Advanced Computer Vision Homework1

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Objective:

Detect motions vectors between trucka.bmp (386×386) and truckb.bmp (386×386)

parameters:

1. trucka.bmp sampled by interval =1 – used as basis

(block size: 8×8, 11×11, 15×15, 21×21, 31×31)

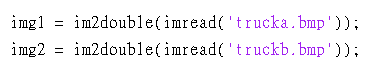
1. truckb.bmp sampled by interval = block

(block size: 8×8, 11×11, 15×15, 21×21, 31×31)

1. Threshold of search range: 50 pixels

Method:

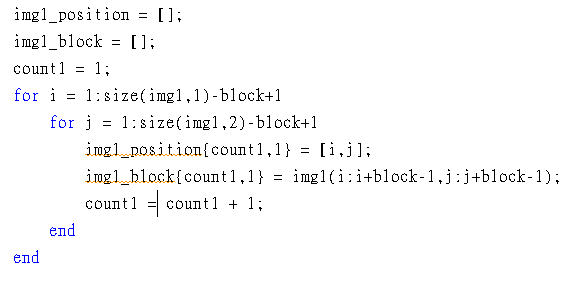
1. Read BMP file



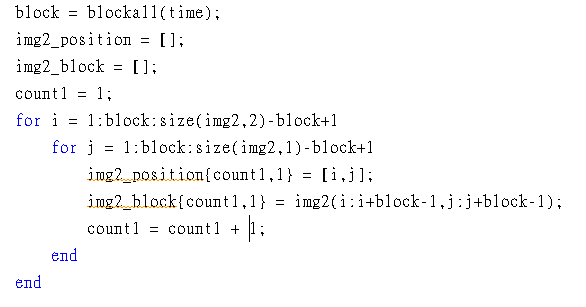
1. Set search range and parameters of block size



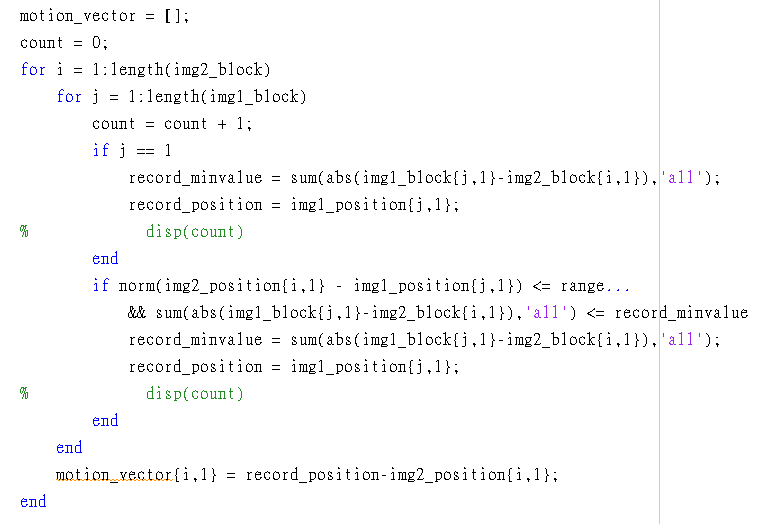
1. trucka.bmp sampled by interval =1 with sampled matrix = block size



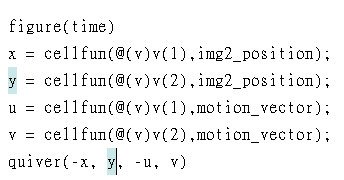
1. truckb.bmp sampled by interval = block with sampled matrix = block size



1. Calculate the motion vectors by searching the position of the closest blocks between trucka.bmp and truckb.bmp

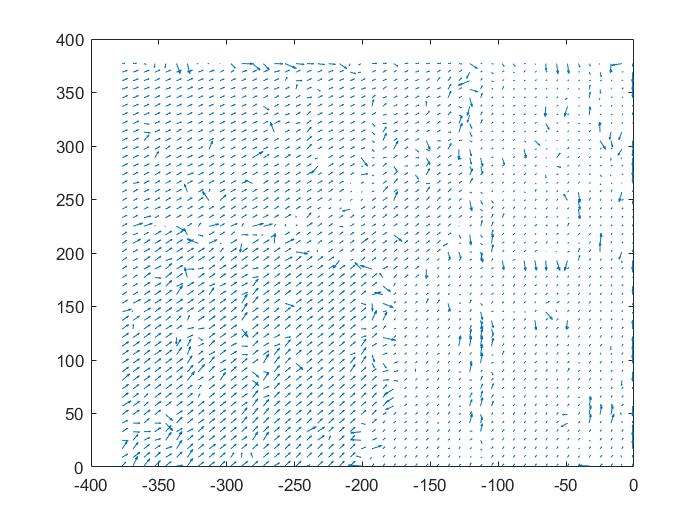


1. Quiver plot

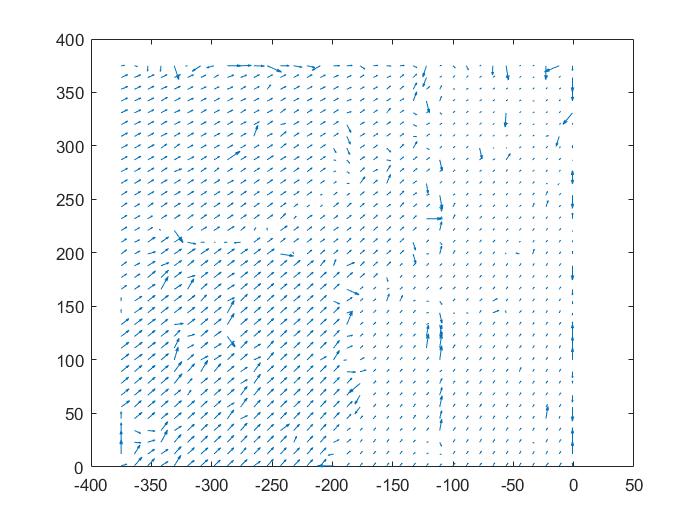


Result:

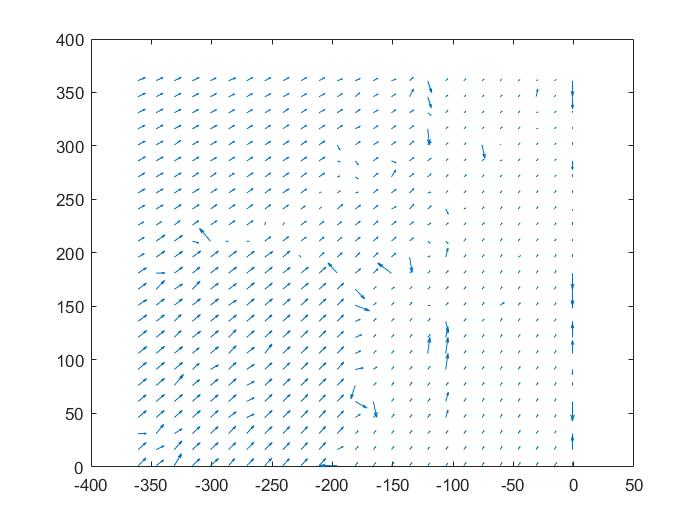
1. Block size = 8 x 8



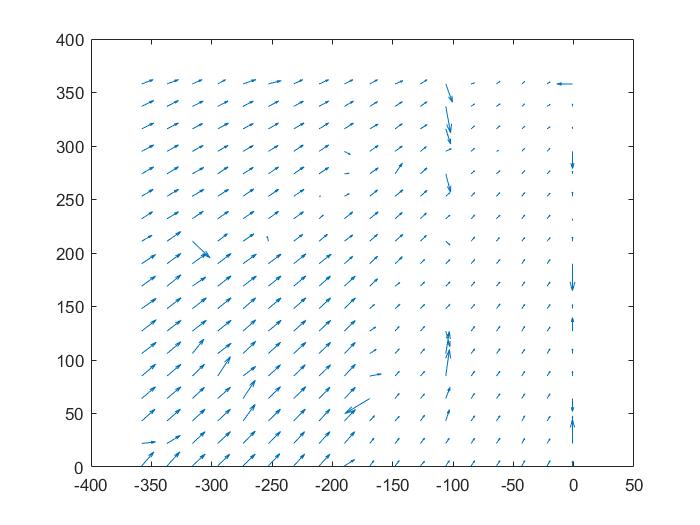
1. Block size = 11 x 11



1. Block size = 15 x 15



1. Block size = 21 x 21



1. Block size = 31 x 31

