

Introduction to Soft Computing

Practice Sheet: NN-2

Training of ANNs and Applications of ANNs

1. For the same size of training data as input, the fastest learning techniques is
 - (a) Supervised training with error correction.
 - (b) Supervised training with stochastic method.
 - (c) Supervised training without error calculation.
 - (d) Supervised training with Hebbian method.
2. Hebbian learning is a form of
 - (a) Supervised Learning
 - (b) Unsupervised learning
 - (c) Reinforced learning
 - (d) Stochastic learning
3. In case of layer calculation, the maximum time involved in
 - (a) Output layer computation.
 - (b) Hidden layer computation.
 - (c) Equal effort in each layer.
 - (d) Input layer computation.
4. The **Back Propagation Learning** algorithm is used to train
 - (a) a single layer feed forward neural network only
 - (b) a multiple layer feed forward neural network only
 - (c) a recurrent neural network only
 - (d) any artificial neural network
5. In this learning method, those neurons which responds strongly to input stimuli have their weights updated
 - (a) Competitive learning

- (b) Stochastic Learning
- (c) Hebbian Learning
- (d) Gradient Descent Learning

6. Training Perceptron is based on

- (a) Supervised learning technique.
- (b) Unsupervised learning
- (c) Reinforced learning
- (d) Stochastic learning

7. A batch mode of training is generally implemented through the _____ in error calculation

- (a) Minimization of median square error
- (b) Maximization of median square error
- (c) Maximization of mean square error
- (d) Minimization of mean square error

8. Command to start matlab fuzzy toolbox is

- (a) fis
- (b) fuzzy
- (c) fuzzybox
- (d) fuzzytool

9. Which of the following is not a hybrid system?

- (a) Embedded hybrid system
- (b) Sequential hybrid system
- (c) Auxiliary hybrid system
- (d) Parallel hybrid system

10. In which of the following, one technology calls the other technology as subroutine to process or manipulate information needed

- (a) Embedded hybrid system

- (b) Sequential hybrid system
- (c) Auxiliary hybrid system
- (d) Parallel hybrid system

11. Fuzzy – Genetic Hybrid system is a

- (a) Fuzzy logic in parallel with the Genetic algorithm
- (b) Fuzzy logic controlled Genetic algorithm
- (c) Genetic algorithm controlled Fuzzy logic
- (d) None of the above

12. In Supervised learning – ve sign is used to signify the fact that if $\frac{\partial E}{\partial v} > 0$, then we have to

- (a) Increase V
- (b) Decrease V
- (c) Increase E
- (d) Decrease E

13. Both fuzzy logic and artificial neural network are soft computing techniques because,

- (a) Both gives precise and accurate results.
- (b) Artificial neural network gives accurate result but fuzzy logic does not.
- (c) In each, no precise mathematical model of the problem is required.
- (d) Fuzzy gives exact result but artificial neural network does not.

14. In supervised learning, training set of data includes

- (a) Input
- (b) Output
- (c) Both input and output
- (d) None