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Exam Professional Machine Learning Engineer All Questions

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📄 **EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 195 DISCUSSI...**

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 195

Topic #: 1

[All Professional Machine Learning Engineer Questions]

You work for a retail company. You have been asked to develop a model to predict whether a customer will purchase a product on a given day. Your team has processed the company's sales data, and created a table with the following rows:

• Customer_id

• Product_id

• Date

• Days_since_last_purchase (measured in days)

• Average_purchase_frequency (measured in 1/days)

• Purchase (binary class, if customer purchased product on the Date)

You need to interpret your model's results for each individual prediction. What should you do?

A. Create a BigQuery table. Use BigQuery ML to build a boosted tree classifier. Inspect the partition rules of the trees to understand how each prediction flows through the trees.

B. Create a Vertex AI tabular dataset. Train an AutoML model to predict customer purchases. Deploy the model to a Vertex AI endpoint and enable feature attributions. Use the "explain" method to get feature attribution values for each individual prediction.

C. Create a BigQuery table. Use BigQuery ML to build a logistic regression classification model. Use the values of the coefficients of the model to interpret the feature importance, with higher values corresponding to more importance

D. Create a Vertex AI tabular dataset. Train an AutoML model to predict customer purchases. Deploy the model to a Vertex AI endpoint. At each prediction, enable L1 regularization to detect non-informative features.

Comments

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⊟ 👤 **LaxmanTiwari** 3 months, 3 weeks ago

Selected Answer: B

" simplest approach", the option B is the best choice.

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⊟ 👤 **fitri001** 6 months ago

Selected Answer: B

Individual Prediction Explanation: Vertex AI feature attributions provide insights into how each feature (e.g., days_since_last_purchase, average_purchase_frequency) contributes to a specific prediction for a customer-product combination. This allows you to understand the rationale behind the model's prediction for each instance.
AutoML Convenience: AutoML simplifies model training without extensive configuration.

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⊟ 👤 **fitri001** 6 months ago

A. BigQuery ML with Boosted Trees: While BigQuery ML can build boosted tree models, interpreting individual predictions by inspecting partition rules can be cumbersome and less intuitive compared to feature attributions.
C. BigQuery ML Logistic Regression: Logistic regression coefficients indicate feature importance, but they don't directly explain how a specific feature value influences a single prediction.
D. L1 Regularization: L1 regularization can help identify potentially unimportant features during training, but it doesn't directly explain individual predictions.

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⊟ 👤 **ddogg** 8 months, 3 weeks ago

Selected Answer: B

Vertex AI feature attributions: This is the most direct approach. By enabling feature attributions, you get explanations for each prediction, highlighting how individual features contribute to the model's output. This is crucial for understanding specific customer purchase predictions.

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⊟ 👤 **BlehMaks** 9 months, 1 week ago

Selected Answer: B

B is correct

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⊟ 👤 **36bdc1e** 9 months, 1 week ago

B
loca interpretability we Use the "explain" method to get feature attribution values for each individual prediction.

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⊟ 👤 **pikachu007** 9 months, 1 week ago

Selected Answer: B

Individual prediction interpretability: Feature attributions specifically address the need to understand how features contribute to individual predictions, providing fine-grained insights.
Vertex AI integration: Vertex AI offers seamless integration of feature attributions with AutoML models, simplifying the process.
Model flexibility: AutoML can explore various model architectures, potentially finding the most suitable one for this task, while still providing interpretability.

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