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

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## Question 26 (Single Topic)



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

Expose Correct Answer

## Question 27 (Single Topic)



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

**Expose Correct Answer** 

#### Question 28 (Single Topic)



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 two.)

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

**Expose Correct Answer** 

## Question 29 (Single Topic)



You have trained a model on a dataset that required computationally expensive preprocessing operations. You need to execute the same preprocessing at prediction time. You deployed the model on Al Platform for high-throughput online prediction. Which architecture should you use?

- **A.** Validate the accuracy of the model that you trained on preprocessed data. Create a new model that uses the raw data and is available in real time. Deploy the new model onto Al Platform for online prediction.
- **B.** Send incoming prediction requests to a Pub/Sub topic. Transform the incoming data using a Dataflow job. Submit a prediction request to Al Platform using the transformed data. Write the predictions to an outbound Pub/Sub queue.

**C.** Stream incoming prediction request data into Cloud Spanner. Create a view to abstract your preprocessing logic. Query the view every second for new records. Submit a prediction request to Al Platform using the transformed data. Write the predictions to an outbound Pub/Sub queue.

**D.** Send incoming prediction requests to a Pub/Sub topic. Set up a Cloud Function that is triggered when messages are published to the Pub/Sub topic. Implement your preprocessing logic in the Cloud Function. Submit a prediction request to AI Platform using the transformed data. Write the predictions to an outbound Pub/Sub queue.

Expose Correct Answer

## Question 30 (Single Topic)



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.

**Expose Correct Answer** 

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