Function index

MatConvNet includes several MATLAB functions organized as follows:

- Building blocks. These functions implement the CNN computational blocks that can be combined either manually or using one of the provided wrappers to construct CNNs.
- SimpleCNN wrapper. SimpleNN is a lightweight wrapper implementing CNNs that are linear chains of computational blocks.
- DagNN wrapper. DagNN is an object-oriented wrapper supporting more complex network topologies.
- Other functions. These helper functions are used to initialize and compile MatConvNet.

There is no general training function as training depends on the dataset and problem. Look at the `examples` subdirectory for code showing how to train CNNs.

Building blocks

- `vl_nnbnorm` (../mfiles/vl_nnbnorm/) Batch normalization.
- `vl_nnconv` (../mfiles/vl_nnconv/) Linear convolution by a filter.
- `vl_nnconcat` (../mfiles/vl_nnconcat/) Concatenation.
- `vl_nnconvt` (../mfiles/vl_nnconvt/) Convolution transopose.
- `vl_nncrop` (../mfiles/vl_nncrop/) Cropping.
- `vl_nndropout` (../mfiles/vl_nndropout/) Dropout.
- `vl_nnloss` (../mfiles/vl_nnloss/) Classification log-loss.
- `vl_nnnoffset` (../mfiles/vl_nnnoffset/) Norm-dependent offset.
- `vl_nnnormalize` (../mfiles/vl_nnnormalize/) Local Response Normalization (LRN).
- `vl_nnpdist` (../mfiles/vl_nnpdist/) Pairwise distances.
- `vl_nnpool` (../mfiles/vl_nnpool/) Max and sum pooling.
- `vl_nnrelu` (../mfiles/vl_nnrelu/) Rectified Linear Unit.
- `vl_nnsigmoid` (../mfiles/vl_nnsigmoid/) Sigmoid.
- `vl_nnsoftmax` (../mfiles/vl_nnsoftmax/) Channel soft-max.
- `vl_nnsoftmaxloss` (../mfiles/vl_nnsoftmaxloss/) *Deprecated*
- `vl_nnspnorm` (../mfiles/vl_nnspnorm/) Spatial normalization.

SimpleCNN wrapper

- `vl_simplenn` (../mfiles/simplenn/vl_simplenn/) A lightweight wrapper for CNNs with a linear topology.
- `vl_simplenn_tidy` (../mfiles/simplenn/vl_simplenn_tidy/) Upgrade or otherwise fix a CNN.
- `vi_simplenn_display` (../mfiles/simplenn/vl_simplenn_display/) Print information about the CNN architecture.
- `vl_simplenn_move` (../mfiles/simplenn/vl_simplenn_move/) Move the CNN between CPU and GPU.

DagNN wrapper

- DagNN (../mfiles/+dagnn/@DagNN/DagNN/) An object-oriented wrapper for CNN with complex topologies

Other functions

- vl_argparse (../mfiles/vl_argparse/) A helper function to parse optional arugments.
- vl_compilenn (../mfiles/vl_compilenn/) Compile the MEX fiels in the toolbox.
- vl_rootnn (../mfiles/vl_rootnn/) Return the path to the MatConvNet toolbox installation.
- vl_setupnn (../mfiles/vl_setupnn/) Setup MatConvNet for use in MATLAB.
- vl_imreadjpeg (../mfiles/vl_imreadjpeg/) Quickly load a batch of JPEG images.