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### Exam Professional Machine Learning Engineer All Questions

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## EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 75 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 75

Topic #: 1

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You work at a subscription-based company. You have trained an ensemble of trees and neural networks to predict customer churn, which is the likelihood that customers will not renew their yearly subscription. The average prediction is a 15% churn rate, but for a particular customer the model predicts that they are 70% likely to churn. The customer has a product usage history of 30%, is located in New York City, and became a customer in 1997. You need to explain the difference between the actual prediction, a 70% churn rate, and the average prediction. You want to use Vertex Explainable AI. What should you do?

- A. Train local surrogate models to explain individual predictions.
- B. Configure sampled Shapley explanations on Vertex Explainable AI.
- C. Configure integrated gradients explanations on Vertex Explainable AI.
- D. Measure the effect of each feature as the weight of the feature multiplied by the feature value.

Show Suggested Answer

by [ares81](#) at Dec. 11, 2022, 4:42 p.m.

### Comments

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PhilipKoku 5 months ago

Selected Answer: B

B) Shapley

upvoted 1 times

pmle\_nintendo 8 months, 1 week ago

Selected Answer: B

Sampled Shapley explanations offer a more sophisticated and model-agnostic method for understanding feature importance and contributions to predictions.

upvoted 3 times

adavid213 12 months ago

Selected Answer: B

I agree, it seems like B

upvoted 1 times

NickHapton 1 year, 4 months ago

B

refer:

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

upvoted 2 times

M25 1 year, 6 months ago

Selected Answer: B

Went with B

upvoted 2 times

CloudKida 1 year, 6 months ago

Selected Answer: B

Assigns credit for the outcome to each feature, and considers different permutations of the features. This method provides a sampling approximation of exact Shapley values.

sampled shapely recommended Model Type: Non-differentiable models, such as ensembles of trees and neural networks.

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

upvoted 2 times

enghabeth 1 year, 9 months ago

Selected Answer: B

Sampled Shapley works well for these models, which are meta-ensembles of trees and neural networks.

<https://cloud.google.com/vertex-ai/docs/explainable-ai/overview#sampled-shapley>

upvoted 2 times

John\_Pongthorn 1 year, 9 months ago

Selected Answer: B

B is optimal for tabular data Tree or DNN

C integrated gradients explanations on Vertex Explainable AI.

It is used for image.

upvoted 2 times

John\_Pongthorn 1 year, 9 months ago

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

upvoted 3 times

ares81 1 year, 10 months ago

Selected Answer: B

It should be B.

upvoted 1 times

emma\_aic 1 year, 10 months ago

Selected Answer: B

<https://cloud.google.com/vertex-ai/docs/explainable-ai/overview#sampled-shapley>

upvoted 2 times

egdiaa 1 year, 10 months ago

B - For sure as per GCP Docs here: <https://cloud.google.com/vertex-ai/docs/explainable-ai/overview>

upvoted 1 times

🗨️ 👤 **hiromi** 1 year, 10 months ago

**Selected Answer: B**

B

- <https://christophm.github.io/interpretable-ml-book/shapley.html>  
- <https://cloud.google.com/vertex-ai/docs/explainable-ai/overview>

👍 ↩️ 🚩 upvoted 2 times

🗨️ 👤 **JeanEl** 1 year, 10 months ago

**Selected Answer: B**

Agree with B : individual instance prediction + ensemble of trees and neural networks (recommended model types for Sampled Shapley : "Non-differentiable models, such as ensembles of trees and neural networks "). Check out the link below :

<https://cloud.google.com/vertex-ai/docs/explainable-ai/overview>

👍 ↩️ 🚩 upvoted 3 times

🗨️ 👤 **YangG** 1 year, 10 months ago

**Selected Answer: C**

it is about a individual instance prediction. I think use integrated gradient method

👍 ↩️ 🚩 upvoted 2 times

🗨️ 👤 **ares81** 1 year, 11 months ago

It seems D.

👍 ↩️ 🚩 upvoted 1 times

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