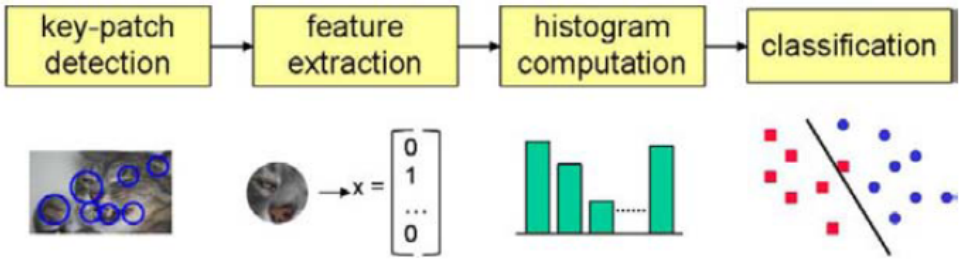
Image classification with SVM



- SVM: Support Vector Machine
- Process:
  1. Download the dataset: http://www.vision.caltech.edu/Image_Datasets/Caltech256/
     And select five classes at random (for each each class use the same number of images so that the training is balanced)
  2. Extract three types of features that you will compare: SIFT, SURF and HoG.
  3. Use 80% of images for training, 20% leave for testing. Images are randomly selected.
  4. Training and test sets must be in a matrix where rows are the images and columns are the N feature histogram values. Each image must be associated with a label.

	Feat. 1	Feat. 2	Feat. 3	Feat. 4	Feat. 5	Feat. 6	Feat. 7	.....	F. N
Image 1									
Image 2									
Image 3									
.....									
Image 400									

  5. Use SVM to classify: https://docs.opencv.org/3.4/d1/d73/tutorial_introduction_to_svm.html
     Each image will be considered a point in N-dimensional space
  6. Write a report that includes: Introduction, the methods and experimental evaluation. Report on the confusion matrix and accuracy for each feature. Discussion: Compare results and comment on strengths and weaknesses of each feature.