**Using the MNIST Dataset**

**Introduction**

The MNIST dataset is a dataset of handwritten digits, comprising 60 000 training examples and 10 000 test examples. The dataset can be downloaded from<http://yann.lecun.com/exdb/mnist/>.

**Usage**

The image and label data is stored in a binary format described on the website. For your convenience, we have provided two MATLAB helper functions for extracting the data. These functions are available at <http://ufldl.stanford.edu/wiki/resources/mnistHelper.zip>.

As an example of how to use these functions, you can check the images and labels using the following code:

% Change the filenames if you've saved the files under different names

% On some platforms, the files might be saved as

% train-images.idx3-ubyte / train-labels.idx1-ubyte

images = loadMNISTImages('train-images-idx3-ubyte');

labels = loadMNISTLabels('train-labels-idx1-ubyte');

% We are using display\_network from the autoencoder code

display\_network(images(:,1:100)); % Show the first 100 images

disp(labels(1:10));