DeepLearn Instruction manual

Package contains a class called NeuralNetwork.java. Before implementing NeuralNetwork jama.jar must be included in the project.

Jama.jar can be downloaded from:
http://www.java2s.com/Code/Jar/j/Downloadjamasrcjar.htm

NeuralNetwork.java has following methods:-

Method	Description
FeedForward(arg X)	arg X is a jama matrix column vector, return type of the method is jama column Matrix.
BackPropagation(arg del)	arg del is a jama matrix column vector, return type of the method is void.
Sigmoid(arg M)	arg M is a jama matrix, return type of the matrix is jama Matrix.

Setting up the architecture:-

- Instantiating an object of NeuralNetwork requires two parameters an int[] Nnodes and float alpha.
- Here alpha is the learning rate and int[] Nnodes contains information about the architecture of the network.
- 0^{th} index of the Nnodes assigns input feature dimension or number of input neurons, next n indexes assigns number of nodes in the corresponding hidden layers and last index assigns number of output neurons.

Implementation:- X_i 's are set of input vectors of dimension n and Y_i's are set of their corresponding outputs of dimension m, networks has 2 hidden layers each consisting 3 neurons and learning rate is chosen to be 0.25.

Nnode= [n,3,3,m]

$\propto = 0.25$

until Convergence

- For all X_i
  - out= FeedForward(X_i)
  - del= out-Y_i
  - BackPropagation(del)
- endfor