Bag of Visual Words: In the bag-of-visual-words (BoVW), images are represented by a sparse vector of occurrence counts of visual words contained in them.

Codeword, Visual Word: A codeword or visual word can be considered as a representative of several similar local image features. It is generally defined as a center of the cluster obtained by applying an unsupervised algorithm to local image features.

Fisher Information Metric: The Fisher information metric is a particular Riemannian metric on a manifold of probability distributions.

Information Geometry: Information geometry is a branch of mathematics that has emerged from the investigation of the natural differential geometric structure on manifolds of probability distributions.

Local Image Feature, Local Descriptor: Local image features or local descriptors are descriptions of the local patches in images. They describe elementary characteristics such as the shape or the texture.

Manifold: A manifold is a topological space that each local point resembles Euclidean space.

Riemannian Manifold: a Riemannian manifold is a differentiable manifold, where the tangent space at each point has an positive definite inner product.

Support Vector Machines: A special type of function for learning from examples.

Vector (or Feature) quantization: Techniques of compression which consists in summarizing the data set using a small set of well chosen data points.

Training data: Training examples for « supervised learning ».

Feature extraction: Description of an object (i.e. image, part of an image, situation...) with a given number of features automatically computed. A face could be described by the relative position of the eyes, nose and mouth.

Segmentation: Partitioning a digital image into multiple regions.

Supervised learning: task of inferring a function from examples provided by a « supervisor » (past examples, decision taken by an expert....).

Edge detection: Identify pixels in images where the properties of the image change sharply.
Compression: Compression is a process which consists in coding images so that it to their storage or transmission is as efficient as possible. Compression may be with loss or without loss of information.