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Question 1

Question Type: MultipleChoice

You trained a model, packaged it with a custom Docker container for serving, and deployed it to Vertex Al Model Registry. When you submit a batch prediction job, it fails with this error 'Error model server never became ready Please validate that your model file or container configuration are valid. There are no additional errors in the logs What should you do?

A Add a logging configuration to your application to emit logs to Cloud Logging.

Options:

B) Change the HTTP port in your model's configuration to the default value of 8080

C) Change the health Route value in your models configuration to /heal thcheck.

D) Pull the Docker image locally and use the decker run command to launch it locally. Use the docker logs command to explore the error logs.

Answer:

B

Explanation:

When you deploy a custom container to Vertex AI Model Registry, you need to follow some requirements for the container configuration. One of these requirements is to use the HTTP port 8080 for serving predictions. If you use a different port, the model server might not be able to communicate with Vertex AI and cause the error ''Error model server never became ready''. To fix this error, you need to change the HTTP port in your model's configuration to the default value of 8080 and redeploy the container.Reference:

Custom container requirements documentation

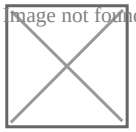
Preparing for Google Cloud Certification: Machine Learning Engineer Professional Certificate

Question 2

Question Type: **MultipleChoice**

You work for a manufacturing company. You need to train a custom image classification model to detect product defects at the end of an assembly line Although your model is performing well some images in your holdout set are consistently mislabeled with high confidence You want to use Vertex AI to understand your model's results What should you do?

A.



B.

Image not found or type unknown

C.

Image not found or type unknown

D.

Image not found or type unknown

Options:

A) Option A

B) Option B

C) Option C

D) Option D

Answer:

C

Explanation:

Vertex Explainable AI is a set of tools and frameworks to help you understand and interpret predictions made by your machine learning models, natively integrated with a number of Google's products and services1.With Vertex Explainable AI, you can generate feature-based explanations that show how much each input feature contributed to the model's prediction2. This can help you debug and improve your model performance, and build confidence in your model's behavior.Feature-based explanations are supported for custom image classification models deployed on Vertex AI Prediction3.Reference:

Explainable AI | Google Cloud

Introduction to Vertex Explainable AI | Vertex AI | Google Cloud

Supported model types for feature-based explanations | Vertex AI | Google Cloud

Question 3

Question Type: MultipleChoice

You trained a model, packaged it with a custom Docker container for serving, and deployed it to Vertex AI Model Registry. When you submit a batch prediction job, it fails with this error 'Error model server never became ready Please validate that your model file or container configuration are valid. There are no additional errors in the logs What should you do?

A Add a logging configuration to your application to emit logs to Cloud Logging.

Options:

B) Change the HTTP port in your model's configuration to the default value of 8080

C) Change the health Route value in your models configuration to /heal thcheck.

D) Pull the Docker image locally and use the decker run command to launch it locally. Use the docker logs command to explore the error logs.

Answer:

B

Explanation:

When you deploy a custom container to Vertex AI Model Registry, you need to follow some requirements for the container configuration. One of these requirements is to use the HTTP port 8080 for serving predictions. If you use a different port, the model server might not be able to communicate with Vertex AI and cause the error ''Error model server never became ready''. To fix this error, you need to change the HTTP port in your model's configuration to the default value of 8080 and redeploy the container.Reference:

Custom container requirements documentation

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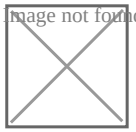
Question 4

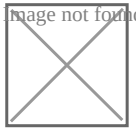
Question Type: MultipleChoice

Your team is working on an NLP research project to predict political affiliation of authors based on articles they have written. You have a large training dataset that is structured like this:



A)

B)



C)

Image not found or type unknown

D)

Image not found or type unknown

Options:

A) Option A

B) Option B

C) Option C

D) Option D

Answer:

B

Explanation:

If we just put inside the Training set , Validation set and Test set , randomly Text, Paragraph or sentences the model will have the ability to learn specific qualities about The Author's use of language beyond just his own articles. Therefore the model will mixed up different opinions. Rather if we divided things up a the author level, so that given authors were only on the training data, or only in the test data or only in the validation data. The model will find more difficult to get a high accuracy on the test validation (What is correct and have more sense!). Because it will need to really focus in author by author articles rather than get a single political affiliation based on a bunch of mixed articles from different authors. https://developers.google.com/machine-learning/crash-course/18th-century-literature

For example, suppose you are training a model with purchase data from a number of stores. You know, however, that the model will be used primarily to make predictions for stores that are not in the training data. To ensure that the model can generalize to unseen stores, you should segregate your data sets by stores. In other words, your test set should include only stores different from the evaluation set, and the evaluation set should include only stores different from the training set. https://cloud.google.com/automl-tables/docs/prepare#ml-use

Question 5

Question Type: **MultipleChoice**

Your team is building an application for a global bank that will be used by millions of customers. You built a forecasting model that predicts customers1 account balances 3 days in the future. Your team will use the results in a new feature that will notify users when their account balance is likely to drop below $25. How should you serve your predictions?

Options:

A) 1. Create a Pub/Sub topic for each user
2 Deploy a Cloud Function that sends a notification when your model predicts that a user's account balance will drop below the $25 threshold.

B) 1. Create a Pub/Sub topic for each user
2. Deploy an application on the App Engine standard environment that sends a notification when your model predicts that a user's account balance will drop below the $25 threshold

C) 1. Build a notification system on Firebase
2. Register each user with a user ID on the Firebase Cloud Messaging server, which sends a notification when the average of all account balance predictions drops below the $25 threshold

D) 1 Build a notification system on Firebase
2. Register each user with a user ID on the Firebase Cloud Messaging server, which sends a notification when your model predicts that a user's account balance will drop below the $25 threshold

Answer:

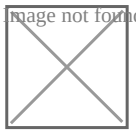
A

Question 6

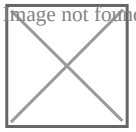
Question Type: **MultipleChoice**

You work for a manufacturing company. You need to train a custom image classification model to detect product defects at the end of an assembly line Although your model is performing well some images in your holdout set are consistently mislabeled with high confidence You want to use Vertex Al to understand your model's results What should you do?

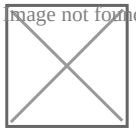
A.



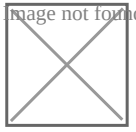
B.



C.



D.



Options:

A) Option A

B) Option B

C) Option C

D) Option D

Answer:

C

Explanation:

Vertex Explainable AI is a set of tools and frameworks to help you understand and interpret predictions made by your machine learning models, natively integrated with a number of Google's products and services1.With Vertex Explainable AI, you can generate feature-based explanations that show how much each input feature contributed to the model's prediction2. This can help you debug and improve your model performance, and build confidence in your model's behavior.Feature-based explanations are supported for custom image classification models deployed on Vertex AI Prediction3.Reference:

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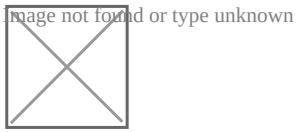
Question 7

Question Type: MultipleChoice

You are designing an architecture with a serveress ML system to enrich customer support tickets with informative metadata before they are routed to a support agent. You need a set of models to predict ticket priority, predict ticket resolution time, and perform sentiment analysis to help agents make strategic decisions when they process support requests. Tickets are not expected to have any domain-specific terms or jargon.

The proposed architecture has the following flow:



Which endpoints should the Enrichment Cloud Functions call?

Options:

A) 1 = Al Platform, 2 = Al Platform, 3 = AutoML Vision

B) 1 = Al Platform, 2 = Al Platform, 3 = AutoML Natural Language

C) 1 = Al Platform, 2 = Al Platform, 3 = Cloud Natural Language API

D) 1 = cloud Natural Language API, 2 = Al Platform, 3 = Cloud Vision API

Answer:

C

Explanation:

https://cloud.google.com/architecture/architecture-of-a-serverless-ml-model#architecture

The architecture has the following flow:

A user writes a ticket to Firebase, which triggers a Cloud Function.

-The Cloud Function calls 3 different endpoints to enrich the ticket:

-An AI Platform endpoint, where the function can predict the priority.

-An AI Platform endpoint, where the function can predict the resolution time.

-The Natural Language API to do sentiment analysis and word salience.

-For each reply, the Cloud Function updates the Firebase real-time database.

-The Cloud Function then creates a ticket into the helpdesk platform using the RESTful API.