

# SCP9087561 - DEEP LEARNING 2019-2020

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Question **1**

Not yet answered

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For which label distribution and with which loss is reasonable to adopt the sigmoid activation function for the output layer?

Select one:

- ☐ a. Gaussian distribution / Mean Squared Error
- ☐ b. Gaussian distribution / Cross-Entropy
- ☐ c. Multinoulli distribution / Cross-Entropy
- ☐ d. Bernoulli distribution / Cross-Entropy

Question **2**

Not yet answered

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Consider a CNN layer with 16 filters of size 3x3, a stride of 1 and input images of size 10x10.  
How many parameters are we required to train for such a layer? (do not consider the bias terms)  
Please answer with the exact number of the parameters (no formulas)

Answer:

Question **3**

Not yet answered

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Which one of the following sentences about regularization are true?

Select one or more:

- ☐ Regularization reduces the training error
- ☐ Regularization reduces the generalization error
- ☐ Regularization increases the inductive bias of the model
- ☐ Regularization increases the variance of the model

Question **4**

Not yet answered

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Which one of the following is an advantage of using deep neural networks over linear models?

Select one:

- ☐ A Deep neural network has the same expressive power of linear models
- ☐ A Neural Network always performs better than linear models
- ☐ A deep neural network has better generalization than a linear model
- ☐ The functions we want to learn are always a composition of simpler functions, so deep neural networks are always more suited for learning problems
- ☐ None of the above