

## CSE 5693 Machine Learning HW3 (Due Mar 19, 2008)

1. Written assignment (from the textbook):

- (a) 4.1
- (b) 4.2
- (c) 4.9

2. Programming assignment: Artificial Neural Networks

Implement the back propagation algorithm for a feed forward artificial neural network with one hidden layer. Your implementation should include at least these input parameters:

- (a) number of input units
- (b) number of hidden units
- (c) number of output units
- (d) learning rate
- (e) number of iterations (stopping criterion)

Try your implementation on

- (a) the play tennis problem (Table 3.2)
- (b) the 8x3x8 problem (Figure 4.7)
- (c) one other data set with continuous attribute values and multiple outcomes (same with HW2)

Again, your implementation should have at least two executables: one for training and one for testing/performing after the neural net is trained. Your implementation should also report how accurate the neural network is on a training or test data set. Use your favorite programming language (C, C++, Java, or LISP).