EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 98 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 98
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You built a custom ML model using scikit-learn. Training time is taking longer than expected. You decide to migrate your model to Vertex AI Training, and you want to improve the model's training time. What should you try out first?

A. Migrate your model to TensorFlow, and train it using Vertex AI Training.

B. Train your model in a distributed mode using multiple Compute Engine VMs.

C. Train your model with DLVM images on Vertex AI, and ensure that your code utilizes NumPy and SciPy internal methods whenever possible.

D. Train your model using Vertex AI Training with GPUs.

Show Suggested Answer

by mil_spyro at *Dec. 17, 2022, 11:09 a.m.*

Comments

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pico 11 months, 3 weeks ago

Selected Answer: D

Options B and C may also be relevant in certain scenarios, but they are generally more involved and might require additional considerations. Option B can be effective for large-scale training tasks, but it might add complexity and overhead. Option C could be helpful, but the impact on training time might not be as immediate and substantial as using GPUs.

upvoted 2 times

pico 1 year, 1 month ago

Selected Answer: D

D: Training your model with GPUs can provide a substantial speedup, especially for deep learning models or models that require a lot of computation. This option is likely to have a significant impact on training time.

NOT C: While optimizing code can help improve training time to some extent, it may not provide as significant a speedup as the other options. However, it's still a good practice to optimize your code.

upvoted 1 times

andresvelasco 1 year, 1 month ago

Selected Answer: C

I dont think scikit-learn would support GPU or distribution, so based on "What should you try out first?" I think > C. Train your model with DLVM images on Vertex AI, and ensure that your code utilizes NumPy and SciPy internal methods whenever possible.

upvoted 3 times

blobfishtu 1 year, 3 months ago

why not B? Vertex AI provides the ability to distribute training tasks across multiple Compute Engine VMs, which can parallelize the workload and significantly reduce the training time for large datasets and complex models.

upvoted 3 times

PST21 1 year, 4 months ago

Option D is not the optimal choice for a scikit-learn model since scikit-learn does not have native GPU support. Option C, training with DLVM images on Vertex AI and optimizing code with NumPy and SciPy, would be more appropriate in your scenario.

upvoted 1 times

PST21 1 year, 4 months ago

Ans - D. quickest improvement in training time with minimal modifications to your existing scikit-learn model, trying out Option D and training your model using Vertex AI Training with GPUs is the recommended first step.

upvoted 1 times

Scipione_ 1 year, 5 months ago

Selected Answer: C

A) Migrate your model to TensorFlow, and train it using Vertex AI Training.
Not the first thing to do.
B) Train your model in a distributed mode using multiple Compute Engine VMs.
Could be not easy and fast.
D)Train your model using Vertex AI Training with GPUs
sklearn does not support GPUs

Also, most of scikit-learn assumes data is in NumPy arrays or SciPy sparse matrices of a single numeric dtype.
I choose C as the correct answer.

upvoted 4 times

M25 1 year, 6 months ago

Selected Answer: C

Went with C

upvoted 1 times

TNT87 1 year, 6 months ago

Selected Answer: C

Answer C

upvoted 1 times

guilhermebutzke 1 year, 8 months ago

How about using sklearn's multi-core? Considering multiple jobs, could we choose item B?
https://machinelearningmastery.com/multi-core-machine-learning-in-python/

upvoted 1 times

enghabeth 1 year, 9 months ago

Selected Answer: C

https://scikit-learn.org/stable/faq.html#will-you-add-gpu-support

upvoted 1 times

upvoted 1 times

John_Pongthorn 1 year, 9 months ago

Selected Answer: C

C is correct absolutely
https://console.cloud.google.com/marketplace/details/click-to-deploy-images/deeplearning?_ga=2.139171125.787784554.1674450530-1146240914.1659613735&project=quantum-hash-240404

upvoted 1 times

behzadsw 1 year, 10 months ago

Selected Answer: C

Scikit learn does not support GPU:s
https://scikit-learn.org/stable/faq.html#will-you-add-gpu-support

upvoted 4 times

emma_aic 1 year, 10 months ago

C

No D
https://cloud.google.com/vertex-ai/docs/predictions/pre-built-containers?hl=ko#scikit-learn

upvoted 1 times

mymy9418 1 year, 10 months ago

Selected Answer: C

GPU is not useful for sciki-learn model
https://scikit-learn.org/stable/faq.html#will-you-add-gpu-support
but DLVM did mention it is support scikit-learn framework
https://cloud.google.com/deep-learning-vm

upvoted 3 times

hiromi 1 year, 10 months ago

Selected Answer: D

D (not sure)
- https://cloud.google.com/vertex-ai/docs/training/code-requirements#gpus

upvoted 1 times

hiromi 1 year, 10 months ago

Changind my vote to C

upvoted 2 times

mil_spyro 1 year, 10 months ago

Selected Answer: D

Training a machine learning model on a GPU can significantly improve the training time compared to training on a CPU.

upvoted 1 times

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