# Professional Machine Learning Engineer v1.0 (Professional Machine Learning Engineer)

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### Question 16 (Single Topic)



You are an ML engineer at a large grocery retailer with stores in multiple regions. You have been asked to create an inventory prediction model. Your model's features include region, location, historical demand, and seasonal popularity. You want the algorithm to learn from new inventory data on a daily basis. Which algorithms should you use to build the model?

- A. Classification
- B. Reinforcement Learning
- C. Recurrent Neural Networks (RNN)
- D. Convolutional Neural Networks (CNN)

**Expose Correct Answer** 

#### Question 17 (Single Topic)



You are building a real-time prediction engine that streams files which may contain Personally Identifiable Information (PII) to Google Cloud. You want to use the

Cloud Data Loss Prevention (DLP) API to scan the files. How should you ensure that the PII is not accessible by unauthorized individuals?

- A. Stream all files to Google Cloud, and then write the data to BigQuery. Periodically conduct a bulk scan of the table using the DLP API.
- **B.** Stream all files to Google Cloud, and write batches of the data to BigQuery. While the data is being written to BigQuery, conduct a bulk scan of the data using the DLP API.
- **C.** Create two buckets of data: Sensitive and Non-sensitive. Write all data to the Non-sensitive bucket. Periodically conduct a bulk scan of that bucket using the DLP API, and move the sensitive data to the Sensitive bucket.
- **D.** Create three buckets of data: Quarantine, Sensitive, and Non-sensitive. Write all data to the Quarantine bucket. Periodically conduct a bulk scan of that bucket using the DLP API, and move the data to either the Sensitive or Non-Sensitive bucket.

Expose Correct Answer

#### Question 18 (Single Topic)



You work for a large hotel chain and have been asked to assist the marketing team in gathering predictions for a targeted marketing strategy. You need to make predictions about user lifetime value (LTV) over the next 20 days so that marketing can be adjusted accordingly. The customer dataset is in BigQuery, and you are preparing the tabular data for training with AutoML Tables. This data has a time signal that is spread across multiple columns. How should you ensure that

AutoML fits the best model to your data?

- **A.** Manually combine all columns that contain a time signal into an array. Allow AutoML to interpret this array appropriately. Choose an automatic data split across the training, validation, and testing sets.
- **B.** Submit the data for training without performing any manual transformations. Allow AutoML to handle the appropriate transformations. Choose an automatic data split across the training, validation, and testing sets.
- **C.** Submit the data for training without performing any manual transformations, and indicate an appropriate column as the Time column. Allow AutoML to split your data based on the time signal provided, and reserve the more recent data for the validation and testing sets.
- **D.** Submit the data for training without performing any manual transformations. Use the columns that have a time signal to manually split your data. Ensure that the data in your validation set is from 30 days after the data in your training set and that the data in your testing sets from 30 days after your validation set.

**Expose Correct Answer** 



You have written unit tests for a Kubeflow Pipeline that require custom libraries. You want to automate the execution of unit tests with each new push to your development branch in Cloud Source Repositories. What should you do?

- A. Write a script that sequentially performs the push to your development branch and executes the unit tests on Cloud Run.
- B. Using Cloud Build, set an automated trigger to execute the unit tests when changes are pushed to your development branch.
- C. Set up a Cloud Logging sink to a Pub/Sub topic that captures interactions with Cloud Source Repositories. Configure a Pub/Sub trigger for Cloud Run, and execute the unit tests on Cloud Run.
- D. Set up a Cloud Logging sink to a Pub/Sub topic that captures interactions with Cloud Source Repositories. Execute the unit tests using a Cloud Function that is triggered when messages are sent to the Pub/Sub topic.

**Expose Correct Answer** 

## Question 20 (Single Topic)



You are training an LSTM-based model on AI Platform to summarize text using the following job submission script: gcloud ai-platform jobs submit training \$JOB\_NAME \

- --package-path \$TRAINER\_PACKAGE\_PATH \
- --module-name \$MAIN\_TRAINER\_MODULE \
- --job-dir \$JOB\_DIR \
- --region \$REGION \
- --scale-tier basic \
- --\
- --epochs 20 \
- --batch\_size=32 \
- --learning\_rate=0.001 \

You want to ensure that training time is minimized without significantly compromising the accuracy of your model. What should you do?

- **A.** Modify the  $\lambda$ €~epochs $\lambda$ €™ parameter.
- **B.** Modify the λ€~scale-tierλ€™ parameter.
- C. Modify the a€~batch sizea€™ parameter.
- **D.** Modify the λ€~learning rateλ€™ parameter.

**Expose Correct Answer** 

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