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📄 **EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 20 DISCUSSIO..**

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 20
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You are training an LSTM-based model on AI Platform to summarize text using the following job submission script: gcloud ai-platform jobs submit training $JOB_NAME \
--package-path $TRAINER_PACKAGE_PATH \
--module-name $MAIN_TRAINER_MODULE \
--job-dir $JOB_DIR \
--region $REGION \
--scale-tier basic \
-- \
--epochs 20 \
--batch_size=32 \
--learning_rate=0.001 \
You want to ensure that training time is minimized without significantly compromising the accuracy of your model. What should you do?

  A. Modify the 'epochs' parameter.

  B. Modify the 'scale-tier' parameter.

  C. Modify the 'batch size' parameter.

  D. Modify the 'learning rate' parameter.

Show Suggested Answer

Comments

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👤 **maartenalexander** `Highly Voted 👍` 3 years, 4 months ago

B. Changing the scale tier does not impact performance–only speeds up training time. Epochs, Batch size, and learning rate all are hyperparameters that might impact model accuracy.

👍 ↩ 🏳 upvoted 31 times

👤 **desertlotus1211** `Most Recent ⊙` 1 day, 23 hours ago

he scale-tier parameter in AI Platform determines the computing resources (e.g., CPU, GPU, or TPU) that are allocated for your training job. By increasing the scale-tier from basic to a more powerful tier (e.g., standard, premium, or custom), you can allocate more resources (like GPUs or TPUs) for your job. This will significantly reduce training time, especially for LSTM-based models that benefit from parallel processing on GPUs or TPUs.

👍 ↩ 🏳 upvoted 1 times

   👤 **desertlotus1211** 1 day, 23 hours ago

   Answer B

   👍 ↩ 🏳 upvoted 1 times

👤 **SamuelTsch** 1 year, 3 months ago

`Selected Answer: B`

A, C, D could impact the accuracy. But B not.

👍 ↩ 🏳 upvoted 1 times

👤 **M25** 1 year, 5 months ago

`Selected Answer: B`

Went with B

👍 ↩ 🏳 upvoted 1 times

👤 **enghabeth** 1 year, 8 months ago

`Selected Answer: B`

A is incorrect, less training iteration will affect model performance.

B is correct, cost is not a concern as it is not mentioned in the question, the scale tier can be upgraded to significantly minimize the training time.

C is incorrect, wouldn't affect training time, but would affect model performance.

D is incorrect, the model might converge faster with higher learning rate, but this would affect the training routine and might cause exploding gradients.

👍 ↩ 🏳 upvoted 2 times

👤 **ares81** 1 year, 9 months ago

`Selected Answer: B`

It's B!

👍 ↩ 🏳 upvoted 1 times

👤 **EFIGO** 1 year, 11 months ago

`Selected Answer: B`

A, C, D are all about hyperparameters that might impact model accuracy, while B is just about computing speed; so upgrading the scale tier will make the model faster with no chance of reducing accuracy.

👍 ↩ 🏳 upvoted 2 times

👤 **GCP72** 2 years, 2 months ago

`Selected Answer: B`

Correct answer is "B"

👍 ↩ 🏳 upvoted 1 times

👤 **Mohamed_Mossad** 2 years, 4 months ago

- using options elimination all options except B can harm the accuracy

👍 ↩ 🚩 upvoted 3 times

☐ 👤 **morgan62** 2 years, 6 months ago

B for sure.

👍 ↩ 🚩 upvoted 2 times

☐ 👤 **igor_nov1** 2 years, 8 months ago

Might be hrlpfull https://cloud.google.com/ai-platform/training/docs/machine-types#scale_tiers
Google may optimize the configuration of the scale tiers for different jobs over time, based on customer feedback and the availability of cloud resources. Each scale tier is defined in terms of its suitability for certain types of jobs. Generally, the more advanced the tier, the more machines are allocated to the cluster, and the more powerful the specifications of each virtual machine. As you increase the complexity of the scale tier, the hourly cost of training jobs, measured in training units, also increases. See the pricing page to calculate the cost of your job.

👍 ↩ 🚩 upvoted 1 times

☐ 👤 **ashii007** 2 years, 10 months ago

A,C and D all point to hyper parameter tuning which is not the objective in the question.

As others have said - B is only way to improve the time to training the model.

👍 ↩ 🚩 upvoted 3 times

☐ 👤 **santy79** 2 years, 11 months ago

examtopics , Can we attach releveant docs why C ?

👍 ↩ 🚩 upvoted 1 times

☐ 👤 **mousseUwU** 3 years ago

Correct is B, scale-tier is the definition of what GPU will be used: https://cloud.google.com/ai-platform/training/docs/using-gpus

👍 ↩ 🚩 upvoted 3 times

☐ 👤 **Y2Data** 3 years, 1 month ago

Should be B.
Question didn't say anything about cost, so while B would increase cost with more computation time, it would save real-world time.

👍 ↩ 🚩 upvoted 3 times

☐ 👤 **Danny2021** 3 years, 1 month ago

Go with B, all the other options could affect the accuracy.

👍 ↩ 🚩 upvoted 3 times

👥

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