- vl_compile Compile VLFeat MEX files
- vl_demo Run VLFeat demos
- vl_harris Harris corner strength
- vl_help VLFeat toolbox builtin help
- vl_noprefix Create a prefix-less version of VLFeat commands
- vl_root Obtain VLFeat root path
- vl_setup Add VLFeat Toolbox to the path

VLAD

- vl_vlad VLAD feature encoding

SIFT

- vl_covdet Covariant feature detectors and descriptors
- vl_dsift Dense SIFT
- vl_frame2oell Convert a geometric frame to an oriented ellipse
- vl_liop Local Intensity Order Pattern descriptor
- vl_phow Extract PHOW features
- vl_plotsiftdescriptor Plot SIFT descriptor
- vl_plotss Plot scale space
- vl_sift Scale-Invariant Feature Transform
- vl_siftdescriptor Raw SIFT descriptor
- vl_ubcmatch Match SIFT features
- vl_ubcread Read Lowe's SIFT implementation data files

MISC

- vl_alldist2 Pairwise distances
- vl_alphanum Sort strings using the Alphanum algorithm
- vl_argparse Parse list of parameter-value pairs.
- vl_binsearch Maps data to bins
- vl_binsum Binned summation
- vl_colsubset Select a given number of columns
- vl_cummax Cumulative maximum
- vl_getpid Get MATLAB process ID
- vl_grad Compute the gradient of an image
- vl_histmarg Marginal of histogram
- vl_hog Compute HOG features
- vl_homkermap Homogeneous kernel map
- vl_ihashfind Find labels in an integer hash table
- vl_ihashsum Accumulate integer labels into a hash table
- vl_inthist Calculate Integral Histogram
- vl_isoctave Determines whether Octave is running
- vl_kdtreebuild Build randomized kd-tree
- vl_kdtreequery Query KD-tree
- vl_lbp Local Binary Patterns
- vl_lbpfliplr Flip LBP features left-right
- vl_localmax Find local maximizers
- vl_matlabversion Return MATLAB version as an integer
- vl_numder Numerical derivative
- vl_numder2 Numerical second derivative
- vl_override Override structure subset
- vl_pegasos [deprecated]
- vl_sampleinthist Sample integral histogram
- vl_simdctrl Toggle VLFeat SIMD optimizations
- vl_svmdataset Construct advanced SVM dataset structure
- vl_svmpegasos [deprecated]
- vl_svmtrain Train a Support Vector Machine
- vl_threads Control VLFeat computational threads
- vl_twister Random number generator
- vl_version Obtain VLFeat version information
- vl_whistc Weighted histogram
- vl_xmkdir Create a directory recursively.

GMM

- vl_gmm Learn a Gaussian Mixture Model using EM

FISHER

- vl_fisher Fisher vector feature encoding

QUICKSHIFT

- vl_flatmap Flatten a tree, assigning the label of the root to each node
- vl_imseg Color an image based on the segmentation
- vl_quickseg Produce a quickshift segmentation of a grayscale or color image
- vl_quickshift Quick shift image segmentation
- vl_quickvis Create an edge image from a Quickshift segmentation.

IMOP

- vl_dwaffine Derivative of an affine warp
- vl_imarray Flattens image array
- vl_imarraysc Scale and flattens image array
- vl_imdisttf Image distance transform
- vl_imdown Downsample an image by two
- vl_imgrad Image gradient
- vl_imintegral Compute integral image
- vl_impattern Generate an image from a stock pattern
- vl_imreadbw Reads an image as gray-scale
- vl_imreadgray Reads an image as gray-scale
- vl_imsc Scale image
- vl_imsmooth Smooth image
- vl_imup Upsample an image by two
- vl_imwbackward Image backward warping
- vl_imwhiten Whiten an image
- vl_rgb2xyz Convert RGB color space to XYZ
- vl_tps Compute the thin-plate spline basis
- vl_tpsu Compute the U matrix of a thin-plate spline transformation
- vl_waffine Apply affine transformation to points
- vl_witps Inverse thin-plate spline warping
- vl_wtps Thin-plate spline warping
- vl_xyz2lab Convert XYZ color space to LAB
- vl_xyz2luv Convert XYZ color space to LUV
- vl_xyz2rgb Convert XYZ to RGB

MSER

- vl_erfill Fill extremal region
- vl_ertr Transpose exremal regions frames
- vl_mser Maximally Stable Extremal Regions

PLOTOP

- vl_cf Creates a copy of a figure
- vl_click Click a point
- vl_clickpoint Select a point by clicking
- vl_clicksegment Select a segment by clicking
- vl_det Compute DET curve
- vl_figaspect Set figure aspect ratio
- vl_linespec2prop Convert PLOT style line specs to line properties
- vl_plotbox Plot boxes
- vl_plotframe Plot a geometric frame
- vl_plotgrid Plot a 2-D grid
- vl_plotpoint Plot 2 or 3 dimensional points
- vl_plotstyle Get a plot style
- vl_pr Precision-recall curve.
- vl_printsize Set the printing size of a figure
- vl_roc ROC curve.
- vl_tightsubplot Tiles axes without wasting space
- vl_tpfp Compute true positives and false positives

SPECIAL

- vl_ddgaussian Second derivative of the Gaussian density function
- vl_dgaussian Derivative of the Gaussian density function
- vl_dsigmoid Derivative of the sigmoid function
- vl_gaussian Standard Gaussian density function
- vl_rcos RCOS function
- vl_sigmoid Sigmoid function

SLIC

- vl_slic SLIC superpixels

GEOMETRY

- vl_hat Hat operator
- vl_ihat Inverse vl_hat operator
- vl_irodr Inverse Rodrigues' formula
- vl_rodr Rodrigues' formula

AIB

- vl_aib Agglomerative Information Bottleneck

- **vl_aibcut** Cut VL_AIB tree
- **vl_aibcuthist** Compute a histogram by using an AIB compressed alphabet
- **vl_aibcutpush** Quantize based on VL_AIB cut
- **vl_aibhist** Compute histogram over VL_AIB tree

KMEANS

- **vl_hikmeans** Hierachical integer K-means
- **vl_hikmeanshist** Compute histogram of quantized data
- **vl_hikmeanspush** Push data down an integer K-means tree
- **vl_ikmeans** Integer K-means
- **vl_ikmeanshist** Compute histogram of quantized data
- **vl_ikmeanspush** Project data on integer K-means paritions
- **vl_kmeans** Cluster data using k-means