EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 87 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 87
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You have been given a dataset with sales predictions based on your company's marketing activities. The data is structured and stored in BigQuery, and has been carefully managed by a team of data analysts. You need to prepare a report providing insights into the predictive capabilities of the data. You were asked to run several ML models with different levels of sophistication, including simple models and multilayered neural networks. You only have a few hours to gather the results of your experiments. Which Google Cloud tools should you use to complete this task in the most efficient and self-serviced way?

A. Use BigQuery ML to run several regression models, and analyze their performance.

B. Read the data from BigQuery using Dataproc, and run several models using SparkML.

C. Use Vertex AI Workbench user-managed notebooks with scikit-learn code for a variety of ML algorithms and performance metrics.

D. Train a custom TensorFlow model with Vertex AI, reading the data from BigQuery featuring a variety of ML algorithms.

Show Suggested Answer

by LearnSodas at *Dec. 11, 2022, 8:07 p.m.*

Comments

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Werner123 8 months, 1 week ago

Selected Answer: A

You only have a few hours. The dataset is in BQ. The dataset is carefully managed. BQML it is.

upvoted 3 times

ludovikush 8 months, 1 week ago

Selected Answer: C

I agree with pico answer

upvoted 1 times

iieva 9 months, 2 weeks ago

Selected Answer: A

All deep neural networks are multilayered neural networks, but not all multilayered neural networks are necessarily deep. The term "deep" is used to emphasize the depth of the network in the context of having many hidden layers, which has been shown to be effective for learning hierarchical representations of complex patterns in data.

Hence BQ allows creation of DNNs (https://cloud.google.com/bigquery/docs/reference/standard-sql/bigqueryml-syntax-create-dnn-models) it should be A.

upvoted 3 times

pico 1 year, 1 month ago

Selected Answer: C

Vertex AI Workbench provides user-managed notebooks that allow you to run Python code using libraries like scikit-learn, TensorFlow, and more.
You can easily connect to your BigQuery dataset from within the notebook, extract the data, and perform data preprocessing.
You can then experiment with different ML algorithms available in scikit-learn and track performance metrics.
It provides flexibility, control, and the ability to run various models quickly.

upvoted 3 times

pico 1 year, 1 month ago

Not A.
BigQuery ML is convenient for quick model training and predictions within BigQuery itself, but it has limitations in terms of the variety of ML algorithms and customization options it offers.
It may not be the best choice for running more sophisticated ML models or extensive experiments.

and It only said regression model

upvoted 2 times

MTTTT 1 year, 3 months ago

Selected Answer: C

I think multilayered neural networks need to be trained externally from BQ ML as stated here:
https://cloud.google.com/bigquery/docs/bqml-introduction

upvoted 1 times

MTTTT 1 year, 3 months ago

nvm you can import DNN in BQ

upvoted 1 times

SamuelTsch 1 year, 4 months ago

Selected Answer: A

According to the question, you don't have enough time. B, C, D need much more time to set up the service, or write the code. Also the data is already in BigQuery. BQML should be the fastest way. Besides, BQML supports xgboost, NN models as well.

upvoted 2 times

Jarek7 1 year, 4 months ago

Selected Answer: C

The question says that "You were asked to run several ML models with different levels of sophistication, including simple models and multilayered neural networks" BQ ML doesn't allow this. BQ ML provides only simple regression/categorization models. It is not about training these "sophisticated models" but only run them, so you can easly do it within few hours with notebooks.

upvoted 2 times

M25 1 year, 6 months ago

Selected Answer: A

Went with A

upvoted 2 times

lucaluca1982 1 year, 6 months ago

Selected Answer: C

C allows to execute more complex tests

upvoted 1 times

tavva_prudhvi 1 year, 3 months ago

However, given the limited time constraint of a few hours and the fact that the data is already stored in BigQuery, option A is more efficient.

BigQuery ML allows you to quickly create and evaluate ML models directly within BigQuery, without the need to move the data or set up a separate environment. This makes it faster and more convenient for running several regression models and analyzing their performance within the given time frame.

upvoted 1 times

FherRO 1 year, 8 months ago

Selected Answer: A

B,C,D requires coding. You only have some hours, A is the fastest.

upvoted 2 times

hiromi 1 year, 10 months ago

Selected Answer: A

I vote for A

upvoted 3 times

ares81 1 year, 10 months ago

Selected Answer: A

It's A.

upvoted 2 times

LearnSodas 1 year, 10 months ago

Selected Answer: A

I will go with A, since it's the fastest way to do it. Custom training in Vertex AI requires time and writing scikit-learn models in notebooks too

upvoted 2 times

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