

CAP6610: Machine Learning

The Neural Network Approach

MATLAB is a function-based tool and is very easy to learn for computer science and engineering students. Here given is a simple guidance for running the backpropagation neural network in MATLAB. There are three basic functions relevant to this application:

- `newff`: for building a fully connected neural network.
- `train`: for training the network on training instances.
- `sim`: for computing the network's output given an input vector.

Note that the above function names may vary in different versions of MATLAB. Please read the on-line documents or the MATLAB manual "Neural Network Tool Box: For Use with MATLAB" by MathWorks, Inc.

This project uses the same mushroom data as is provided in the ID3 project. You need to write a simple program to convert the mushroom data into a file in the format acceptable by the Matlab program, Then you need to load your data file into Matlab for running the program. Please return

- The test accuracy. Try a different set of program parameter values and obtain as the best result as you can.
- Give discussion on the program performance and results.