

The gradient descent solver was much more sensitive to changes in parameter, and was more difficult to determine the correct parameter values to obtain desired results. For example, changing the step size by one order of magnitude led to the maximum length optical vector changing by hundreds of degrees of magnitude. If the parameters were not set correctly, the output optical vectors were infinity or NaN.

The iterative solver was much more predictable, as changes in magnitude of the input produced similar changes in the output. Since there are only two parameters that affect the algorithm (iterations and alpha-squared), it was easier to find the values that produced the desired results.

Both algorithms improved when the images were smoothed with a Gaussian filter. While the simple box image could be smoothed with just a standard deviation of 0.5 and still result in the correct velocity vector, more complex images required a standard deviation of 3.0.