EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 160 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 160
Topic #: 1
[All Professional Machine Learning Engineer Questions]

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 Vertex AI. You need to determine which customer attribute has the most predictive power for each prediction served by the model. What should you do?

A. 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.

B. Use Vertex Explainable AI. Submit each prediction request with the explain' keyword to retrieve feature attributions using the sampled Shapley method.

C. Use Vertex AI Workbench user-managed notebooks to perform a Lasso regression analysis on your model, which will eliminate features that do not provide a strong signal.

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 PST21 at *July 20, 2023, 4:12 p.m.*

Comments

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fitri001 6 months, 2 weeks ago

Selected Answer: B

Feature Importance per Prediction: Vertex Explainable AI with the Shapley method provides feature attributions for each individual prediction. This allows you to understand which attributes were most influential in the model's decision for that specific customer.
No Code Required: This approach leverages a built-in Vertex AI service and doesn't require writing additional code for Lasso regression (option C) or using the What-If tool (option D).

upvoted 3 times

7cb0ab3 7 months ago

Selected Answer: B

I went for B, but not sure why it is not D. Is it even possible to model time series with the What If tool?

upvoted 1 times

Mickey321 11 months, 4 weeks ago

Selected Answer: B

Option B

upvoted 3 times

PST21 1 year, 3 months ago

Selected Answer: B

to determine which customer attribute has the most predictive power for each prediction served by the model, you should use Vertex Explainable AI (Option B) with the 'explain' keyword to retrieve feature attributions using the sampled Shapley method. This will give you insights into feature importance at the individual prediction level, allowing you to understand the model's behavior for specific customers.

upvoted 2 times

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