

# Amazon-Web-Services

## Exam Questions MLS-C01

AWS Certified Machine Learning - Specialty



#### NEW QUESTION 1

A Machine Learning Specialist built an image classification deep learning model. However the Specialist ran into an overfitting problem in which the training and testing accuracies were 99% and 75% respectively.

How should the Specialist address this issue and what is the reason behind it?

- A. The learning rate should be increased because the optimization process was trapped at a local minimum.
- B. The dropout rate at the flatten layer should be increased because the model is not generalized enough.
- C. The dimensionality of dense layer next to the flatten layer should be increased because the model is not complex enough.
- D. The epoch number should be increased because the optimization process was terminated before it reached the global minimum.

**Answer: D**

#### NEW QUESTION 2

A Machine Learning Specialist is required to build a supervised image-recognition model to identify a cat. The ML Specialist performs some tests and records the following results for a neural network-based image classifier:

Total number of images available = 1,000 Test set images = 100 (constant test set)

The ML Specialist notices that, in over 75% of the misclassified images, the cats were held upside down by their owners.

Which techniques can be used by the ML Specialist to improve this specific test error?

- A. Increase the training data by adding variation in rotation for training images.
- B. Increase the number of epochs for model training.
- C. Increase the number of layers for the neural network.
- D. Increase the dropout rate for the second-to-last layer.

**Answer: B**

#### NEW QUESTION 3

A city wants to monitor its air quality to address the consequences of air pollution. A Machine Learning Specialist needs to forecast the air quality in parts per million of contaminants for the next 2 days in the city. As this is a prototype, only daily data from the last year is available.

Which model is MOST likely to provide the best results in Amazon SageMaker?

- A. Use the Amazon SageMaker k-Nearest-Neighbors (kNN) algorithm on the single time series consisting of the full year of data with a predictor\_type of regressor.
- B. Use Amazon SageMaker Random Cut Forest (RCF) on the single time series consisting of the full year of data.
- C. Use the Amazon SageMaker Linear Learner algorithm on the single time series consisting of the full year of data with a predictor\_type of regressor.
- D. Use the Amazon SageMaker Linear Learner algorithm on the single time series consisting of the full year of data with a predictor\_type of classifier.

**Answer: C**

#### NEW QUESTION 4

A Machine Learning Specialist is preparing data for training on Amazon SageMaker. The Specialist is transformed into a numpy .array, which appears to be negatively affecting the speed of the training.

What should the Specialist do to optimize the data for training on SageMaker?

- A. Use the SageMaker batch transform feature to transform the training data into a DataFrame.
- B. Use AWS Glue to compress the data into the Apache Parquet format.
- C. Transform the dataset into the RecordIO protobuf format.
- D. Use the SageMaker hyperparameter optimization feature to automatically optimize the data.

**Answer: C**

#### NEW QUESTION 5

A Machine Learning Specialist is developing a recommendation engine for a photography blog. Given a picture, the recommendation engine should show a picture that captures similar objects. The Specialist would like to create a numerical representation feature to perform nearest-neighbor searches.

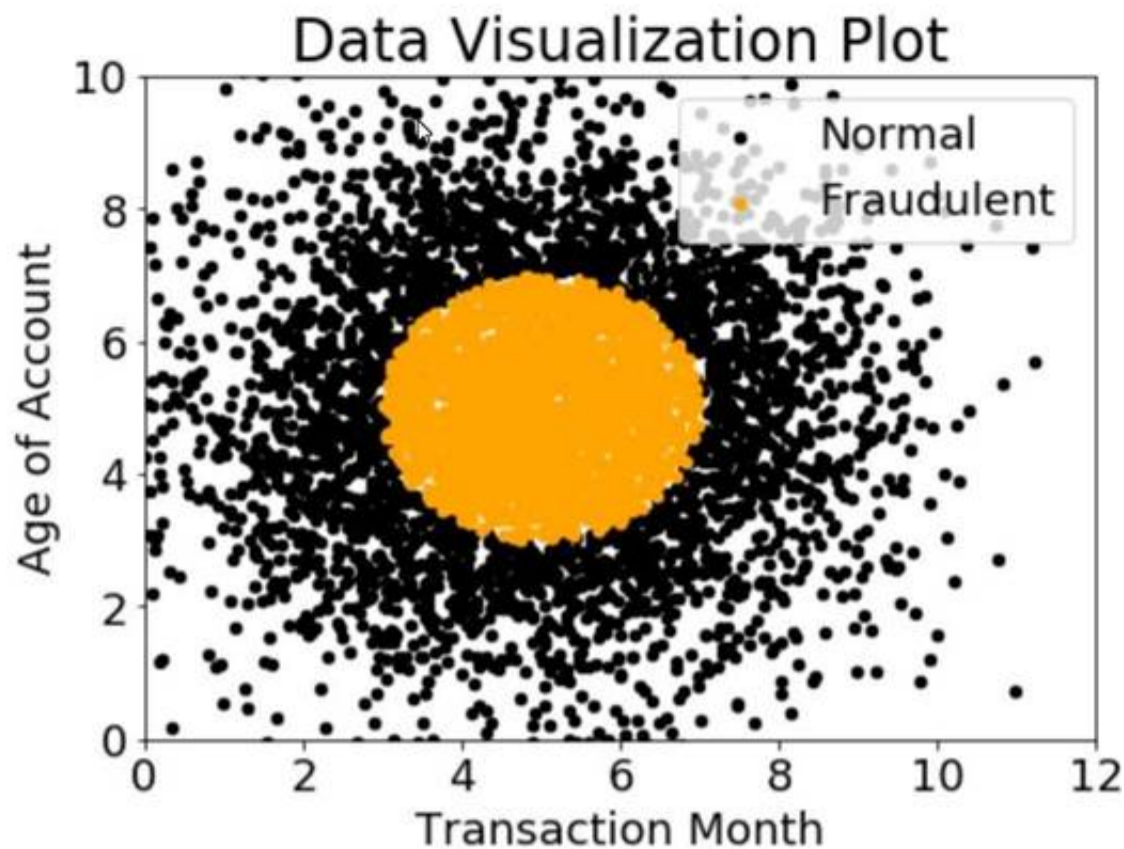
What actions would allow the Specialist to get relevant numerical representations?

- A. Reduce image resolution and use reduced resolution pixel values as features.
- B. Use Amazon Mechanical Turk to label image content and create a one-hot representation indicating the presence of specific labels.
- C. Run images through a neural network pre-trained on ImageNet, and collect the feature vectors from the penultimate layer.
- D. Average colors by channel to obtain three-dimensional representations of images.

**Answer: A**

#### NEW QUESTION 6

A company wants to classify user behavior as either fraudulent or normal. Based on internal research, a Machine Learning Specialist would like to build a binary classifier based on two features: age of account and transaction month. The class distribution for these features is illustrated in the figure provided.



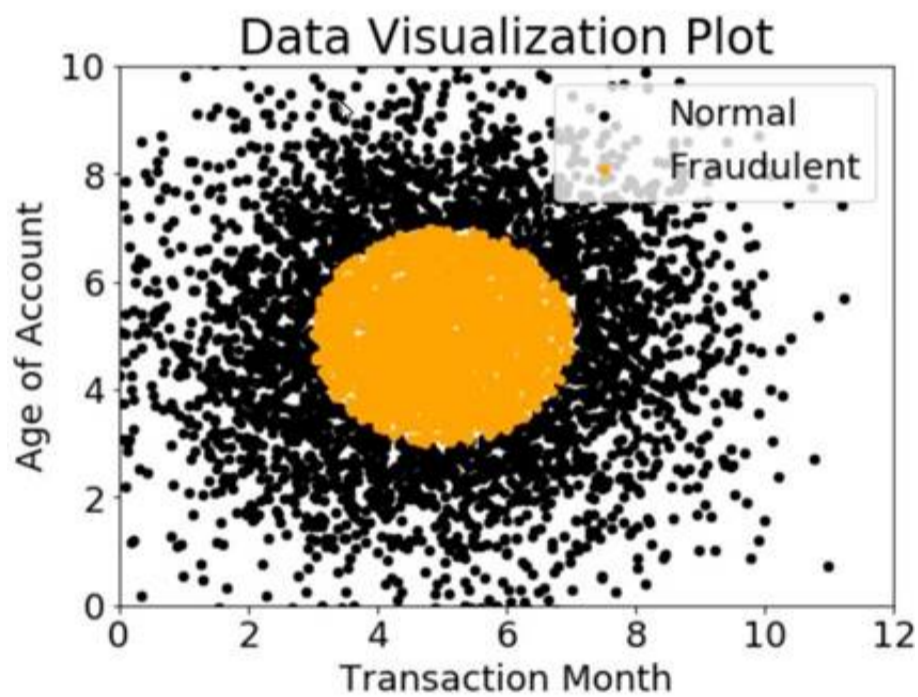
Based on this information which model would have the HIGHEST accuracy?

- A. Long short-term memory (LSTM) model with scaled exponential linear unit (SELL)
- B. Logistic regression
- C. Support vector machine (SVM) with non-linear kernel
- D. Single perceptron with tanh activation function

**Answer: B**

**NEW QUESTION 7**

A company wants to classify user behavior as either fraudulent or normal. Based on internal research, a Machine Learning Specialist would like to build a binary classifier based on two features: age of account and transaction month. The class distribution for these features is illustrated in the figure provided.



Based on this information, which model would have the HIGHEST recall with respect to the fraudulent class?

- A. Decision tree
- B. Linear support vector machine (SVM)
- C. Naive Bayesian classifier
- D. Single Perceptron with sigmoidal activation function

**Answer: C**

**NEW QUESTION 8**

An agency collects census information within a country to determine healthcare and social program needs by province and city. The census form collects responses for approximately 500 questions from each citizen

Which combination of algorithms would provide the appropriate insights? (Select TWO )

- A. The factorization machines (FM) algorithm
- B. The Latent Dirichlet Allocation (LDA) algorithm
- C. The principal component analysis (PCA) algorithm
- D. The k-means algorithm
- E. The Random Cut Forest (RCF) algorithm

**Answer: CD**

**Explanation:**

The PCA and K-means algorithms are useful in collection of data using census form.

#### NEW QUESTION 9

A Machine Learning Specialist working for an online fashion company wants to build a data ingestion solution for the company's Amazon S3-based data lake. The Specialist wants to create a set of ingestion mechanisms that will enable future capabilities comprised of:

- Real-time analytics
- Interactive analytics of historical data
- Clickstream analytics
- Product recommendations

Which services should the Specialist use?

- A. AWS Glue as the data catalog; Amazon Kinesis Data Streams and Amazon Kinesis Data Analytics for real-time data insights; Amazon Kinesis Data Firehose for delivery to Amazon ES for clickstream analytics; Amazon EMR to generate personalized product recommendations
- B. Amazon Athena as the data catalog; Amazon Kinesis Data Streams and Amazon Kinesis Data Analytics for near-realtime data insights; Amazon Kinesis Data Firehose for clickstream analytics; AWS Glue to generate personalized product recommendations
- C. AWS Glue as the data catalog; Amazon Kinesis Data Streams and Amazon Kinesis Data Analytics for historical data insights; Amazon Kinesis Data Firehose for delivery to Amazon ES for clickstream analytics; Amazon EMR to generate personalized product recommendations
- D. Amazon Athena as the data catalog; Amazon Kinesis Data Streams and Amazon Kinesis Data Analytics for historical data insights; Amazon DynamoDB streams for clickstream analytics; AWS Glue to generate personalized product recommendations

**Answer: A**

#### NEW QUESTION 10

While working on a neural network project, a Machine Learning Specialist discovers that some features in the data have very high magnitude resulting in this data being weighted more in the cost function. What should the Specialist do to ensure better convergence during backpropagation?

- A. Dimensionality reduction
- B. Data normalization
- C. Model regularization
- D. Data augmentation for the minority class

**Answer: D**

#### NEW QUESTION 10

A large consumer goods manufacturer has the following products on sale

- 34 different toothpaste variants
- 48 different toothbrush variants
- 43 different mouthwash variants

The entire sales history of all these products is available in Amazon S3. Currently, the company is using custom-built autoregressive integrated moving average (ARIMA) models to forecast demand for these products. The company wants to predict the demand for a new product that will soon be launched. Which solution should a Machine Learning Specialist apply?

- A. Train a custom ARIMA model to forecast demand for the new product.
- B. Train an Amazon SageMaker DeepAR algorithm to forecast demand for the new product.
- C. Train an Amazon SageMaker k-means clustering algorithm to forecast demand for the new product.
- D. Train a custom XGBoost model to forecast demand for the new product.

**Answer: B**

#### Explanation:

The Amazon SageMaker DeepAR forecasting algorithm is a supervised learning algorithm for forecasting scalar (one-dimensional) time series using recurrent neural networks (RNN). Classical forecasting methods, such as autoregressive integrated moving average (ARIMA) or exponential smoothing (ETS), fit a single model to each individual time series. They then use that model to extrapolate the time series into the future.

#### NEW QUESTION 14

A Machine Learning Specialist is packaging a custom ResNet model into a Docker container so the company can leverage Amazon SageMaker for training. The Specialist is using Amazon EC2 P3 instances to train the model and needs to properly configure the Docker container to leverage the NVIDIA GPUs. What does the Specialist need to do?

- A. Bundle the NVIDIA drivers with the Docker image
- B. Build the Docker container to be NVIDIA-Docker compatible
- C. Organize the Docker container's file structure to execute on GPU instances.
- D. Set the GPU flag in the Amazon SageMaker Create TrainingJob request body

**Answer: A**

#### NEW QUESTION 17

A company is setting up an Amazon SageMaker environment. The corporate data security policy does not allow communication over the internet. How can the company enable the Amazon SageMaker service without enabling direct internet access to Amazon SageMaker notebook instances?

- A. Create a NAT gateway within the corporate VPC.
- B. Route Amazon SageMaker traffic through an on-premises network.
- C. Create Amazon SageMaker VPC interface endpoints within the corporate VPC.
- D. Create VPC peering with Amazon VPC hosting Amazon SageMaker.

**Answer: A**

#### NEW QUESTION 18

A Machine Learning Specialist is using Apache Spark for pre-processing training data. As part of the Spark pipeline, the Specialist wants to use Amazon SageMaker for training a model and hosting it. Which of the following would the Specialist do to integrate the Spark application with SageMaker? (Select THREE )

- A. Download the AWS SDK for the Spark environment
- B. Install the SageMaker Spark library in the Spark environment.
- C. Use the appropriate estimator from the SageMaker Spark Library to train a model.
- D. Compress the training data into a ZIP file and upload it to a pre-defined Amazon S3 bucket.
- E. Use the `sageMakerMode`
- F. transform method to get inferences from the model hosted in SageMaker
- G. Convert the DataFrame object to a CSV file, and use the CSV file as input for obtaining inferences from SageMaker.

Answer: DEF

#### NEW QUESTION 19

A Mobile Network Operator is building an analytics platform to analyze and optimize a company's operations using Amazon Athena and Amazon S3. The source systems send data in CSV format in real time. The Data Engineering team wants to transform the data to the Apache Parquet format before storing it on Amazon S3.

Which solution takes the LEAST effort to implement?

- A. Ingest .CSV data using Apache Kafka Streams on Amazon EC2 instances and use Kafka Connect S3 to serialize data as Parquet.
- B. Ingest .CSV data from Amazon Kinesis Data Streams and use Amazon Glue to convert data into Parquet.
- C. Ingest .CSV data using Apache Spark Structured Streaming in an Amazon EMR cluster and use Apache Spark to convert data into Parquet.
- D. Ingest .CSV data from Amazon Kinesis Data Streams and use Amazon Kinesis Data Firehose to convert data into Parquet.

Answer: C

#### NEW QUESTION 24

A Machine Learning Specialist is developing a custom video recommendation model for an application. The dataset used to train this model is very large with millions of data points and is hosted in an Amazon S3 bucket. The Specialist wants to avoid loading all of this data onto an Amazon SageMaker notebook instance because it would take hours to move and will exceed the attached 5 GB Amazon EBS volume on the notebook instance.

Which approach allows the Specialist to use all the data to train the model?

- A. Load a smaller subset of the data into the SageMaker notebook and train locally.
- B. Confirm that the training code is executing and the model parameters seem reasonable.
- C. Initiate a SageMaker training job using the full dataset from the S3 bucket using Pipe input mode.
- D. Launch an Amazon EC2 instance with an AWS Deep Learning AMI and attach the S3 bucket to the instance.
- E. Train on a small amount of the data to verify the training code and hyperparameter.
- F. Go back to Amazon SageMaker and train using the full dataset.
- G. Use AWS Glue to train a model using a small subset of the data to confirm that the data will be compatible with Amazon SageMaker.
- H. Initiate a SageMaker training job using the full dataset from the S3 bucket using Pipe input mode.
- I. Load a smaller subset of the data into the SageMaker notebook and train locally.
- J. Confirm that the training code is executing and the model parameters seem reasonable.
- K. Launch an Amazon EC2 instance with an AWS Deep Learning AMI and attach the S3 bucket to train the full dataset.

Answer: A

#### NEW QUESTION 26

A retail chain has been ingesting purchasing records from its network of 20,000 stores to Amazon S3 using Amazon Kinesis Data Firehose. To support training an improved machine learning model, training records will require new but simple transformations, and some attributes will be combined. The model needs to be retrained daily.

Given the large number of stores and the legacy data ingestion, which change will require the LEAST amount of development effort?

- A. Require that the stores switch to capturing their data locally on AWS Storage Gateway for loading into Amazon S3, then use AWS Glue to do the transformation.
- B. Deploy an Amazon EMR cluster running Apache Spark with the transformation logic, and have the cluster run each day on the accumulating records in Amazon S3, outputting new/transformed records to Amazon S3.
- C. Spin up a fleet of Amazon EC2 instances with the transformation logic, have them transform the data records accumulating on Amazon S3, and output the transformed records to Amazon S3.
- D. Insert an Amazon Kinesis Data Analytics stream downstream of the Kinesis Data Firehose stream that transforms raw record attributes into simple transformed values using SQL.

Answer: D

#### NEW QUESTION 30

A Machine Learning Specialist has completed a proof of concept for a company using a small data sample and now the Specialist is ready to implement an end-to-end solution in AWS using Amazon SageMaker. The historical training data is stored in Amazon RDS.

Which approach should the Specialist use for training a model using that data?

- A. Write a direct connection to the SQL database within the notebook and pull data in.
- B. Push the data from Microsoft SQL Server to Amazon S3 using an AWS Data Pipeline and provide the S3 location within the notebook.
- C. Move the data to Amazon DynamoDB and set up a connection to DynamoDB within the notebook to pull data in.
- D. Move the data to Amazon ElastiCache using AWS DMS and set up a connection within the notebook to pull data in for fast access.

Answer: B

#### NEW QUESTION 31

A Machine Learning Specialist is developing a daily ETL workflow containing multiple ETL jobs. The workflow consists of the following processes:

- \* Start the workflow as soon as data is uploaded to Amazon S3
  - \* When all the datasets are available in Amazon S3, start an ETL job to join the uploaded datasets with multiple terabyte-sized datasets already stored in Amazon S3
  - \* Store the results of joining datasets in Amazon S3
  - \* If one of the jobs fails, send a notification to the Administrator Which configuration will meet these requirements?
- A. Use AWS Lambda to trigger an AWS Step Functions workflow to wait for dataset uploads to complete in Amazon S3. Use AWS Glue to join the datasets Use an Amazon CloudWatch alarm to send an SNS notification to the Administrator in the case of a failure
- B. Develop the ETL workflow using AWS Lambda to start an Amazon SageMaker notebook instance Use a lifecycle configuration script to join the datasets and persist the results in Amazon S3 Use an Amazon CloudWatch alarm to send an SNS notification to the Administrator in the case of a failure
- C. Develop the ETL workflow using AWS Batch to trigger the start of ETL jobs when data is uploaded to Amazon S3 Use AWS Glue to join the datasets in Amazon S3 Use an Amazon CloudWatch alarm to send an SNS notification to the Administrator in the case of a failure
- D. Use AWS Lambda to chain other Lambda functions to read and join the datasets in Amazon S3 as soon as the data is uploaded to Amazon S3 Use an Amazon CloudWatch alarm to send an SNS notification to the Administrator in the case of a failure

**Answer: A**

#### NEW QUESTION 34

Amazon Connect has recently been tolled out across a company as a contact call center The solution has been configured to store voice call recordings on Amazon S3

The content of the voice calls are being analyzed for the incidents being discussed by the call operators Amazon Transcribe is being used to convert the audio to text, and the output is stored on Amazon S3

Which approach will provide the information required for further analysis?

- A. Use Amazon Comprehend with the transcribed files to build the key topics
- B. Use Amazon Translate with the transcribed files to train and build a model for the key topics
- C. Use the AWS Deep Learning AMI with Gluon Semantic Segmentation on the transcribed files to train and build a model for the key topics
- D. Use the Amazon SageMaker k-Nearest-Neighbors (kNN) algorithm on the transcribed files to generate a word embeddings dictionary for the key topics

**Answer: B**

#### NEW QUESTION 35

A Data Scientist is developing a machine learning model to classify whether a financial transaction is fraudulent. The labeled data available for training consists of 100,000 non-fraudulent observations and 1,000 fraudulent observations.

The Data Scientist applies the XGBoost algorithm to the data, resulting in the following confusion matrix when the trained model is applied to a previously unseen validation dataset. The accuracy of the model is 99.1%, but the Data Scientist has been asked to reduce the number of false negatives.

Predicted	0	1
Actual	0 99,966	34
	1	877   123

Which combination of steps should the Data Scientist take to reduce the number of false positive predictions by the model? (Select TWO.)

- A. Change the XGBoost eval\_metric parameter to optimize based on rmse instead of error.
- B. Increase the XGBoost scale\_pos\_weight parameter to adjust the balance of positive and negative weights.
- C. Increase the XGBoost max\_depth parameter because the model is currently underfitting the data.
- D. Change the XGBoost eval\_metric parameter to optimize based on AUC instead of error.
- E. Decrease the XGBoost max\_depth parameter because the model is currently overfitting the data.

**Answer: DE**

#### NEW QUESTION 40

When submitting Amazon SageMaker training jobs using one of the built-in algorithms, which common parameters MUST be specified? (Select THREE.)

- A. The training channel identifying the location of training data on an Amazon S3 bucket.
- B. The validation channel identifying the location of validation data on an Amazon S3 bucket.
- C. The IAM role that Amazon SageMaker can assume to perform tasks on behalf of the users.
- D. Hyperparameters in a JSON array as documented for the algorithm used.
- E. The Amazon EC2 instance class specifying whether training will be run using CPU or GPU.
- F. The output path specifying where on an Amazon S3 bucket the trained model will persist.

**Answer: AEF**

#### NEW QUESTION 44

A Machine Learning Specialist is working with multiple data sources containing billions of records that need to be joined. What feature engineering and model development approach should the Specialist take with a dataset this large?

- A. Use an Amazon SageMaker notebook for both feature engineering and model development
- B. Use an Amazon SageMaker notebook for feature engineering and Amazon ML for model development
- C. Use Amazon EMR for feature engineering and Amazon SageMaker SDK for model development
- D. Use Amazon ML for both feature engineering and model development.

**Answer: B**

#### NEW QUESTION 49

An employee found a video clip with audio on a company's social media feed. The language used in the video is Spanish. English is the employee's first language,

and they do not understand Spanish. The employee wants to do a sentiment analysis. What combination of services is the MOST efficient to accomplish the task?

- A. Amazon Transcribe, Amazon Translate, and Amazon Comprehend
- B. Amazon Transcribe, Amazon Comprehend, and Amazon SageMaker seq2seq
- C. Amazon Transcribe, Amazon Translate, and Amazon SageMaker Neural Topic Model (NTM)
- D. Amazon Transcribe, Amazon Translate, and Amazon SageMaker BlazingText

**Answer: C**

**NEW QUESTION 50**

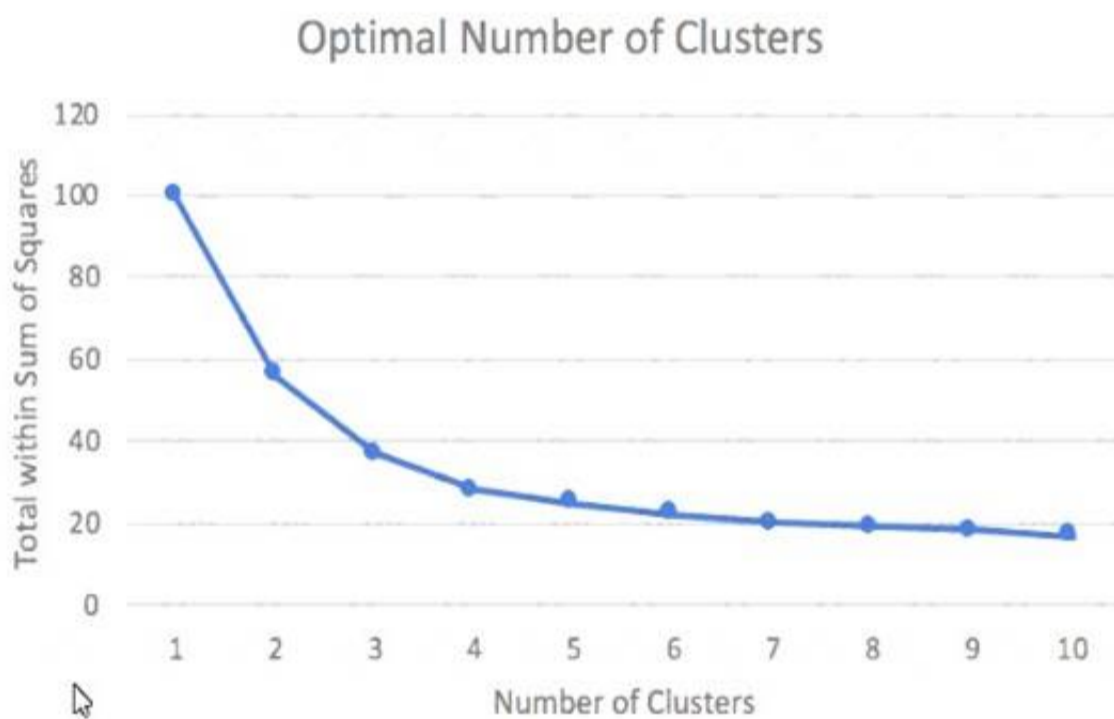
A Machine Learning Specialist is using Amazon SageMaker to host a model for a highly available customer-facing application . The Specialist has trained a new version of the model, validated it with historical data, and now wants to deploy it to production To limit any risk of a negative customer experience, the Specialist wants to be able to monitor the model and roll it back, if needed What is the SIMPLEST approach with the LEAST risk to deploy the model and roll it back, if needed?

- A. Create a SageMaker endpoint and configuration for the new model versio
- B. Redirect production traffic to the new endpoint by updating the client configuratio
- C. Revert traffic to the last version if the model does not perform as expected.
- D. Create a SageMaker endpoint and configuration for the new model versio
- E. Redirect production traffic to the new endpoint by using a load balancer Revert traffic to the last version if the model does not perform as expected.
- F. Update the existing SageMaker endpoint to use a new configuration that is weighted to send 5% of the traffic to the new varian
- G. Revert traffic to the last version by resetting the weights if the model does not perform as expected.
- H. Update the existing SageMaker endpoint to use a new configuration that is weighted to send 100% of the traffic to the new variant Revert traffic to the last version by resetting the weights if the model does not perform as expected.

**Answer: A**

**NEW QUESTION 55**

A Machine Learning Specialist prepared the following graph displaying the results of k-means for k = [1:10]



Considering the graph, what is a reasonable selection for the optimal choice of k?

- A. 1
- B. 4
- C. 7
- D. 10

**Answer: C**

**NEW QUESTION 60**

A Machine Learning Specialist must build out a process to query a dataset on Amazon S3 using Amazon Athena The dataset contains more than 800.000 records stored as plaintext CSV files Each record contains 200 columns and is approximately 1 5 MB in size Most queries will span 5 to 10 columns only How should the Machine Learning Specialist transform the dataset to minimize query runtime?

- A. Convert the records to Apache Parquet format
- B. Convert the records to JSON format
- C. Convert the records to GZIP CSV format
- D. Convert the records to XML format

**Answer: A**

**NEW QUESTION 64**

A Machine Learning Specialist kicks off a hyperparameter tuning job for a tree-based ensemble model using Amazon SageMaker with Area Under the ROC Curve (AUC) as the objective metric This workflow will eventually be deployed in a pipeline that retrains and tunes hyperparameters each night to model click-through on data that goes stale every 24 hours With the goal of decreasing the amount of time it takes to train these models, and ultimately to decrease costs, the Specialist wants to reconfigure the input hyperparameter range(s)

Which visualization will accomplish this?

- A. A histogram showing whether the most important input feature is Gaussian.
- B. A scatter plot with points colored by target variable that uses (-Distributed Stochastic Neighbor Embedding (I-SNE) to visualize the large number of input variables in an easier-to-read dimension.
- C. A scatter plot showing the performance of the objective metric over each training iteration
- D. A scatter plot showing the correlation between maximum tree depth and the objective metric.

**Answer: B**

#### NEW QUESTION 69

A Machine Learning Specialist receives customer data for an online shopping website. The data includes demographics, past visits, and locality information. The Specialist must develop a machine learning approach to identify the customer shopping patterns, preferences and trends to enhance the website for better service and smart recommendations.

Which solution should the Specialist recommend?

- A. Latent Dirichlet Allocation (LDA) for the given collection of discrete data to identify patterns in the customer database.
- B. A neural network with a minimum of three layers and random initial weights to identify patterns in the customer database
- C. Collaborative filtering based on user interactions and correlations to identify patterns in the customer database
- D. Random Cut Forest (RCF) over random subsamples to identify patterns in the customer database

**Answer: C**

#### NEW QUESTION 74

A Data Scientist needs to create a serverless ingestion and analytics solution for high-velocity, real-time streaming data.

The ingestion process must buffer and convert incoming records from JSON to a query-optimized, columnar format without data loss. The output datastore must be highly available, and Analysts must be able to run SQL queries against the data and connect to existing business intelligence dashboards.

Which solution should the Data Scientist build to satisfy the requirements?

- A. Create a schema in the AWS Glue Data Catalog of the incoming data format
- B. Use an Amazon Kinesis Data Firehose delivery stream to stream the data and transform the data to Apache Parquet or ORC format using the AWS Glue Data Catalog before delivering to Amazon S3. Have the Analysts query the data directly from Amazon S3 using Amazon Athena, and connect to BI tools using the Athena Java Database Connectivity (JDBC) connector.
- C. Write each JSON record to a staging location in Amazon S3. Use the S3 Put event to trigger an AWS Lambda function that transforms the data into Apache Parquet or ORC format and writes the data to a processed data location in Amazon S3. Have the Analysts query the data directly from Amazon S3 using Amazon Athena, and connect to BI tools using the Athena Java Database Connectivity (JDBC) connector.
- D. Write each JSON record to a staging location in Amazon S3. Use the S3 Put event to trigger an AWS Lambda function that transforms the data into Apache Parquet or ORC format and inserts it into an Amazon RDS PostgreSQL database
- E. Have the Analysts query and run dashboards from the RDS database.
- F. Use Amazon Kinesis Data Analytics to ingest the streaming data and perform real-time SQL queries to convert the records to Apache Parquet before delivering to Amazon S3. Have the Analysts query the data directly from Amazon S3 using Amazon Athena and connect to BI tools using the Athena Java Database Connectivity (JDBC) connector.

**Answer: A**

#### NEW QUESTION 75

A Machine Learning Specialist is using an Amazon SageMaker notebook instance in a private subnet of a corporate VPC. The ML Specialist has important data stored on the Amazon SageMaker notebook instance's Amazon EBS volume, and needs to take a snapshot of that EBS volume. However the ML Specialist cannot find the Amazon SageMaker notebook instance's EBS volume or Amazon EC2 instance within the VPC.

Why is the ML Specialist not seeing the instance visible in the VPC?

- A. Amazon SageMaker notebook instances are based on the EC2 instances within the customer account, but they run outside of VPCs.
- B. Amazon SageMaker notebook instances are based on the Amazon ECS service within customer accounts.
- C. Amazon SageMaker notebook instances are based on EC2 instances running within AWS service accounts.
- D. Amazon SageMaker notebook instances are based on AWS ECS instances running within AWS service accounts.

**Answer: C**

#### NEW QUESTION 80

IT leadership wants to transition a company's existing machine learning data storage environment to AWS as a temporary ad hoc solution. The company currently uses a custom software process that heavily leverages SQL as a query language and exclusively stores generated CSV documents for machine learning.

The ideal state for the company would be a solution that allows it to continue to use the current workforce of SQL experts. The solution must also support the storage of CSV and JSON files, and be able to query over semi-structured data. The following are high priorities for the company:

- Solution simplicity
- Fast development time
- Low cost
- High flexibility

What technologies meet the company's requirements?

- A. Amazon S3 and Amazon Athena
- B. Amazon Redshift and AWS Glue
- C. Amazon DynamoDB and DynamoDB Accelerator (DAX)
- D. Amazon RDS and Amazon ES

**Answer: B**

#### NEW QUESTION 85

A manufacturing company has a large set of labeled historical sales data. The manufacturer would like to predict how many units of a particular part should be



produced each quarter Which machine learning approach should be used to solve this problem?

- A. Logistic regression
- B. Random Cut Forest (RCF)
- C. Principal component analysis (PCA)
- D. Linear regression

**Answer: B**

**NEW QUESTION 87**

A Machine Learning Specialist is training a model to identify the make and model of vehicles in images The Specialist wants to use transfer learning and an existing model trained on images of general objects The Specialist collated a large custom dataset of pictures containing different vehicle makes and models

- A. Initialize the model with random weights in all layers including the last fully connected layer
- B. Initialize the model with pre-trained weights in all layers and replace the last fully connected layer.
- C. Initialize the model with random weights in all layers and replace the last fully connected layer
- D. Initialize the model with pre-trained weights in all layers including the last fully connected layer

**Answer: B**

**NEW QUESTION 89**

An Amazon SageMaker notebook instance is launched into Amazon VPC The SageMaker notebook references data contained in an Amazon S3 bucket in another account The bucket is encrypted using SSE-KMS The instance returns an access denied error when trying to access data in Amazon S3. Which of the following are required to access the bucket and avoid the access denied error? (Select THREE )

- A. An AWS KMS key policy that allows access to the customer master key (CMK)
- B. A SageMaker notebook security group that allows access to Amazon S3
- C. An IAM role that allows access to the specific S3 bucket
- D. A permissive S3 bucket policy
- E. An S3 bucket owner that matches the notebook owner
- F. A SageMaker notebook subnet ACL that allow traffic to Amazon S3.

**Answer: ACF**

**NEW QUESTION 94**

A Data Engineer needs to build a model using a dataset containing customer credit card information.

How can the Data Engineer ensure the data remains encrypted and the credit card information is secure? Use a custom encryption algorithm to encrypt the data and store the data on an Amazon SageMaker instance in a VPC. Use the SageMaker DeepAR algorithm to randomize the credit card numbers.

- A. Use an IAM policy to encrypt the data on the Amazon S3 bucket and Amazon Kinesis to automatically discard credit card numbers and insert fake credit card numbers.
- B. Use an Amazon SageMaker launch configuration to encrypt the data once it is copied to the SageMaker instance in a VP
- C. Use the SageMaker principal component analysis (PCA) algorithm to reduce the length of the credit card numbers.
- D. Use AWS KMS to encrypt the data on Amazon S3

**Answer: C**

**NEW QUESTION 96**

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