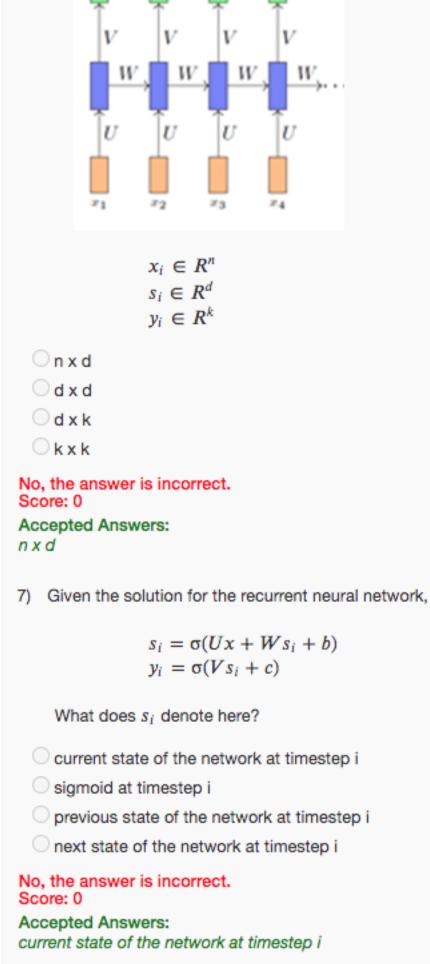
Announcements

Unit 13 - Week 11 Course outline How does an NPTEL online course work? Week 0 Week 1 Week 2 Week 3 week 4 Week 5 Week 6 Week 7 Week 8 Week 9 week 10 Week 11 Sequence Learning Problems Recurrent Neural Networks Backpropagation through time The problem of Exploding and Vanishing Gradients Some Gory Details Selective Read, Selective Write, Selective Forget - The Whiteboard Analogy O Long Short Term Memory(LSTM) and Gated Recurrent Units(GRUs) How LSTMs avoid the problem of vanishing gradients How LSTMs avoid the problem of vanishing gradients (Contd.) Lecture Material for Week 11 O Quiz: Assignment 11 Week 11 Feedback Week 12 **Download Videos Text Transcripts**

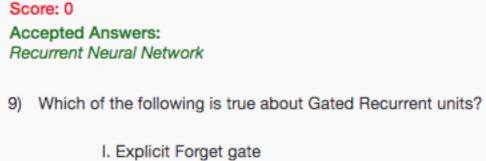
About the Course Ask a Question Progress Mentor **Assignment 11** Due on 2020-04-15, 23:59 IST. The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. 1) The equation for the output gate for LSTM network is: 1 point Where U and W are weight matrices, b is the bias function, x_t is input at particular time step t, h_{t-1} is previous cell output for selective write, σ is sigmoid function. $O_t = \sigma(W_0 h_t + U_0 x_t + b_0)$ $O_t = \sigma(W_0 h_{t-1} + U_0 x_t + b_0)$ $O_t = \sigma(W_0 h_{t-1} + U_0 x_{t-1} + b_0)$ ○ None No, the answer is incorrect. Score: 0 Accepted Answers: $O_t = \sigma(W_0 h_{t-1} + U_0 x_t + b_0)$ 2) For calculating the current state in RNN, which of the following is the correct representation 1 point Here, h_t -current state, h_{t-1} -previous state, x_t - input state $h_t = f(h_{t-1}, x_t)$ $h_t = f(h_t, x_t)$ $h_t = f(h_{t-1}, x_{t-1})$ $h_t = f(h_t, x_{t-1})$ No, the answer is incorrect. Score: 0 Accepted Answers: $h_t = f(h_{t-1}, x_t)$ 3) What is the correct way of representing the recurrent neural networks? 1 point X, Y, X, No, the answer is incorrect. Score: 0 Accepted Answers: 4) For recurrent neural networks, the activation function can be represented by the following equations: $h_t = tanh(Ux_t + Wh_{t-1} + b)$ $h_t = tanh(Ux_t + h_{t-1} + b)$ $h_t = tanh(x_t + Wh_{t-1} + b)$ $h_t = tanh(Ux_t + Wh_t + b)$ No, the answer is incorrect. Score: 0 Accepted Answers: $h_t = tanh(Ux_t + Wh_{t-1} + b)$ 5) What is generally the sequence followed when building a neural network architecture for semantic segmentation for image? Convolutional network on input and deconvolutional network on output Deconvolutional network on input and convolutional network on output No, the answer is incorrect.



Score: 0

Accepted Answers:

Convolutional network on input and deconvolutional network on output



II. Gate directly depends on s_{t-1}

III. Gate depends on the intermediate h_{t-1}

Fully-Connected Neural Network

Convolutional Neural Network

Restricted Boltzmann Machine

Recurrent Neural Network

No, the answer is incorrect.

O I only

Il only

III only

All the above

No, the answer is incorrect.

Score: 0 Accepted Answers: II only 10) Given below is the representation of LSTM, What is the number of operations that takeplace a given timestep, t? 0.40.6 0.7 0.66 0.1 0.9 0.2 selective forget selective write selective write selective read **4 3** 6 **2** No, the answer is incorrect. Score: 0 Accepted Answers:

1 point 1 point 6) Consider the Recurrent Neural Network with the following dimensions. What is the dimension of U? 1 point 0 points 8) Which neural network architecture would be suitable to find the nth character given the character sequence of length n-1? 1 point 1 point

1 point