

You are taking "Final Exam" as a timed exam. The timer on the right shows the time remaining in the exam. To receive credit for problems, you must select "Submit" for each problem before you select "End My Exam". [Show Less](#)

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## Final Exam

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### Final Exam Instructions

1. Time allowed: **1 hour**

2. Attempts per question:

- One attempt - For True/False questions
- Two attempts - For any question other than True/False

Clicking the "Final Check" button when it appears means your submission is **FINAL**. You will **NOT** be able to resubmit your answer for that question ever again.

**IMPORTANT: Do not let the time run out and expect the system to grade you automatically. You must explicitly submit your answers, otherwise they would be marked as incomplete.**

### Question 1

1/1 point (graded)

Why use a Data Flow graph to solve Mathematical expressions?

 To create a pipeline of operations and its corresponding values to be parsed To represent the expression in a human-readable form To show the expression in a GUI Because it is the only way to solve mathematical expressions in a digital computer None of the above[Submit](#)

You have used 2 of 2 attempts

Correct (1/1 point)

### Question 2

1/1 point (graded)

What is an Activation Function?

 A function that triggers a neuron and generates the outputs A function that models a phenomenon or process A function to normalize the output All of the above None of the above[Submit](#)

You have used 1 of 2 attempts



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Correct (1/1 point)

### Question 3

1/1 point (graded)

Why is TensorFlow considered fast and suitable for Deep Learning?

- It is suitable to operate over large multi-dimensional tensors
- It runs on CPU
- Its core is based on C++
- It runs on GPU
- All of the above



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You have used 1 of 2 attempts

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✓ Correct (1/1 point)

#### Question 4

0/1 point (graded)

Can TensorFlow replace Numpy?

- None of the above
- No, whatsoever
- With only Numpy we can't solve Deep Learning problems, therefore, TensorFlow is required
- Yes, completely
- Partially for some operations on tensors, such as minimization



Submit

You have used 2 of 2 attempts

✗ Incorrect (0/1 point)

#### Question 5

1/1 point (graded)

What is FALSE about Convolution Neural Networks (CNNs)?

- They fully connect to all neurons in all of the layers
- They connect only to neurons in the local region (kernel size) of input images
- They build feature maps hierarchically in every layer
- They are inspired by human visual systems
- None of the above



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✓ Correct (1/1 point)

#### Question 6

1/1 point (graded)

What is the meaning of "Strides" in Maxpooling?

- The number of pixels the kernel should add
- The number of pixels the kernel should move
- The size of the kernel
- The number of pixels the kernel should remove

None of the above



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You have used 2 of 2 attempts

Correct (1/1 point)

### Question 7

1/1 point (graded)

What is TRUE about "Padding" in Convolution?

size of the input image is reduced for the "VALID" padding

Size of the input image is reduced for the "SAME" padding

Size of the input image is increased for the "SAME" padding

Size of the input image is increased for the "VALID" padding

All of the above



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Correct (1/1 point)

### Question 8

1/1 point (graded)

Which of the following best describes the Relu Function?

(-1,1)

(0,5)

(0, Max)

(-inf,inf)

(0,1)



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You have used 2 of 2 attempts

Correct (1/1 point)

### Question 9

0/1 point (graded)

Which are types of Recurrent Neural Networks? (Select all that apply)

LSTM

Hopfield Network

Recursive Neural Network

Deep Belief Network

Elman Networks and Jordan Networks



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You have used 2 of 2 attempts

Incorrect (0/1 point)

### Question 10

1/1 point (graded)

Which is TRUE about RNNs?

- RNNs can predict the future
- RNNs are VERY suitable for sequential data
- RNNs are NOT suitable for sequential data
- RNNs are ONLY suitable for sequential data
- All of the above



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You have used 1 of 2 attempts



✓ Correct (1/1 point)

### Question 11

1/1 point (graded)

What is the problem with RNNs and gradients?

- Numerical computation of gradients can drive into instabilities
- Gradients can quickly drop and stabilize at near zero
- Propagation of errors due to the recurrent characteristic
- Gradients can grow exponentially
- All of the above



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You have used 1 of 2 attempts



✓ Correct (1/1 point)

### Question 12

1/1 point (graded)

What type of RNN would you use in an NLP project to predict the next word in a phrase? (only one is correct)

- Bi-directional RNN
- Neural history compressor
- Long Short-Term Memory
- Echo state network
- None of the above



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You have used 1 of 2 attempts



✓ Correct (1/1 point)

### Question 13

1/1 point (graded)

Which one does NOT happen in the "forward pass" in RBM?

- Making a deterministic decision about returning values into network.
- Multiplying inputs by weights, and adding an overall bias, in each hidden unit.
- Applying an activation function on the results in hidden units.

Feeding the nework with the input images converted to binary values.



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Correct (1/1 point)

### Question 14

0/1 point (graded)

Which one IS NOT a sample of CNN application?

Creating art images using pre-trained models

Object Detection in images

Coloring black and white images

Predicting next word in a sentence



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Incorrect (0/1 point)

### Question 15

0/1 point (graded)

Select all possible uses of Autoencoders and RBMs (select all that apply):

Clustering

Pattern Recognition

Dimensionality Reduction

Predict data in time series



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You have used 2 of 2 attempts

Incorrect (0/1 point)

### Question 16

1/1 point (graded)

Which technique is proper for solving Collaborative Filtering problem?

DBN

RBM

CNN

RNN



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You have used 2 of 2 attempts

Correct (1/1 point)

### Question 17

1/1 point (graded)

Which statement is TRUE for training Autoencoders?

The Size of Last Layer must be at least 10% of the Input Layer Dimension

The size of input and Last Layers must be of the Same Dimensions

The Last Layer must be Double the size of Input Layer Dimension

The Last Layer must be half the size of Input Layer Dimension

None of the Above



**Submit** You have used 1 of 2 attempts

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Correct (1/1 point)

### Question 18

1/1 point (graded)

To Design a Deep Autoencoder Architecture, what factors are to be considered?

The size of the centre-most layer has to be close to number of Important Features to be extracted

The centre-most layer should have the smallest size compared to all other layers

The Network should have an odd number of layers

All the layers must be symmetrical with respect to the centre-most layer

All of the Above



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Correct (1/1 point)

### Question 19

1/1 point (graded)

With is TRUE about Back-propogation?

It can be used to train LSTMs

It can be used to train CNNs

It can be used to train RBMs

It can be used to train Autoencoders

All of the Above



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Correct (1/1 point)

### Question 20

1/1 point (graded)

How can Autoencoders be improved to handle higly non-linear data?

By using Genetic Algorithms

By adding more Hidden Layers to the Network

By using Higher initial Weight Values

By using Lower initial Weight Values

All of the Above



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✓ Correct (1/1 point)

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