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

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 75
Topic #: 1
[All Professional Machine Learning Engineer Questions]

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

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.
shampled 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