Deep learning mcq

* Required

1. Enter your Full Name *

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4. What is a Dense layer? *

Mark only one oval.

- An amount of mass occupying a volume
- A layer of connected neurons
- A single neuron
- A layer of disconnected neurons

5. How do you measure how good the current ‘guess’ is? *

Mark only one oval.

- Training a neural network
- Using the Loss function
- Figuring out if you win or lose
- None of the above

6. What does the optimizer do? *

Mark only one oval.

- Figures out how to efficiently compile your code
- Measures how good the current guess is
- Generates a new and improved guess
- Decides to stop training a neural network

7. What is Convergence? *

Mark only one oval.

- A dramatic increase in loss
- The process of getting very close to the correct answer
- An analysis that corresponds too closely or exactly to a particular set of data.
- A programming API for AI

8. Which of these statements about mini-batch gradient descent do you agree with? *

Mark only one oval.

- You should implement mini-batch gradient descent without an explicit for-loop over different mini-batches, so that the algorithm processes all mini-batches at the same time (vectorization).
- Training one epoch (one pass through the training set) using mini-batch gradient descent is faster than training one epoch using batch gradient descent.
- One iteration of mini-batch gradient descent (computing on a single mini-batch) is faster than one iteration of batch gradient descent.
- None of the above.

9. Consider a Generative Adversarial Network (GAN) which successfully produces images of apples. Which of the following propositions is false? *

Mark only one oval.

- The generator aims to learn the distribution of apple images.
- The discriminator can be used to classify images as apple vs. non-apple.
- After training the GAN, the discriminator loss eventually reaches a constant value.
- The generator can produce unseen images of apples.

10. After training a neural network, you observe a large gap between the training accuracy (100%) and the test accuracy (42%). Which of the following methods is commonly used to reduce this *

Mark only one oval.

- Generative Adversarial Networks
- Dropout
- Sigmoid activation
- RMSprop optimizer

11. Suppose you have a dataset from where you have to predict ten classes given in one hot encoded form. Then which of the following configuration you should use in the output layer? *

Mark only one oval.

- Activation function = softmax, loss function = sparse categorical cross entropy
- Activation function = sigmoid, loss function =categorical cross entropy
- Activation function = softmax, loss function = mean squared error
- Activation function = sigmoid, loss function = mean squared error

12. Using Image Generator, how do you label images? *

Mark only one oval.

- ◯ It's based on the file name.
- ◯ It's based on the directory the image is contained in.
- ◯ TensorFlow figures it out from the contents.
- ◯ You have to manually do it.

13. How do Convolutions improve image recognition? *

Mark only one oval.

- ◯ They isolate features in images
- ◯ They make the image smaller
- ◯ They make the image clearer
- ◯ They make processing of images faster

14. What does the Pooling technique do to the images? *

Mark only one oval.

- ◯ A technique to make images sharper
- ◯ A technique to combine pictures
- ◯ A technique to reduce the information in an image while maintaining features
- ◯ A technique to isolate features in images

15. What is the benefit to use CNN instead ANN? *

Mark only one oval.

- Increase the number of units in the network, which means more parameters to learn and increase chance of overfitting. Also they consider the context information in the small neighborhoos. This feature is very important to achieve a better prediction.
- Reduce the number of units in the network, which means fewer parameters to learn and reduced chance of overfitting. Also they consider the context information in the small neighborhoos. This feature is very important to achieve a better prediction in data like images.
- There is no benefit, ANN is always better.
- CNN has better results since you have more computional power.

16. In data augmentation, we just create multiple instances of the same image without applying any changes to the image to increase the dataset. *

Mark only one oval.

- True
- False

17. Transfer learning is preferable because(More than one option may be correct) *

Mark only one oval.

- It speeds up training considerably
- It never overfits training data
- It requires much less training data

18. _____ is used To learn a generative model, which describes how data is generated in terms of a probabilistic model. *

Mark only one oval.

- Adversarial
- Generative
- Networks
- discriminator

19. Which among the following is not a necessary feature of a reinforcement learning solution to a learning problem? *

Mark only one oval.

- exploration versus exploitation dilemma
- trial and error approach to learning
- learning based on rewards
- representation of the problem as a Markov Decision Process

20. What is the basic concept of Recurrent Neural Network? *

Mark only one oval.

- Use previous inputs to find the next output according to the training set.
- Use loops between the most important features to predict next output.
- Use recurrent features from dataset to find the best answers.
- Use a loop between inputs and outputs in order to achieve the better prediction.

21. One of the RNN´s issue is 'Exploding Gradients'. What is that? *

Mark only one oval.

- ◯ When the algorithm assigns a stupidly high importance to the weights, when your data is too small
- ◯ When the algorithm assigns a stupidly high importance to the weights, because the better features
- ◯ When the algorithm assigns a stupidly high importance to the weights, when your dataset is too big
- ◯ When the algorithm assigns a stupidly high importance to the weights, without much reason

22. The other RNN´s issue is called 'Vanishing Gradients'. What is that? *

Mark only one oval.

- ◯ When the values of a gradient are too small and the model joins in a loop because of that.
- ◯ When the values of a gradient are too big and the model stops learning or takes way too long because of that.
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- ◯ When the values of a gradient are too small and the model stops learning or takes way too long because of that.

23. What is LSTM ? *

Mark only one oval.

- LSTM networks are an extension for recurrent neural networks, which basically extends their memory. Therefore it is not recommended to use it, unless you are using a small Dataset.
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