Neural Network Toolbox Release Notes

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R2010b

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Improved Network Creation

New network creation functions have clearer names, no longer need example data, and have argument lists reduced to only the arguments recommended for most applications. All arguments have defaults, so you can create simple networks by calling network functions without any arguments. New networks are also more memory efficient, as they no longer need to store sample input and target data for proper configuration of input and output processing settings.

```
% New function
net = feedforwardnet(hiddenSizes, trainingFcn)

% Old function
net = newff(x,t,hiddenSizes, transferFcns, trainingFcn, ...
      learningFcn, performanceFcn, inputProcessingFcns, ...
      outputProcessingFcns, dataDivisionFcn)
```

The new functions (and the old functions they replace) are:

`feedforwardnet` (`newff`)
`cascadeforwardnet` (`newcf`)
`competlayer` (`newc`)
`distdelaynet` (`newdtdnn`)
`elmannet` (`newelm`)
`fitnet` (`newfit`)
`layrecnet` (`newlrn`)
`linearlayer` (`newlin`)
`lvqnet` (`newlvq`)
`narxnet` (`newnarx`, `newnarxsp`)
`patternnet` (`newpr`)
`perceptron` (`newp`)
`selforgmap` (`newsom`)
`timedelaynet` (`newtdnn`)

The network's inputs and outputs are created with size zero, then configured for data when

`train` is called or by optionally calling the new function `configure`.

```
net = configure(net, x, t)
```

Unconfigured networks can be saved and reused by configuring them for many different problems. `unconfigure` sets a configured network's inputs and outputs to zero, in a network which can later be configured for other data.

```
net = unconfigure(net)
```

Compatibility Considerations

Old functions continue working as before, but are no longer recommended.

R2008a

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New Pattern Recognition Network, Plotting, and Analysis GUI

The `nprtool` function opens a GUI wizard that guides you to a neural network solution for pattern recognition problems. Users can define their own problems or use one of the new data sets provided.

The `newpr` function creates a pattern recognition network at the command line. Pattern recognition networks are feed-forward networks that solve problems with Boolean or 1-of-*N* targets and have confusion (`plotconfusion`) and receiver operating characteristic (`plotroc`) plots associated with them.

The new `confusion` function calculates the true/false, positive/negative results from comparing network output classification with target classes.