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### Exam Professional Machine Learning Engineer All Questions

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## EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 89 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 89

Topic #: 1

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You work for a magazine distributor and need to build a model that predicts which customers will renew their subscriptions for the upcoming year. Using your company's historical data as your training set, you created a TensorFlow model and deployed it to AI Platform. You need to determine which customer attribute has the most predictive power for each prediction served by the model. What should you do?

- A. Use AI Platform notebooks to perform a Lasso regression analysis on your model, which will eliminate features that do not provide a strong signal.
- B. Stream prediction results to BigQuery. Use BigQuery's CORR(X1, X2) function to calculate the Pearson correlation coefficient between each feature and the target variable.
- C. Use the AI Explanations feature on AI Platform. Submit each prediction request with the 'explain' keyword to retrieve feature attributions using the sampled Shapley method.
- D. Use the What-If tool in Google Cloud to determine how your model will perform when individual features are excluded. Rank the feature importance in order of those that caused the most significant performance drop when removed from the model.

Show Suggested Answer

by [JeanEl](#) at Dec. 13, 2022, 4:47 p.m.

## Comments

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  **SubbuJV** 8 months, 3 weeks ago

**Selected Answer: C**

Vertex AI Explanations went with C

   upvoted 4 times

  **M25** 1 year, 6 months ago

**Selected Answer: C**

Went with C

   upvoted 2 times

  **CloudKida** 1 year, 6 months ago

**Selected Answer: C**

<https://cloud.google.com/ai-platform/prediction/docs/ai-explanations/overview>

AI Explanations helps you understand your model's outputs for classification and regression tasks. Whenever you request a prediction on AI Platform, AI Explanations tells you how much each feature in the data contributed to the predicted result.

   upvoted 1 times

  **Yajnas\_arpohc** 1 year, 7 months ago

Key words in question "for each prediction served" - that make its C  
D is more of a broader analysis activity

   upvoted 3 times

  **John\_Pongthorn** 1 year, 9 months ago

**Selected Answer: C**

You have to use a flagship native service as much as possible.

   upvoted 1 times

  **hiromi** 1 year, 10 months ago

**Selected Answer: D**

I vote for D

- [https://www.tensorflow.org/tensorboard/what\\_if\\_tool](https://www.tensorflow.org/tensorboard/what_if_tool)

- <https://pair-code.github.io/what-if-tool/>

- <https://medium.com/red-buffer/tensorflows-what-if-tool-c52914ea215c>

C is wrong cuz AI Explanation doesn't work for TensorFlow models (<https://cloud.google.com/vertex-ai/docs/explainable-ai/overview>)

   upvoted 1 times


  **mil\_spyro** 1 year, 10 months ago

This is from the doc you provided:

"Feature attribution is supported for all types of models (both AutoML and custom-trained), frameworks (TensorFlow, scikit, XGBoost), and modalities (images, text, tabular, video)."

[https://cloud.google.com/vertex-ai/docs/explainable-ai/overview#supported\\_model\\_types\\_2](https://cloud.google.com/vertex-ai/docs/explainable-ai/overview#supported_model_types_2)


   upvoted 2 times

  **hiromi** 1 year, 10 months ago

Sorry, I mean Shapley method doesn't support TensorFlow Models

See <https://cloud.google.com/vertex-ai/docs/explainable-ai/overview#compare-methods>

   upvoted 1 times

  **hiromi** 1 year, 10 months ago

Sorry, i tink C is the answer. Tks

   upvoted 2 times

  **hiromi** 1 year, 10 months ago

Sorry, i tink C is the answer

   upvoted 2 times

  **mil\_spyro** 1 year, 10 months ago

**Selected Answer: C**

AI Explanations provides feature attributions using the sampled Shapley method, which can help you understand how much each feature contributes to a model's prediction.

   upvoted 3 times

📄 🧑 ares81 1 year, 10 months ago

**Selected Answer: C**

AI Explanations helps you understand your model's outputs for classification and regression tasks. Whenever you request a prediction on AI Platform, AI Explanations tells you how much each feature in the data contributed to the predicted result." It's C!

👍 ↩ 🚩 upvoted 2 times

📄 🧑 JeanEl 1 year, 10 months ago

**Selected Answer: C**

Agree with C

👍 ↩ 🚩 upvoted 2 times

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