

Unit 7 - Week 5 :

Course outline
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Assignment Detailed Solution

Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-01, 23:59 IST.

- 1) In training a neural network using back-propagation algorithm, 2 points
- a. chain rule of differentiation is used in computing gradient of the error surface.
 - b. activation functions are chosen, so that they are differentiable in nature.
 - c. the connecting weights can be generated initially at random in the range of (0.0, 1.0).
 - d. all of the above.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
d.
- 2) Which one of the following is not a valid method of initialization of weights for training a neural network? 2 points
- a. Weights are generated at random in the range of [-1.0, +1.0].
 - b. Weights are generated at random in the range of (0.0, +1.0).
 - c. Weights are generated at random from a standard normal distribution.
 - d. All the weight values in neural network are initialized to zero.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
d.
- 3) In the generalized delta rule for updating weights at t -th iteration of a back-propagation neural network, 2 points
- a. the value of the weight only of the previous iteration is considered.
 - b. only a constant term: alpha (α) is added to the delta rule.
 - c. learning rate (η) is decreased exponentially with the number of iterations.
 - d. change in weight of the previous iteration ($t-1$)-th also is considered.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
d.
- 4) Momentum constant (α) used in generalized delta rule for updating the weights serves the following purpose(s). 2 points
- a. It stabilizes the network in gradient directions of the error surface.
 - b. It guarantees reaching the globally optimal solution on the error surface.
 - c. It always decreases the convergence time of the back-propagation algorithm.
 - d. All of the above
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
a.
- 5) During supervised learning of a multi-layered feed-forward neural network, the learning rate used in back-propagation algorithm indicates 2 points
- a. the iterative step length of optimization.
 - b. the iterative search direction of optimization
 - c. both the iterative search direction as well as step length of optimization.
 - d. neither the iterative search direction nor step length of optimization .
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
a.
- 6) Which one of the following statements is true in case of Radial Basis Function networks? 2 points
- a. Updating of connecting weights does not occur between input nodes and hidden layer.
 - b. Updating of connecting weights does not occur between hidden layer and output layer.
 - c. The number of hidden layers is kept more than 2.
 - d. It is a three-layered network.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
a.
- 7) In a multi-layer feed-forward neural network, the minimum number of neuron(s) to be put in the hidden layer is equal to 2 points
- a. 1
 - b. 2
 - c. 3
 - d. 4
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
b.
- 8) The number of hidden layer in Radial Basis Function neural network is kept 2 points
- a. equal to 2.
 - b. more than 2.
 - c. equal to 1.
 - d. equal to the square root of the number of training data.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
c.
- 9) A radial basis function used in Radial Basis Function networks generally obeys the following properties: 2 points
- a. Its functional value is always kept positive.
 - b. Its functional value either increases or decreases monotonically from a central point.
 - c. The function is differentiable in nature.
 - d. All of the above.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
d.
- 10) Which one of the following statements is false about Radial Basis Function networks developed using Gaussian kernel in the hidden layer? 2 points
- a. Weights between the hidden and output layers can be updated using back-propagation algorithm.
 - b. Weights between the hidden and output layer can be updated using a genetic algorithm.
 - c. Mean and variance of the Gaussian kernel cannot be updated using back-propagation algorithm.
 - d. Mean and variance of the Gaussian kernel can be updated using back-propagation algorithm.
- a.
 b.
 c.
 d.
- No, the answer is incorrect.
Score: 0
- Accepted Answers:
c.