
Week 8



Figure 1: Original and grayscale image of the sunflowers

Exercise 8.1



Figure 2: The first three elements of the scale space pyramid

Exercise 8.2

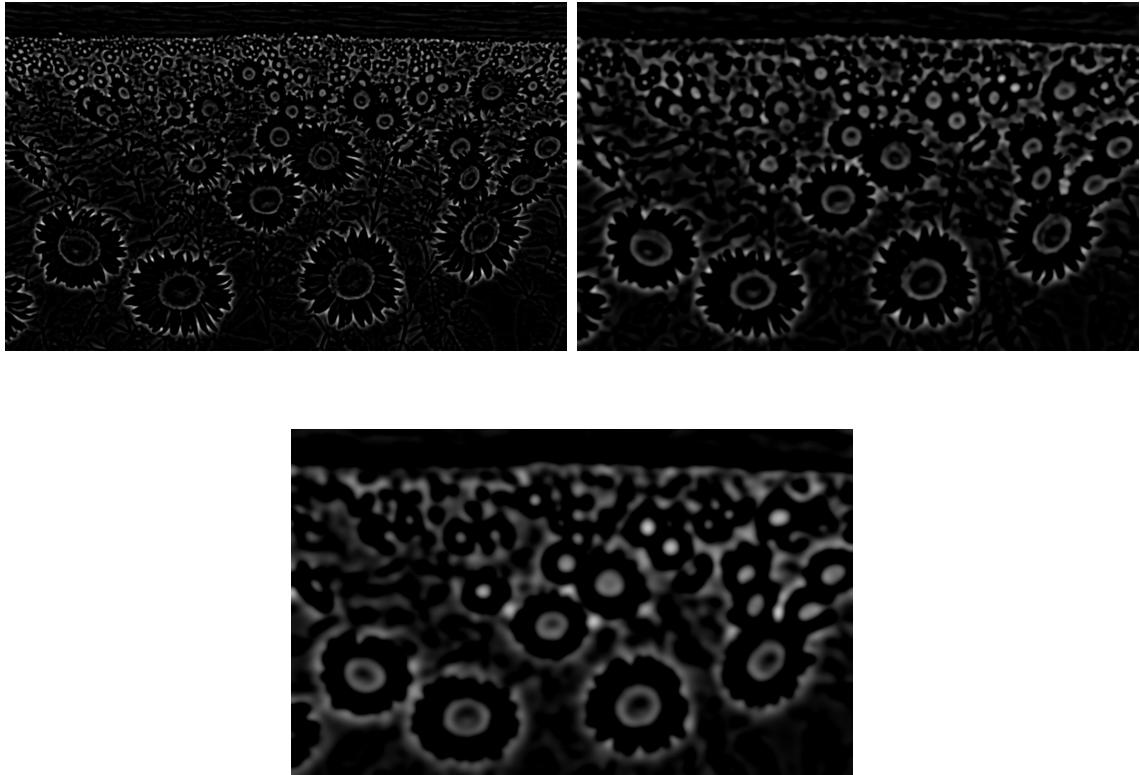


Figure 3: The first three DoGs

Exercise 8.3

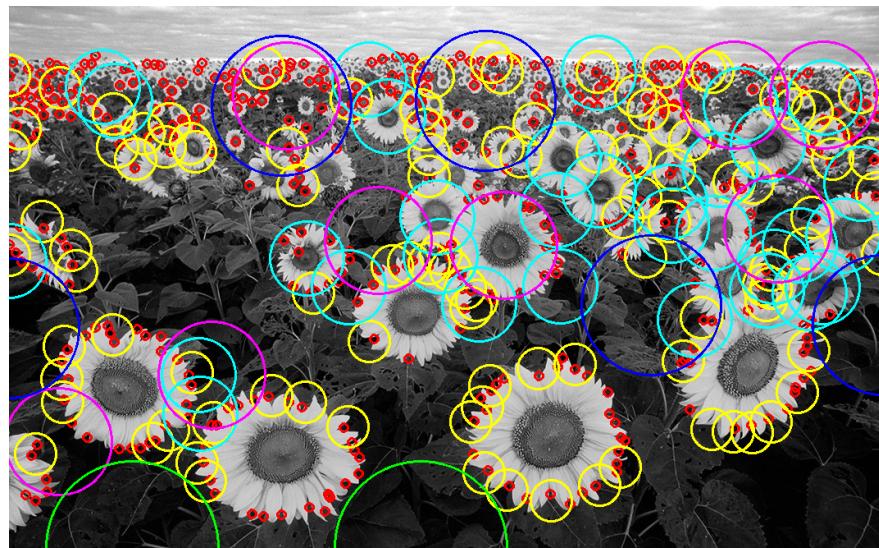


Figure 4: Detected BLOBs using $\sigma = 2, n = 7, \tau = 0.1$. The circle sizes and colors are used to represent the BLOBs of the same scale.

Exercise 8.4



Figure 5: Original and transformed version of the sunflowers image using $\theta = 30, s = 1.5$

Exercise 8.5



Figure 6: Detected features on the original (grayscale) image using OpenCV's SIFT detector with the basic parameters.



Figure 7: Detected features on the transformed (grayscale) image using OpenCV's SIFT detector with the basic parameters.

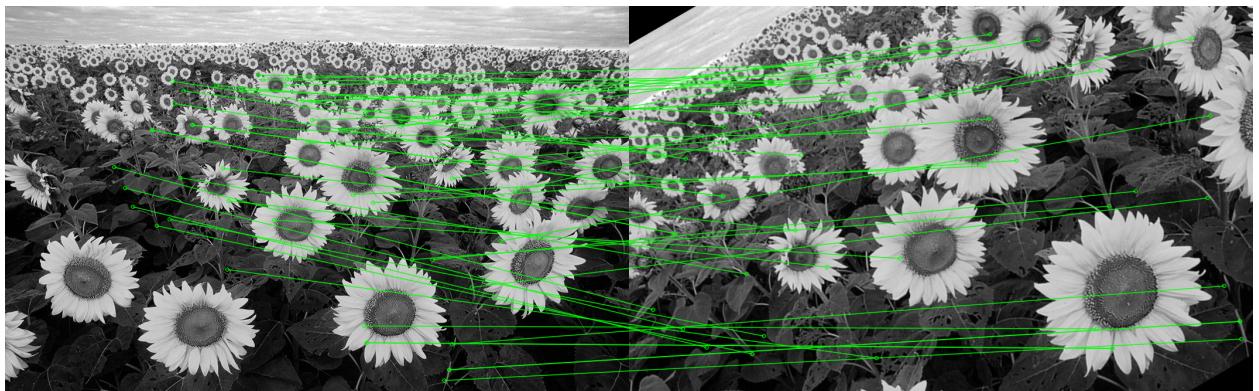


Figure 8: The 50 closest matches using OpenCV's BFMatcher() function.

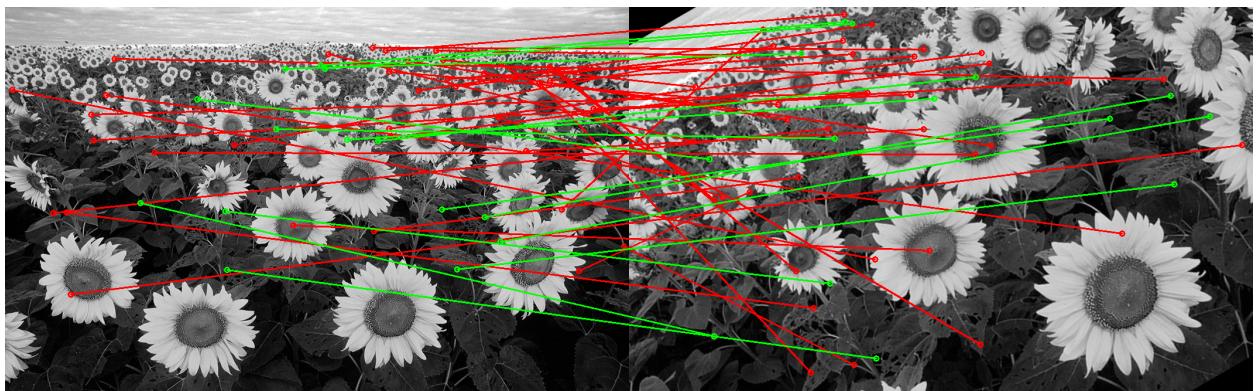


Figure 9: 50 randomly chosen matches using OpenCV's BFMatcher function. The green matches passed and the red ones did not pass the ratio test using a threshold of 0.7.

Exercise 8.6

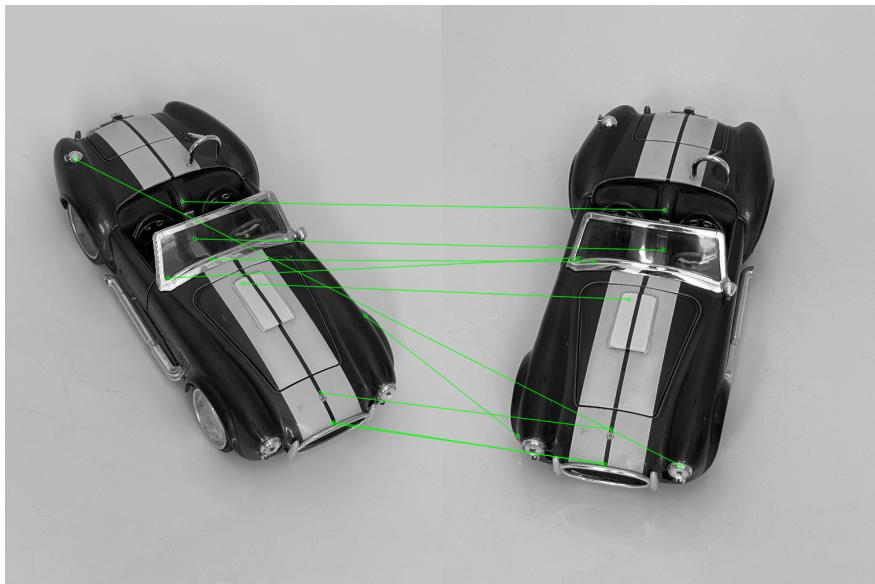


Figure 10: The best 10 matches between two photos using OpenCV's SIFT and BFMatcher functions with their basic parameters. There are a few wrong matches of very similar areas.