

# Google

## Exam Questions Professional-Machine-Learning-Engineer

Google Professional Machine Learning Engineer



**NEW QUESTION 1**

You need to design a customized deep neural network in Keras that will predict customer purchases based on their purchase history. You want to explore model performance using multiple model architectures, store training data, and be able to compare the evaluation metrics in the same dashboard. What should you do?

- A. Create multiple models using AutoML Tables
- B. Automate multiple training runs using Cloud Composer
- C. Run multiple training jobs on AI Platform with similar job names
- D. Create an experiment in Kubeflow Pipelines to organize multiple runs

**Answer:** C

**NEW QUESTION 2**

You are training a Resnet model on AI Platform using TPUs to visually categorize types of defects in automobile engines. You capture the training profile using the Cloud TPU profiler plugin and observe that it is highly input-bound. You want to reduce the bottleneck and speed up your model training process. Which modifications should you make to the `tf.data` dataset?

Choose 2 answers

- A. Use the `interleave` option for reading data
- B. Reduce the value of the `repeat` parameter
- C. Increase the buffer size for the `shuffle` option.
- D. Set the `prefetch` option equal to the training batch size
- E. Decrease the batch size argument in your transformation

**Answer:** AD

**NEW QUESTION 3**

You are developing a Kubeflow pipeline on Google Kubernetes Engine. The first step in the pipeline is to issue a query against BigQuery. You plan to use the results of that query as the input to the next step in your pipeline. You want to achieve this in the easiest way possible. What should you do?

- A. Use the BigQuery console to execute your query and then save the query results into a new BigQuery table.
- B. Write a Python script that uses the BigQuery API to execute queries against BigQuery. Execute this script as the first step in your Kubeflow pipeline.
- C. Use the Kubeflow Pipelines domain-specific language to create a custom component that uses the Python BigQuery client library to execute queries.
- D. Locate the Kubeflow Pipelines repository on GitHub. Find the BigQuery Query Component, copy that component's URL, and use it to load the component into your pipeline.
- E. Use the component to execute queries against BigQuery.

**Answer:** A

**NEW QUESTION 4**

You are an ML engineer at a bank that has a mobile application. Management has asked you to build an ML-based biometric authentication for the app that verifies a customer's identity based on their fingerprint. Fingerprints are considered highly sensitive personal information and cannot be downloaded and stored into the bank databases. Which learning strategy should you recommend to train and deploy this ML model?

- A. Differential privacy
- B. Federated learning
- C. MD5 to encrypt data
- D. Data Loss Prevention API

**Answer:** B

**NEW QUESTION 5**

You are developing ML models with AI Platform for image segmentation on CT scans. You frequently update your model architectures based on the newest available research papers, and have to rerun training on the same dataset to benchmark their performance. You want to minimize computation costs and manual intervention while having version control for your code. What should you do?

- A. Use Cloud Functions to identify changes to your code in Cloud Storage and trigger a retraining job.
- B. Use the `gcloud` command-line tool to submit training jobs on AI Platform when you update your code.
- C. Use Cloud Build linked with Cloud Source Repositories to trigger retraining when new code is pushed to the repository.
- D. Create an automated workflow in Cloud Composer that runs daily and looks for changes in code in Cloud Storage using a sensor.

**Answer:** A

**NEW QUESTION 6**

You are responsible for building a unified analytics environment across a variety of on-premises data marts. Your company is experiencing data quality and security challenges when integrating data across the servers, caused by the use of a wide range of disconnected tools and temporary solutions. You need a fully managed, cloud-native data integration service that will lower the total cost of work and reduce repetitive work. Some members on your team prefer a codeless interface for building Extract, Transform, Load (ETL) process. Which service should you use?

- A. Dataflow
- B. Dataprep
- C. Apache Flink
- D. Cloud Data Fusion

**Answer:** D

**NEW QUESTION 7**

You are developing models to classify customer support emails. You created models with TensorFlow Estimators using small datasets on your on-premises system, but you now need to train the models using large datasets to ensure high performance. You will port your models to Google Cloud and want to minimize code refactoring and infrastructure overhead for easier migration from on-prem to cloud. What should you do?

- A. Use AI Platform for distributed training
- B. Create a cluster on Dataproc for training
- C. Create a Managed Instance Group with autoscaling
- D. Use Kubeflow Pipelines to train on a Google Kubernetes Engine cluster.

**Answer:** D

**NEW QUESTION 8**

You have trained a deep neural network model on Google Cloud. The model has low loss on the training data, but is performing worse on the validation data. You want the model to be resilient to overfitting. Which strategy should you use when retraining the model?

- A. Apply a dropout parameter of 0.2, and decrease the learning rate by a factor of 10
- B. Apply a L2 regularization parameter of 0.4, and decrease the learning rate by a factor of 10.
- C. Run a hyperparameter tuning job on AI Platform to optimize for the L2 regularization and dropout parameters
- D. Run a hyperparameter tuning job on AI Platform to optimize for the learning rate, and increase the number of neurons by a factor of 2.

**Answer:** A

**NEW QUESTION 9**

You were asked to investigate failures of a production line component based on sensor readings. After receiving the dataset, you discover that less than 1% of the readings are positive examples representing failure incidents. You have tried to train several classification models, but none of them converge. How should you resolve the class imbalance problem?

- A. Use the class distribution to generate 10% positive examples
- B. Use a convolutional neural network with max pooling and softmax activation
- C. Downsample the data with upweighting to create a sample with 10% positive examples
- D. Remove negative examples until the numbers of positive and negative examples are equal

**Answer:** D

**NEW QUESTION 10**

You are training a TensorFlow model on a structured data set with 100 billion records stored in several CSV files. You need to improve the input/output execution performance. What should you do?

- A. Load the data into BigQuery and read the data from BigQuery.
- B. Load the data into Cloud Bigtable, and read the data from Bigtable
- C. Convert the CSV files into shards of TFRecords, and store the data in Cloud Storage
- D. Convert the CSV files into shards of TFRecords, and store the data in the Hadoop Distributed File System (HDFS)

**Answer:** B

**NEW QUESTION 10**

You are an ML engineer at a regulated insurance company. You are asked to develop an insurance approval model that accepts or rejects insurance applications from potential customers. What factors should you consider before building the model?

- A. Redaction, reproducibility, and explainability
- B. Traceability, reproducibility, and explainability
- C. Federated learning, reproducibility, and explainability
- D. Differential privacy federated learning, and explainability

**Answer:** B

**NEW QUESTION 13**

You work for an advertising company and want to understand the effectiveness of your company's latest advertising campaign. You have streamed 500 MB of campaign data into BigQuery. You want to query the table, and then manipulate the results of that query with a pandas dataframe in an AI Platform notebook. What should you do?

- A. Use AI Platform Notebooks' BigQuery cell magic to query the data, and ingest the results as a pandas dataframe
- B. Export your table as a CSV file from BigQuery to Google Drive, and use the Google Drive API to ingest the file into your notebook instance
- C. Download your table from BigQuery as a local CSV file, and upload it to your AI Platform notebook instance Use panda
- D. read\_csv to ingest the file as a pandas dataframe
- E. From a bash cell in your AI Platform notebook, use the bq extract command to export the table as a CSV file to Cloud Storage, and then use gsutil cp to copy the data into the notebook Use panda
- F. read\_csv to ingest the file as a pandas dataframe

**Answer:** B

**NEW QUESTION 15**

Your team trained and tested a DNN regression model with good results. Six months after deployment, the model is performing poorly due to a change in the distribution of the input data. How should you address the input differences in production?

- A. Create alerts to monitor for skew, and retrain the model.

- B. Perform feature selection on the model, and retrain the model with fewer features
- C. Retrain the model, and select an L2 regularization parameter with a hyperparameter tuning service
- D. Perform feature selection on the model, and retrain the model on a monthly basis with fewer features

**Answer:** C

#### NEW QUESTION 16

You work for a global footwear retailer and need to predict when an item will be out of stock based on historical inventory data. Customer behavior is highly dynamic since footwear demand is influenced by many different factors. You want to serve models that are trained on all available data, but track your performance on specific subsets of data before pushing to production. What is the most streamlined and reliable way to perform this validation?

- A. Use the TFX ModelValidator tools to specify performance metrics for production readiness
- B. Use k-fold cross-validation as a validation strategy to ensure that your model is ready for production.
- C. Use the last relevant week of data as a validation set to ensure that your model is performing accurately on current data
- D. Use the entire dataset and treat the area under the receiver operating characteristics curve (AUC ROC) as the main metric.

**Answer:** A

#### NEW QUESTION 20

You work for a public transportation company and need to build a model to estimate delay times for multiple transportation routes. Predictions are served directly to users in an app in real time. Because different seasons and population increases impact the data relevance, you will retrain the model every month. You want to follow Google-recommended best practices. How should you configure the end-to-end architecture of the predictive model?

- A. Configure Kubeflow Pipelines to schedule your multi-step workflow from training to deploying your model.
- B. Use a model trained and deployed on BigQuery ML and trigger retraining with the scheduled query feature in BigQuery
- C. Write a Cloud Functions script that launches a training and deploying job on AI Platform that is triggered by Cloud Scheduler
- D. Use Cloud Composer to programmatically schedule a Dataflow job that executes the workflow from training to deploying your model

**Answer:** B

#### NEW QUESTION 25

You built and manage a production system that is responsible for predicting sales numbers. Model accuracy is crucial, because the production model is required to keep up with market changes. Since being deployed to production, the model hasn't changed; however the accuracy of the model has steadily deteriorated. What issue is most likely causing the steady decline in model accuracy?

- A. Poor data quality
- B. Lack of model retraining
- C. Too few layers in the model for capturing information
- D. Incorrect data split ratio during model training, evaluation, validation, and test

**Answer:** D

#### NEW QUESTION 27

You are an ML engineer at a global shoe store. You manage the ML models for the company's website. You are asked to build a model that will recommend new products to the user based on their purchase behavior and similarity with other users. What should you do?

- A. Build a classification model
- B. Build a knowledge-based filtering model
- C. Build a collaborative-based filtering model
- D. Build a regression model using the features as predictors

**Answer:** C

#### NEW QUESTION 28

You are an ML engineer in the contact center of a large enterprise. You need to build a sentiment analysis tool that predicts customer sentiment from recorded phone conversations. You need to identify the best approach to building a model while ensuring that the gender, age, and cultural differences of the customers who called the contact center do not impact any stage of the model development pipeline and results. What should you do?

- A. Extract sentiment directly from the voice recordings
- B. Convert the speech to text and build a model based on the words
- C. Convert the speech to text and extract sentiments based on the sentences
- D. Convert the speech to text and extract sentiment using syntactical analysis

**Answer:** C

#### NEW QUESTION 32

You work on a growing team of more than 50 data scientists who all use AI Platform. You are designing a strategy to organize your jobs, models, and versions in a clean and scalable way. Which strategy should you choose?

- A. Set up restrictive IAM permissions on the AI Platform notebooks so that only a single user or group can access a given instance.
- B. Separate each data scientist's work into a different project to ensure that the jobs, models, and versions created by each data scientist are accessible only to that user.
- C. Use labels to organize resources into descriptive categories
- D. Apply a label to each created resource so that users can filter the results by label when viewing or monitoring the resources
- E. Set up a BigQuery sink for Cloud Logging logs that is appropriately filtered to capture information about AI Platform resource usage In BigQuery create a SQL view that maps users to the resources they are using.

**Answer:** B

**NEW QUESTION 34**

Your team needs to build a model that predicts whether images contain a driver's license, passport, or credit card. The data engineering team already built the pipeline and generated a dataset composed of 10,000 images with driver's licenses, 1,000 images with passports, and 1,000 images with credit cards. You now have to train a model with the following label map: ['driverslicense', 'passport', 'credit\_card']. Which loss function should you use?

- A. Categorical hinge
- B. Binary cross-entropy
- C. Categorical cross-entropy
- D. Sparse categorical cross-entropy

**Answer:** B

**NEW QUESTION 36**

.....

## Thank You for Trying Our Product

### We offer two products:

1st - We have Practice Tests Software with Actual Exam Questions

2nd - Questions and Answers in PDF Format

### Professional-Machine-Learning-Engineer Practice Exam Features:

- \* Professional-Machine-Learning-Engineer Questions and Answers Updated Frequently
- \* Professional-Machine-Learning-Engineer Practice Questions Verified by Expert Senior Certified Staff
- \* Professional-Machine-Learning-Engineer Most Realistic Questions that Guarantee you a Pass on Your FirstTry
- \* Professional-Machine-Learning-Engineer Practice Test Questions in Multiple Choice Formats and Updatesfor 1 Year

**100% Actual & Verified — Instant Download, Please Click**  
**[Order The Professional-Machine-Learning-Engineer Practice Test Here](#)**