

OpenCV Homework 02 Report

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December 15, 2016

1 Command

python main.py detector file_name

Show the keypoints on image using specific detector. Detector are harris, dog, blob.

python main.py m detector descriptor file1 file2

Draw match point on two image side-by-side using specific detector and descriptor. Detector are harris, dog, blob, descriptor are sift, lbp

python run_on_dataset.py

Matching using image in ./image/my_object_resized

2 Dataset

Photo of 5 objects (computer mouse, pen, water bottle, keyboard, bottle of oil) are taken by mobile phone and resized to 800x600 pixels. Then, a pair of photo of each object are match using all 3 detector and 2 descriptor.

3 Experiment result

3.1 Harris SIFT

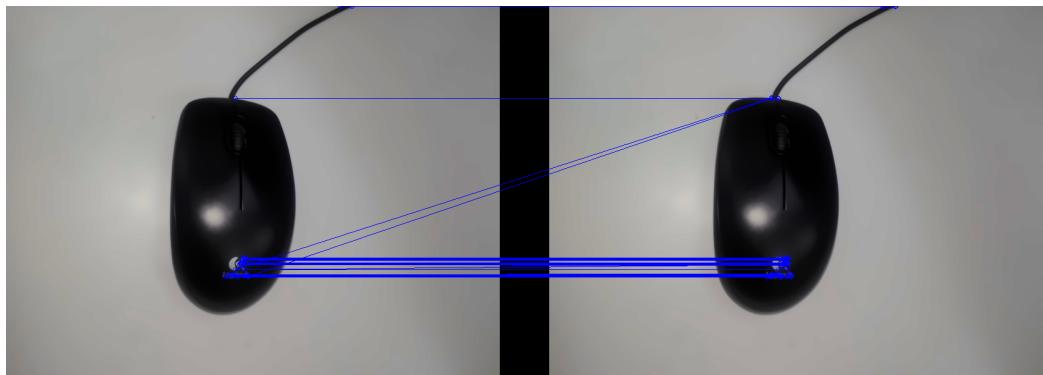


Figure 1: Computer mouse - Harris with SIFT

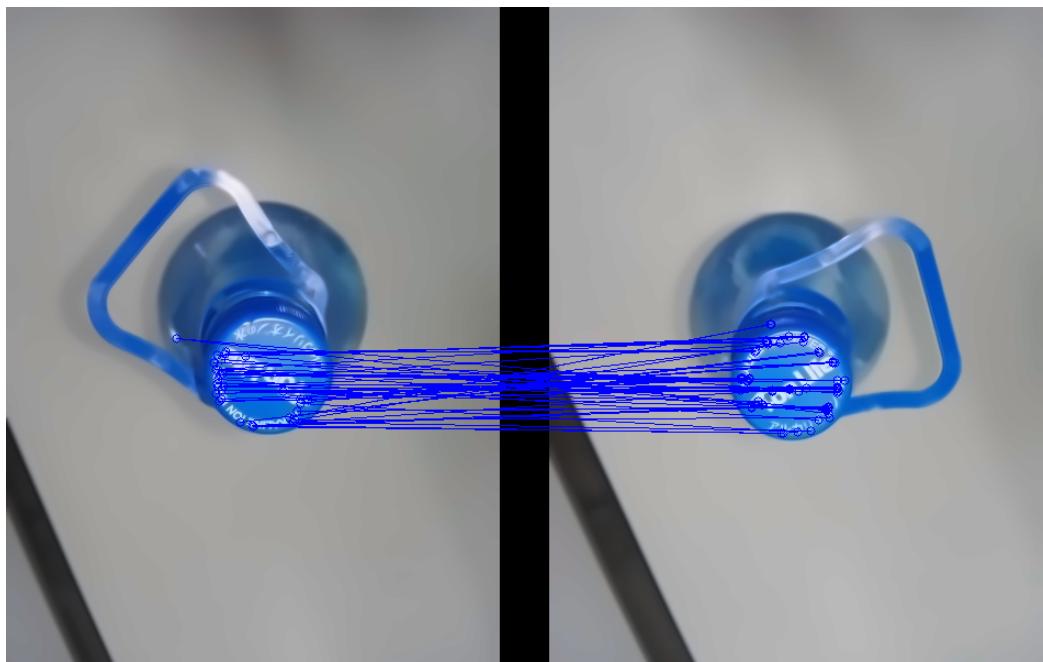


Figure 2: Water bottle - Harris with SIFT

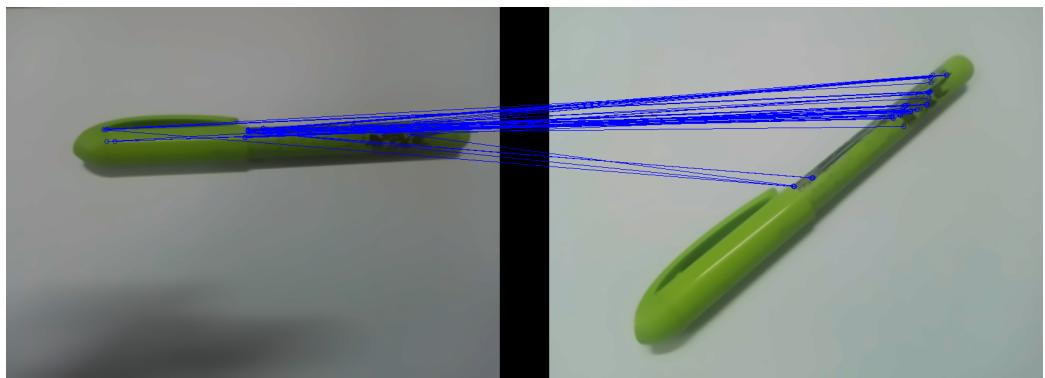


Figure 3: Pen - Harris with SIFT

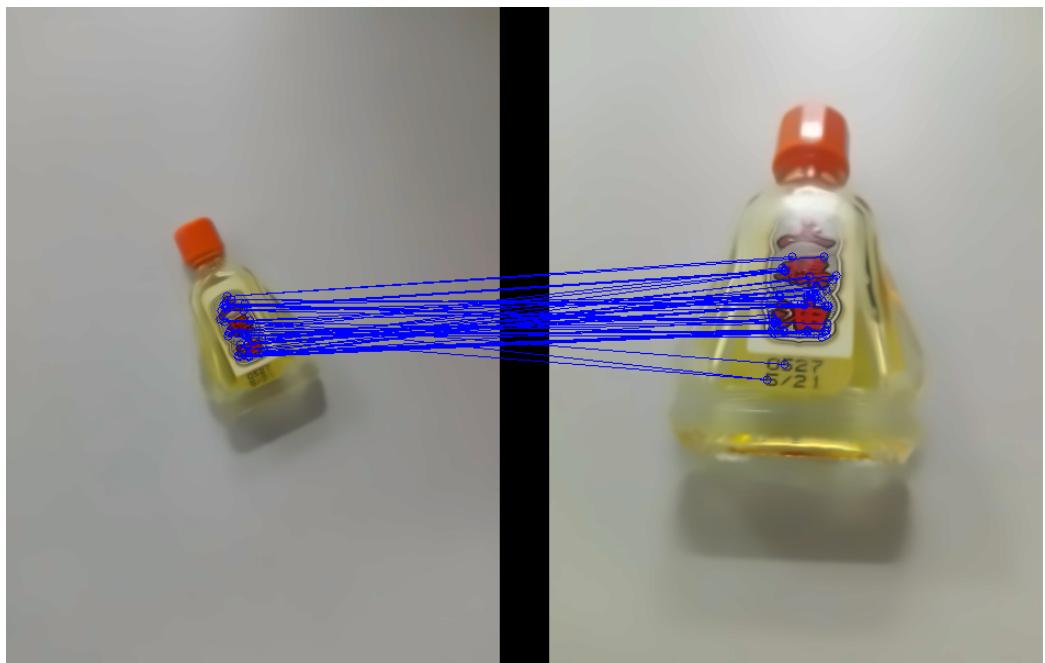


Figure 4: bottle of oil - Harris with SIFT

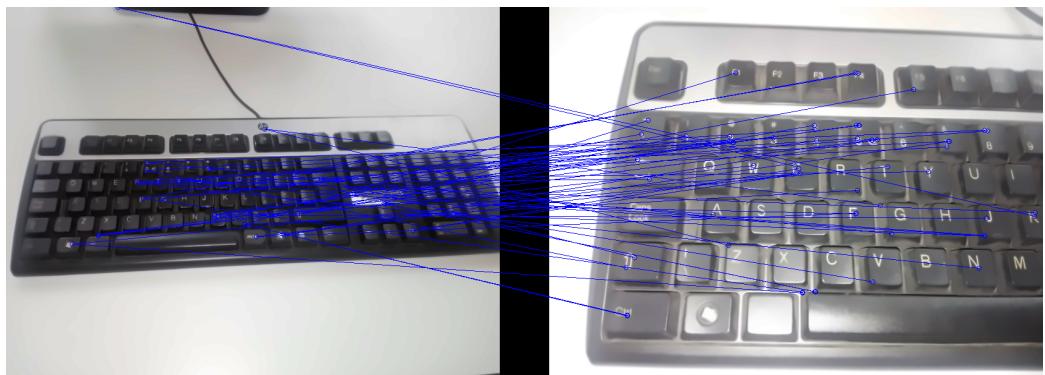


Figure 5: Keyboard - Harris with SIFT

3.2 Blob SIFT

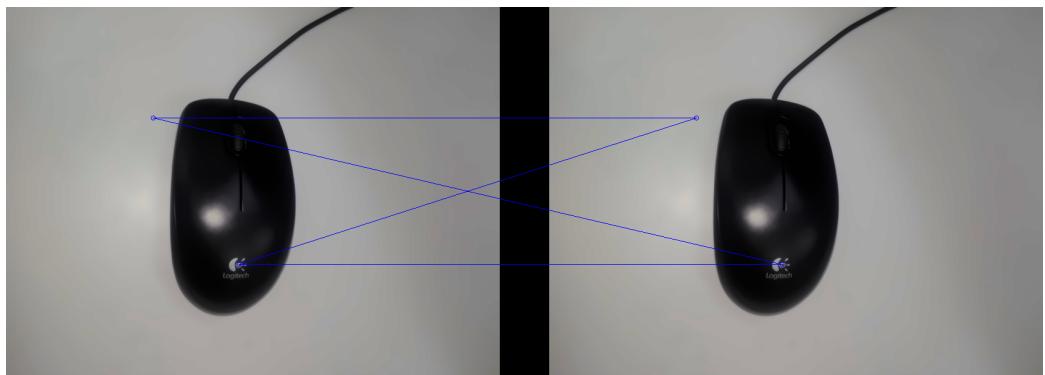


Figure 6: Computer mouse - Blob with SIFT

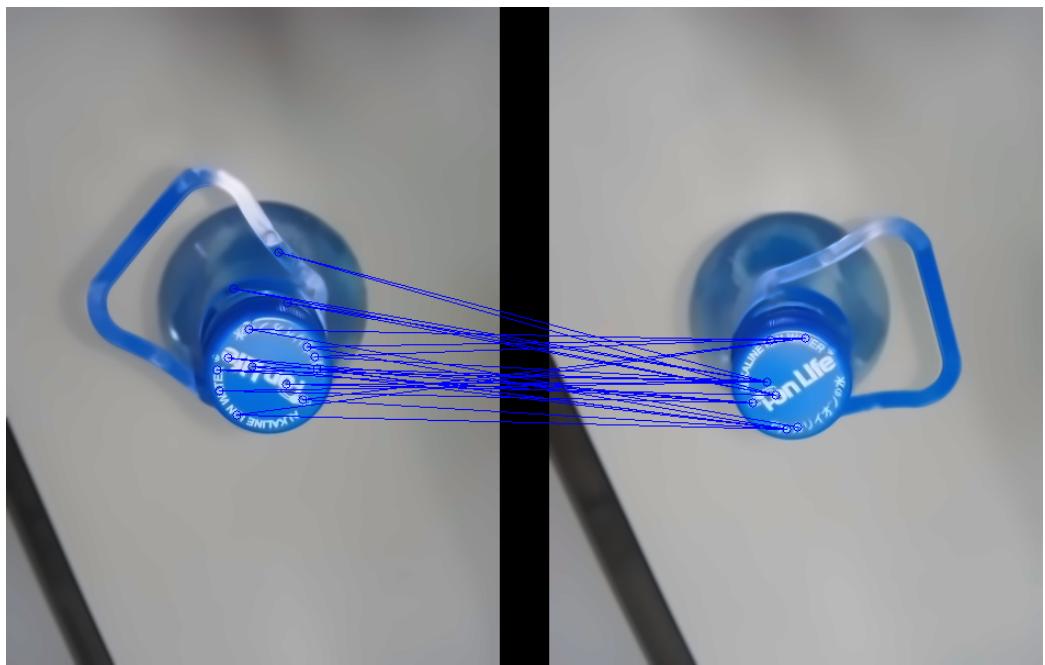


Figure 7: Water bottle - Blob with SIFT

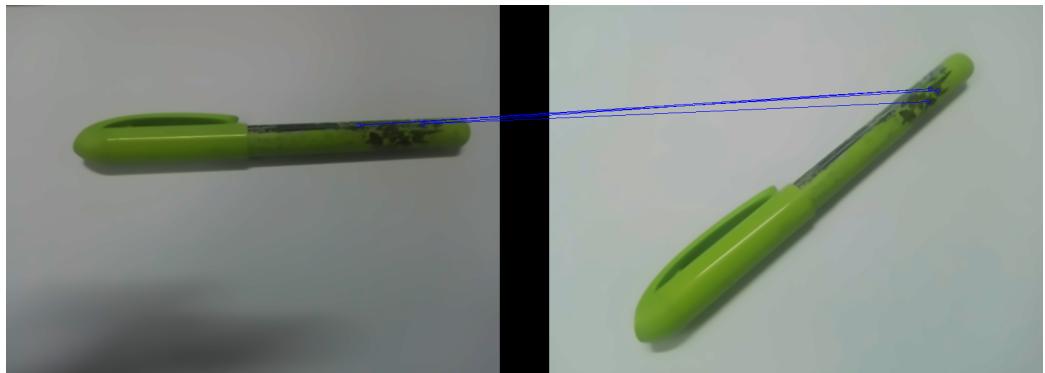


Figure 8: Pen - Blob with SIFT

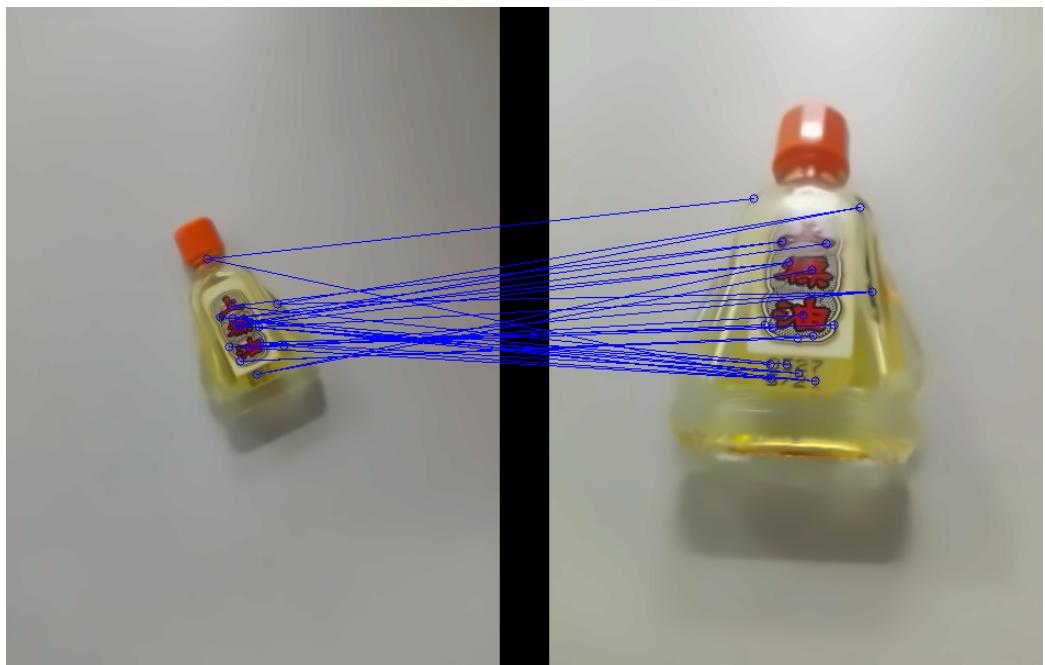


Figure 9: bottle of oil - Blob with SIFT

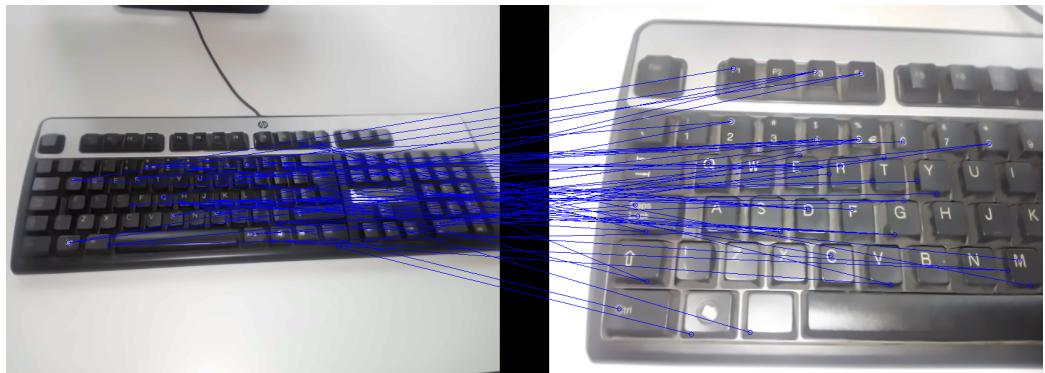


Figure 10: Keyboard - Blob with SIFT

3.3 DOG SIFT

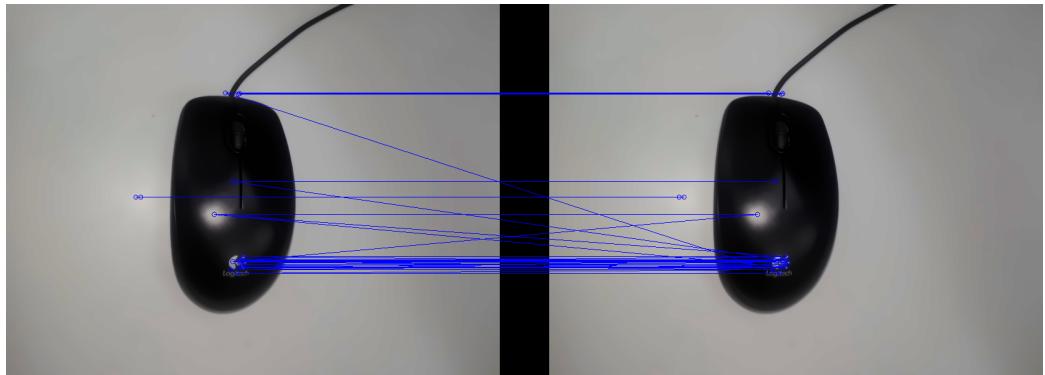


Figure 11: Computer mouse - Blob with SIFT

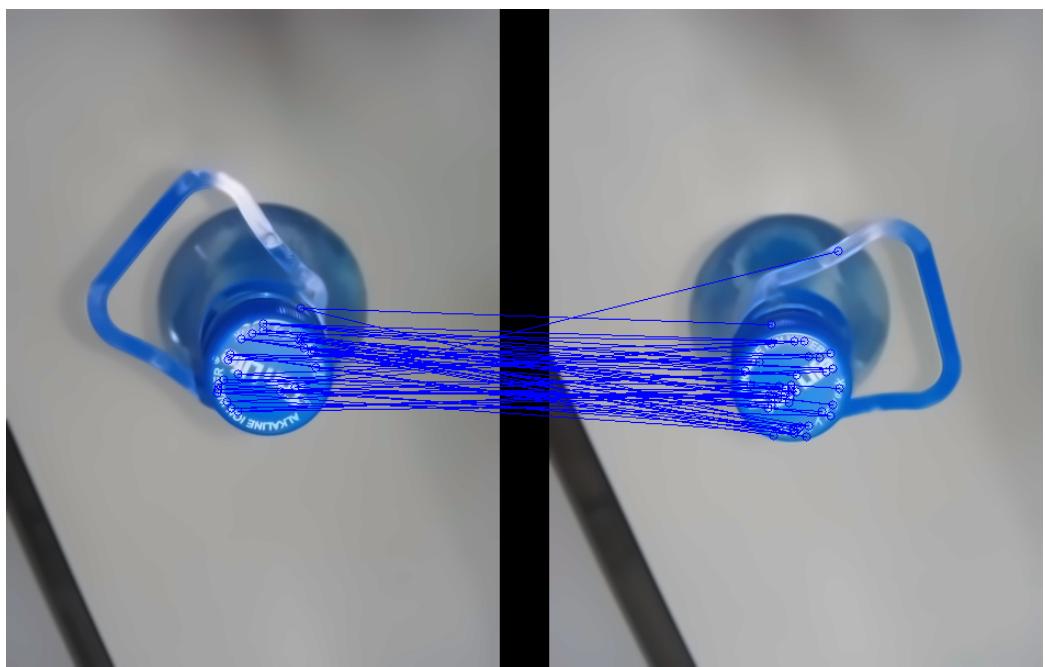


Figure 12: Water bottle - Blob with SIFT

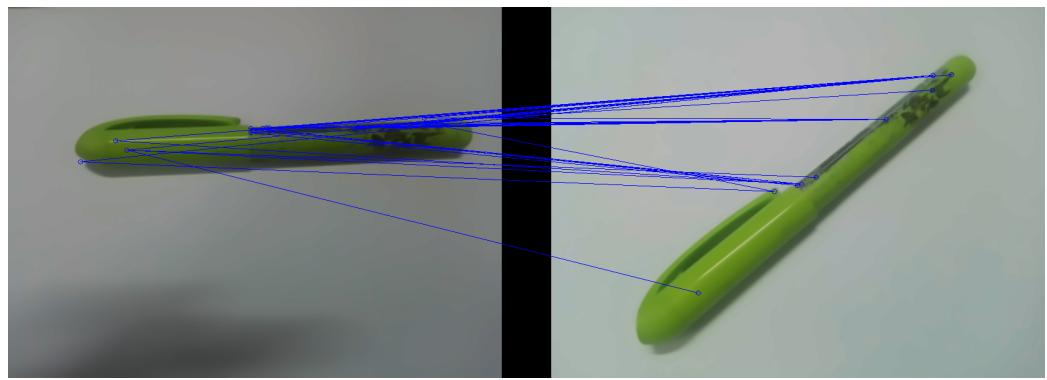


Figure 13: Pen - Blob with SIFT

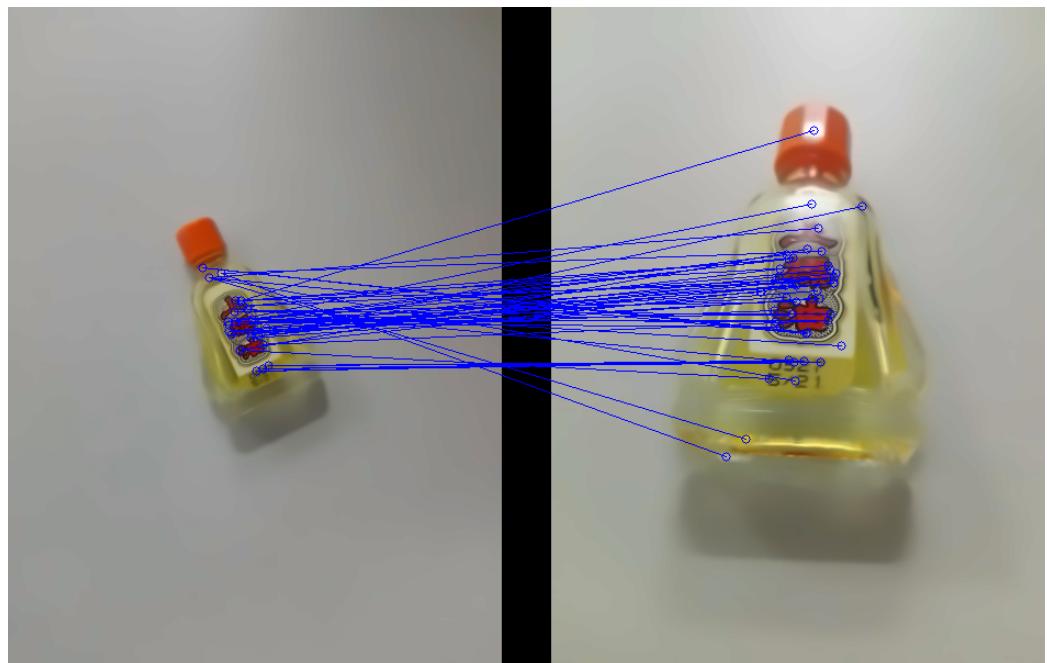


Figure 14: bottle of oil - Blob with SIFT

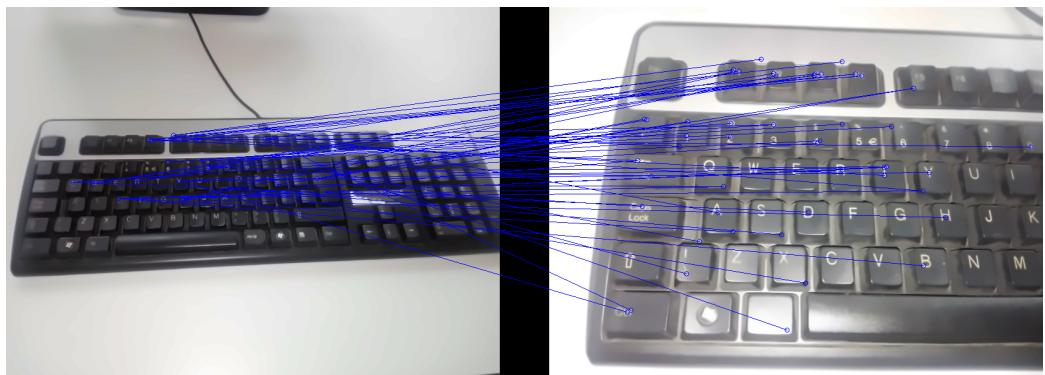


Figure 15: Keyboard - Blob with SIFT

3.4 Harris LBP

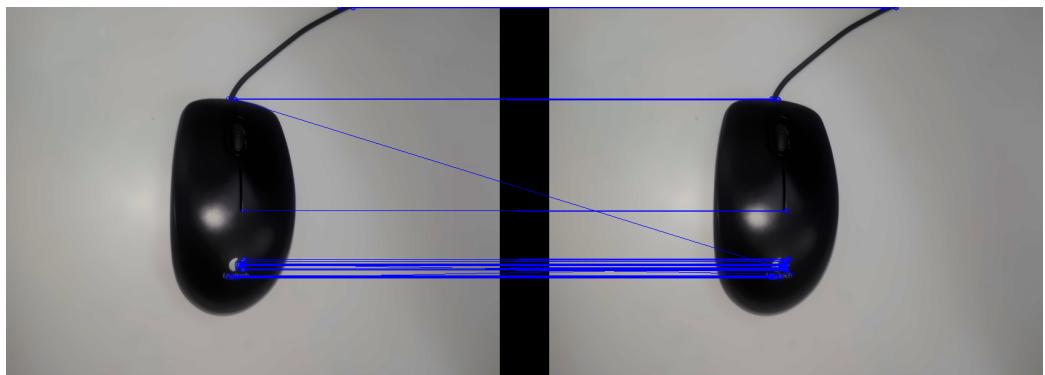


Figure 16: Computer mouse - Harris with LBP

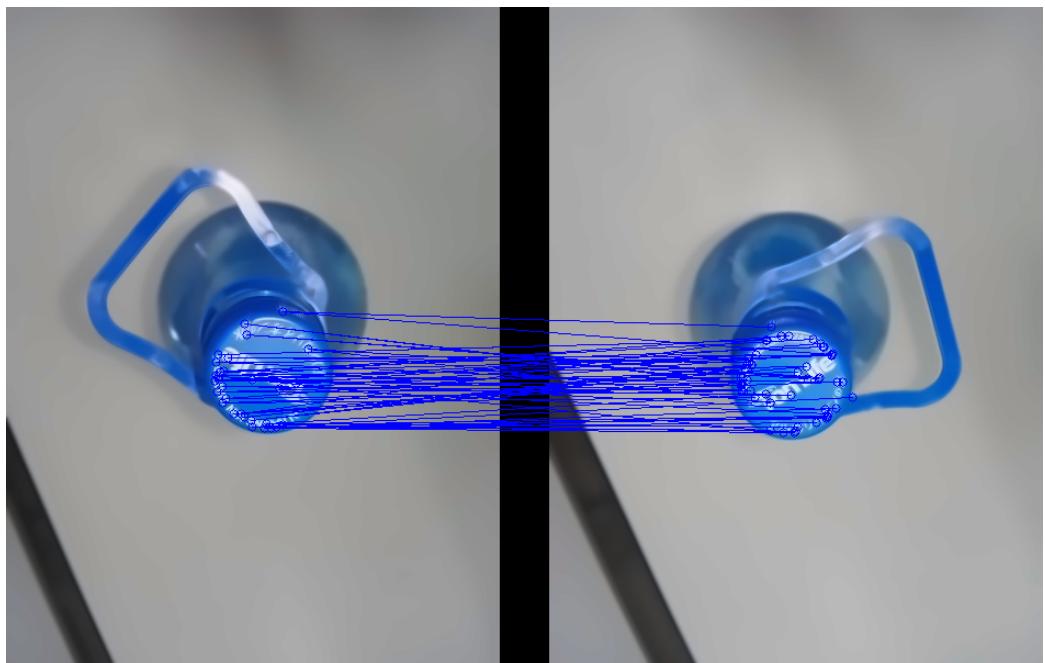


Figure 17: Water bottle - Harris with LBP

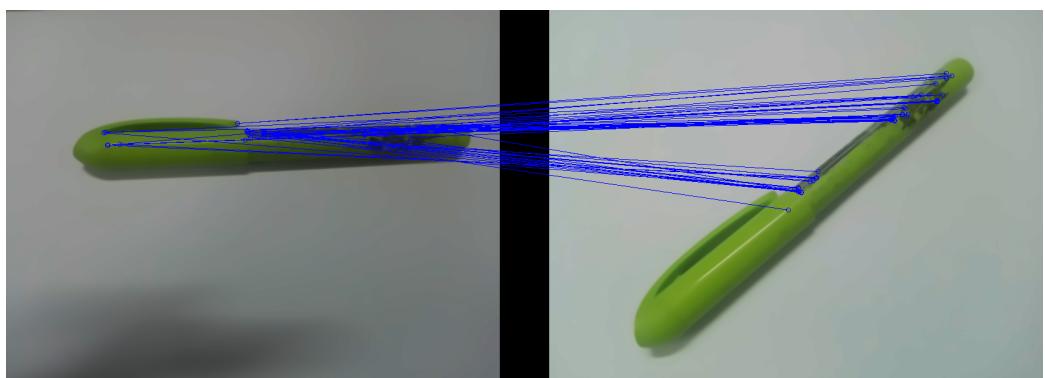


Figure 18: Pen - Harris with LBP

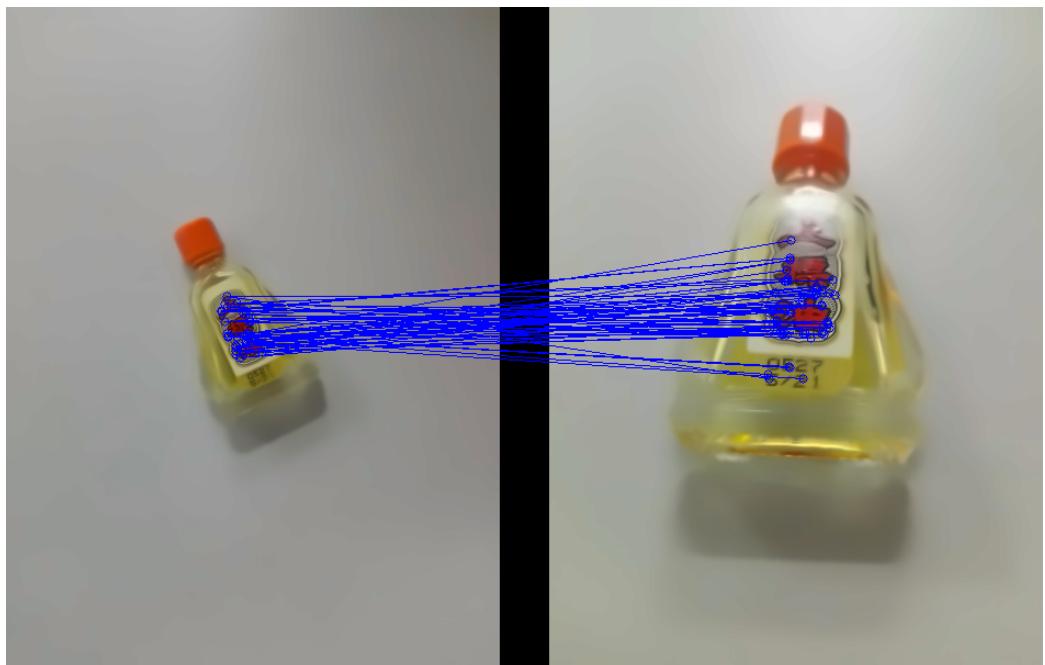


Figure 19: bottle of oil - Harris with LBP

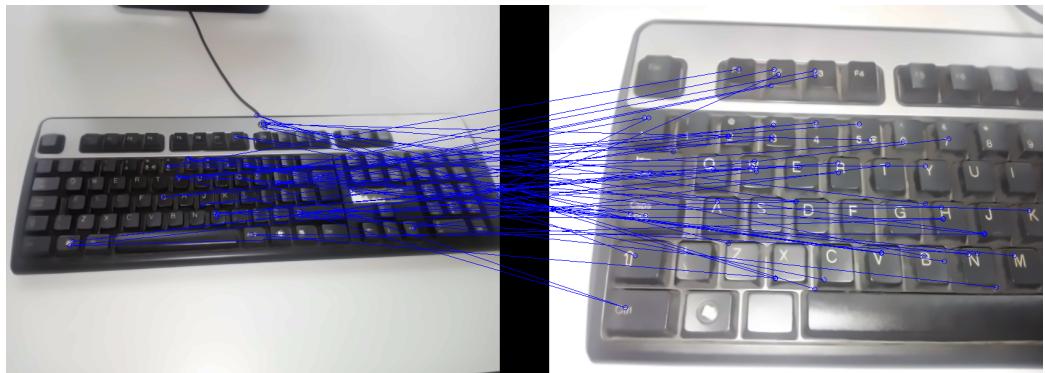


Figure 20: Keyboard - Harris with LBP

3.5 Blob LBP

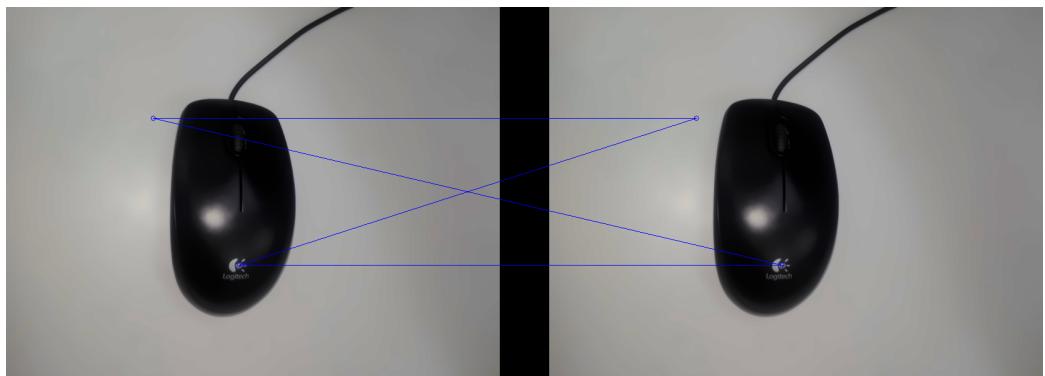


Figure 21: Computer mouse - Blob with LBP

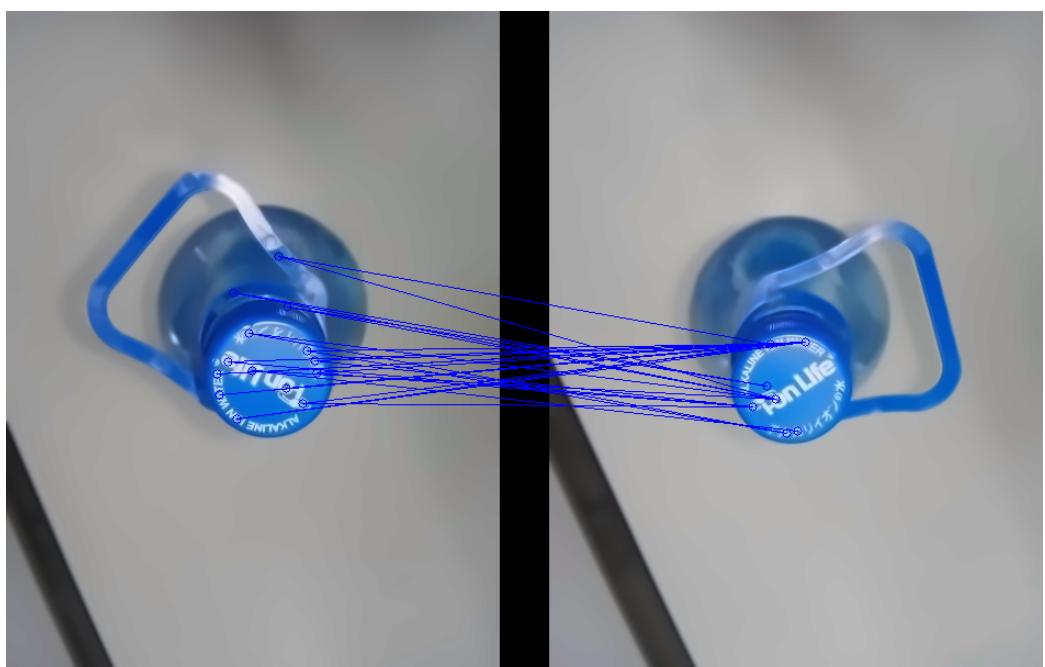


Figure 22: Water bottle - Blob with LBP

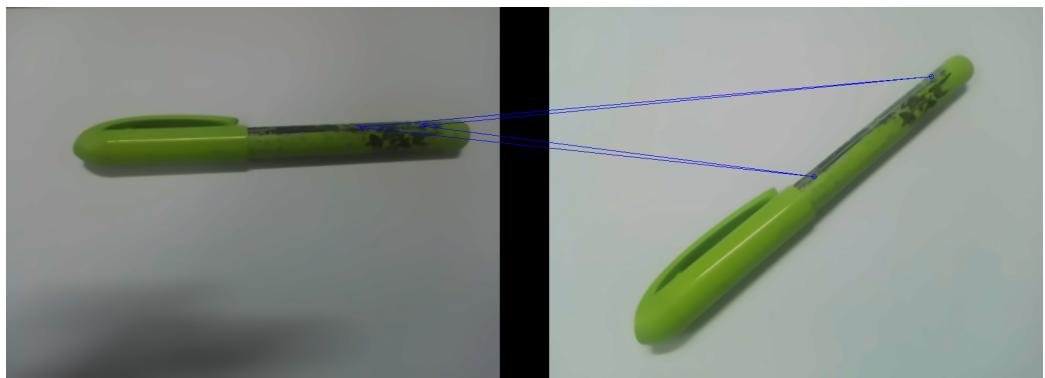


Figure 23: Pen - Blob with LBP

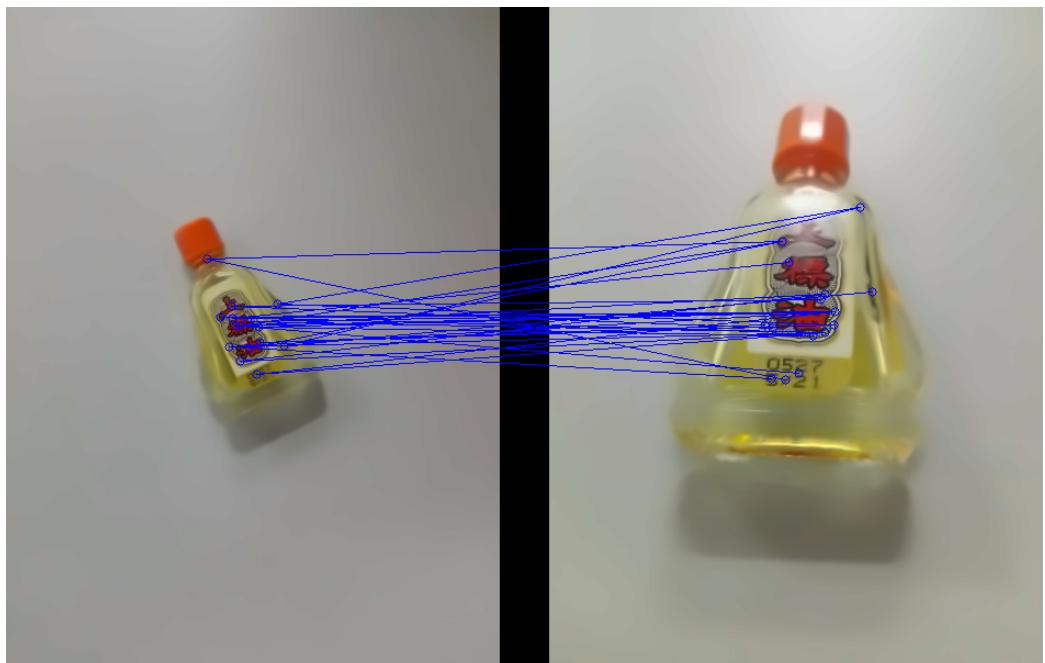


Figure 24: bottle of oil - Blob with LBP

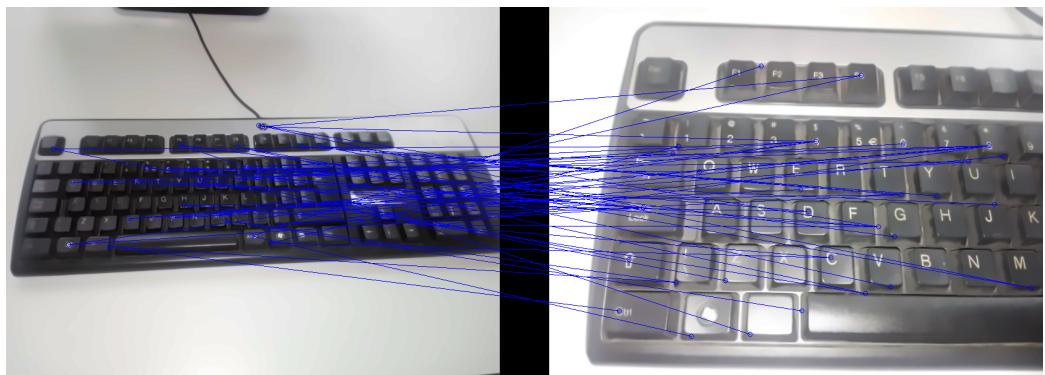


Figure 25: Keyboard - Blob with LBP

3.6 DOG LBP

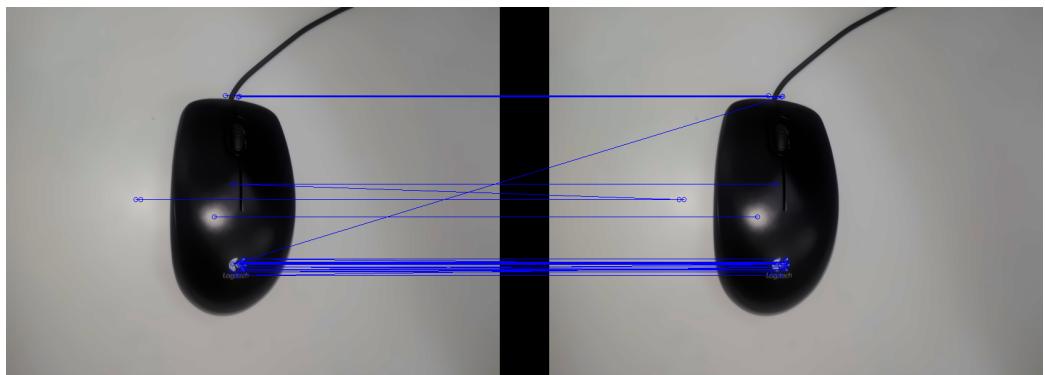


Figure 26: Computer mouse - Blob with LBP

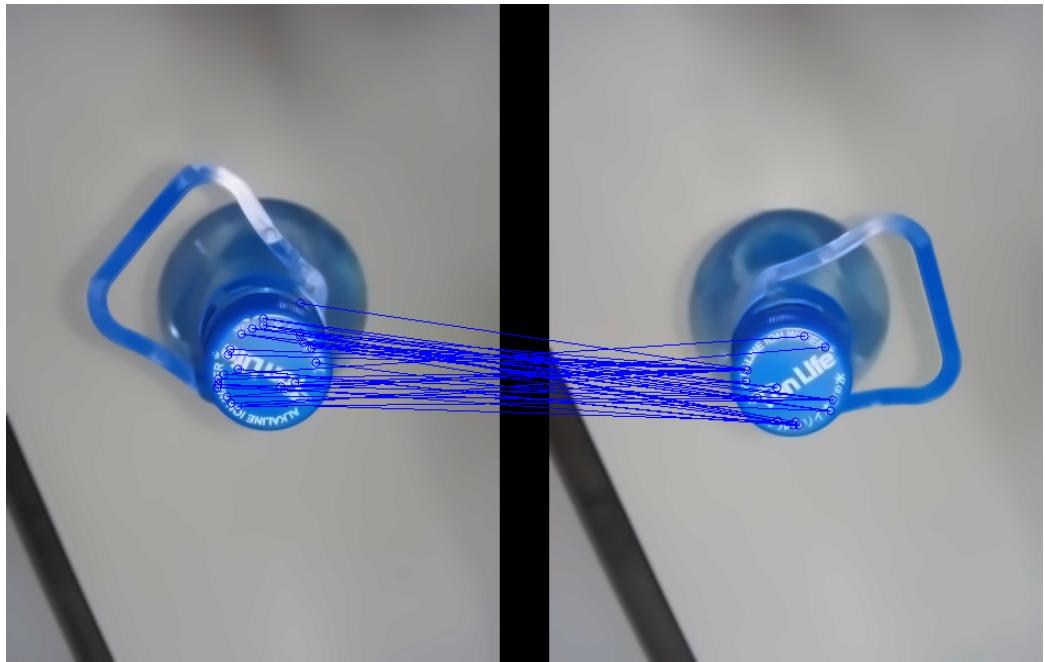


Figure 27: Water bottle - Blob with LBP

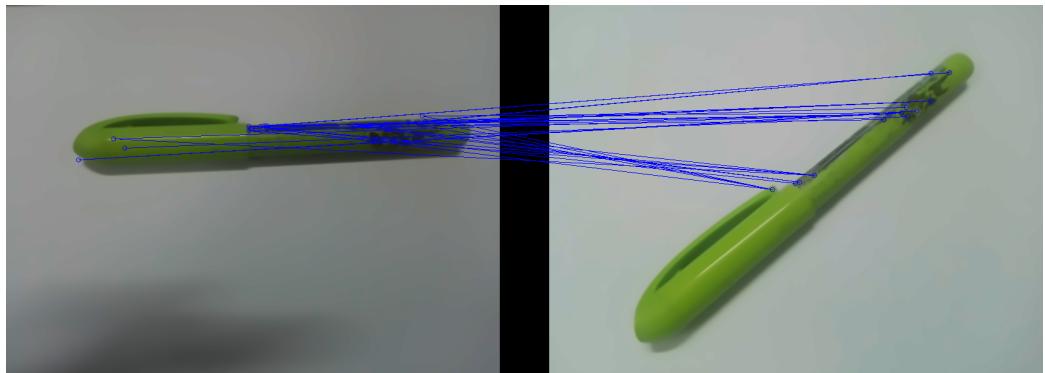


Figure 28: Pen - Blob with LBP

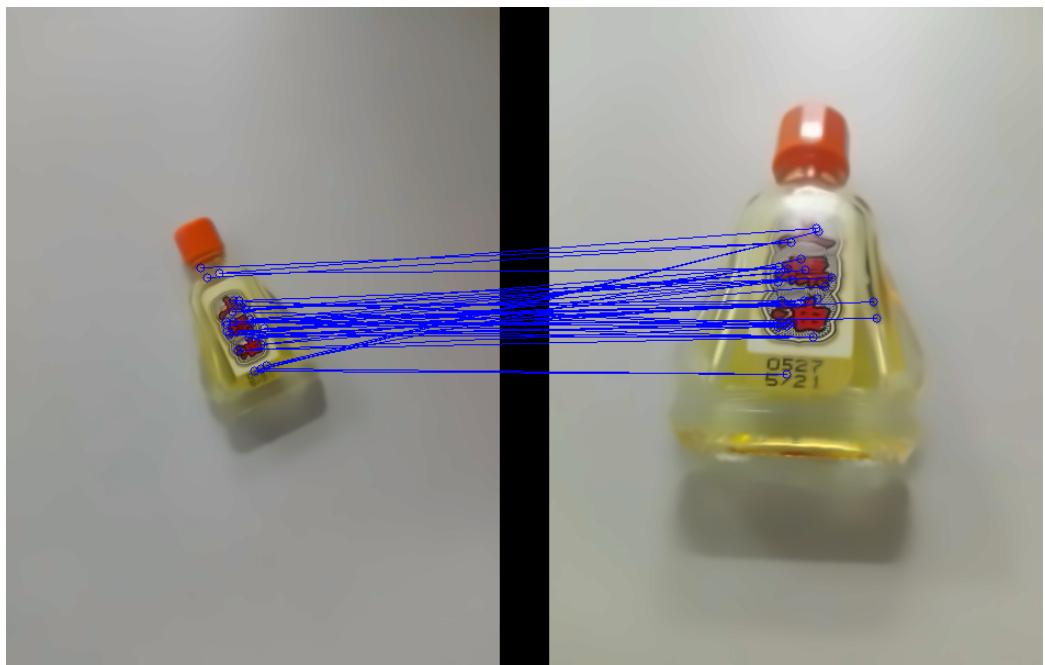


Figure 29: bottle of oil - Blob with LBP

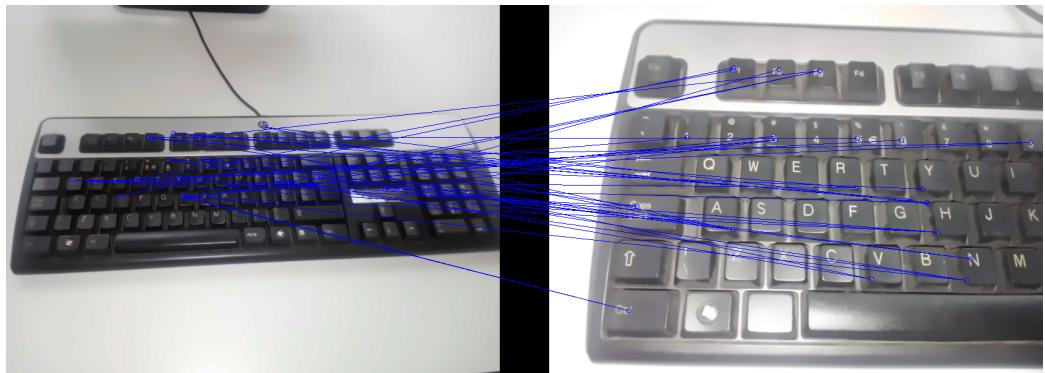


Figure 30: Keyboard - Blob with LBP