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Exam Professional Machine Learning Engineer All Questions

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EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 109 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 109

Topic #: 1

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During batch training of a neural network, you notice that there is an oscillation in the loss. How should you adjust your model to ensure that it converges?

- A. Decrease the size of the training batch.
- B. Decrease the learning rate hyperparameter.
- C. Increase the learning rate hyperparameter.
- D. Increase the size of the training batch.

Show Suggested Answer

by [mymy9418](#) at Dec. 18, 2022, 1:58 a.m.

Comments

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hiromi Highly Voted 1 year, 10 months ago

Selected Answer: B

B

larger learning rates can reduce training time but may lead to model oscillation and may miss the optimal model parameter values.

   upvoted 8 times

  **fitri001** Most Recent 6 months, 2 weeks ago



Selected Answer: B

A. Decrease Batch Size: While a smaller batch size can sometimes help with convergence, it can also lead to slower training. It might not necessarily address the issue of oscillation.

C. Increase Learning Rate: A higher learning rate can cause the loss to jump around more erratically, potentially worsening the oscillation problem.

D. Increase Batch Size: A larger batch size can lead to smoother updates but might also make the model less sensitive to local gradients and hinder convergence, especially with an already oscillating loss.

   upvoted 1 times

  **Akel123** 6 months, 2 weeks ago

Selected Answer: C

I don't understand

   upvoted 2 times

  **M25** 1 year, 6 months ago

Selected Answer: B

Went with B

   upvoted 1 times

  **TNT87** 1 year, 8 months ago

Selected Answer: B

Answer B

   upvoted 1 times

  **enghabeth** 1 year, 9 months ago

Selected Answer: B

having a large learning rate results in Instability or Oscillations. Thus, the first solution is to tune the learning rate by gradually decreasing it.

<https://towardsdatascience.com/8-common-pitfalls-in-neural-network-training-workarounds-for-them-7d3de51763ad>

   upvoted 1 times

  **mymy9418** 1 year, 10 months ago

Selected Answer: B

<https://ai.stackexchange.com/questions/14079/what-could-an-oscillating-training-loss-curve-represent#:~:text=Try%20lowering%20the%20learning%20rate,step%20and%20overshoot%20it%20again.>

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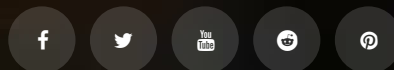
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