DEEP LEARNING – WORKSHEET 3

1. Which of the following is true about model capacity (where model capacity means the ability of neural network to approximate complex functions)?

Answer: A) As dropout ratio increases, model capacity increases

2. Batch Normalization is helpful because?

Answer: C) It normalizes (changes) all the input before sending it to the next layer

3. What if we use a learning rate that’s too large?

Answer: C) either A or B

4. What are the factors to select the depth of neural network?

Answer: C) 1, 3, 4, 5

5. Suppose you have inputs as x, y, and z with values -2, 5, and -4 respectively. You have a neuron ‘q’ and neuron ‘f’ with functions: q = x + y f = q \* z Graphical representation of the functions is as follows: What is the gradient of F with respect to x, y, and z? (use chain rule of derivatives to find the solution)

Answer: C) (-4, -4, 3)

6. Which of the following statement is the best description of early stopping?

Answer: B) Simulate the network on a test dataset after every epoch of training. Stop training when the generalization error starts to increase

7. Which gradient descent technique is more advantageous when the data is too big to handle in RAM simultaneously?

Answer: A) Mini Batch Gradient Descent

8. Consider the scenario. The problem you are trying to solve has a small amount of data. Fortunately, you have a pre-trained neural network that was trained on a similar problem. Which of the following methodologies would you choose to make use of this pre-trained network?

Answer: B) Assess on every layer how the model performs and only select a few of them

9. Which of the following neural network training challenge can be solved using batch normalization?

Answer: A) Overfitting

10. For a binary classification problem, which of the following activations may be used in output layer?

Answer: A) ReLU B) sigmoid C) softmax