In this project you will study SIFT (Scale Invariant Feature Transform) algorithm for object description and recognition.
SIFT reference: http://www.cs.ubc.ca/~lowe/papers/ijcv04.pdf
The SIFT algorithm extracts, from an image, scale and rotation invariant features that are subsequently used for object detection and identification. As a case of study you may test the SIFT approach on e.g. traffic sign detection.

* **Select** a traffic sign you wish to investigate. (Note: In real life we would investigate many/all available traffic signs, but this project has a time limit. So we do experiments with only one sign.) A possible choice may be a "pedestrian crossing":

http://en.wikipedia.org/wiki/Road_signs_in_Sweden

* **Take** some pictures (ca 10), using still picture digital camera or using mobile phone camera, with pedestrian crossing signs. Try to get pictures with different sizes and rotations (and possible some occlusion) of the pedestrian crossing sign.

* **Investigate** SIFT matching capabilities using SIFT demo program from http://www.cs.ubc.ca/~lowe/keypoints/

Example: Your pattern image is pedestrianCrossing.pgm
Your scene image is sceneX.pgm

```
>> [image, descrips, locs] = sift('sceneX.pgm');
>> match('sceneX.pgm','pedestrianCrossing.pgm');
```

Visually judge if the keypoints from the scene match the keypoints of the searched pattern (the pedestrian crossing sign). How many points, if any, are correctly matched ?

* **Report:**

1) A short summary of SIFT algorithm (max one A4 page).
2) Description and examples of your test images (the pattern and scenes).
3) Report your matching experiments (ca 10 scenes).

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