleList.

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**Figure 7.** Thresholded results of various distance transform algorithms applied to an image consisting of a solitary object consisting of a single point at the center of the image. Top row, left to right: CDA 3x3, CDA 5x5, CDA 7x7, Chessboard. Second row, left to right: Cityblock, CSED, DRA 3x3, DRA 7x7. Third row, left to right: DV, 8SED, 8SED modified, Euclidean 3x3. Fourth row, left to right: 4SED, MD, MDDR, SimpleList.