Exploring deep learning for intelligent image retrieval

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List of Abbreviations

Abbreviation	Full Name / Short Definition
DCNNs	Deep Convolutional Neural Networks / A regularized version of multilayer perceptrons based on convolution kernels
CBIR	Content-based Image Retrieval / An image search task according to the content contained in images
MAC	Maximum Activations of Convolutions / Maximum value over a convolutional feature map
R-MAC	Regional Maximum Activations of Convolutions / Maximum value over a region on a convolutional feature map
CroW	Cross-dimensional Weighting / Weighting the activations over different feature maps
SPoC	Sum-Pooled Convolutional / Sum pooling over different feature maps
ReLU	Rectified Linear Unit / An activation function returns 0 if it receives any negative input
SPM	Spatial Pyramid Modeling / An method to model feature in a pyramid way
t-SNE	t-Distributed Stochastic Neighbor Embedding / A method to visualize high-dimensional data
RPNs	Region Proposal Networks / A network to obtain proposal for a region or an object
FC	Fully-Connected (layer)
KNN	K-Nearest Neighbors
BoW	Bag-of-Words / Method to embed features according to the number of feature occurrences
VLAD	Vector of Locally Aggregated Descriptors / Method to embed features based on their residuals w.r.t. each visual word
FV	Fisher Vector / Method to embed features by using Gaussian mixture model
GeM	Generalized Mean / A pooling method to apply over each feature map
CAM	Class Activation Maps / A feature weighting method based on an activated class output
PCA	Principal Component Analysis
MMD	Maximum Mean Discrepancy
FGIR	Fine-Grained Image Retrieval
RKHS	Reproducing Kernel Hilbert Space
DKD	Dual Knowledge Distillation // Knowledge distillation based on two teacher models
GCNs	Graph Convolutional Networks
VQA	Visual Question Answering / A computer vision task
KL-divergence	Kullback–Leibler divergence / A metric to measure the distance between two distributions