Amazon-Web-Services

Exam Questions AIF-C01

AWS Certified AI Practitioner

NEW QUESTION 1
A company wants to use a large language model (LLM) on Amazon Bedrock for sentiment analysis. The company wants to know how much information can fit into one prompt.
Which consideration will inform the company's decision?

A. Temperature
B. Context window
C. Batch size
D. Model size

Answer: B

Explanation:
The context window determines how much information can fit into a single prompt when using a large language model (LLM) like those on Amazon Bedrock.
? Context Window:
? Why Option B is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 2
An AI practitioner has built a deep learning model to classify the types of materials in images. The AI practitioner now wants to measure the model performance.
Which metric will help the AI practitioner evaluate the performance of the model?

A. Confusion matrix
B. Correlation matrix
C. R2 score
D. Mean squared error (MSE)

Answer: A

Explanation:
A confusion matrix is the correct metric for evaluating the performance of a classification model, such as the deep learning model built to classify types of materials in images.
? Confusion Matrix:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 3
A company uses a foundation model (FM) from Amazon Bedrock for an AI search tool. The company wants to fine-tune the model to be more accurate by using the company's data.
Which strategy will successfully fine-tune the model?

A. Provide labeled data with the prompt field and the completion field.
B. Prepare the training dataset by creating a .txt file that contains multiple lines in .csv format.
C. Purchase Provisioned Throughput for Amazon Bedrock.
D. Train the model on journals and textbooks.

Answer: A

Explanation:
Providing labeled data with both a prompt field and a completion field is the correct strategy for fine-tuning a foundation model (FM) on Amazon Bedrock.
? Fine-Tuning Strategy:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 4
An AI practitioner wants to use a foundation model (FM) to design a search application. The search application must handle queries that have text and images.
Which type of FM should the AI practitioner use to power the search application?

A. Multi-modal embedding model
B. Text embedding model
C. Multi-modal generation model
D. Image generation model

Answer: A

Explanation:
A multi-modal embedding model is the correct type of foundation model (FM) for powering a search application that handles queries containing both text and images.
? Multi-Modal Embedding Model:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 5
A company has a foundation model (FM) that was customized by using Amazon Bedrock to answer customer queries about products. The company wants to validate the model's responses to new types of queries. The company needs to upload a new dataset that Amazon Bedrock can use for validation.
Which AWS service meets these requirements?

A. Amazon S3
B. Amazon Elastic Block Store (Amazon EBS)
C. Amazon Elastic File System (Amazon EFS)
D. AWS Snowcone

Answer: A

Explanation:
Amazon S3 is the optimal choice for storing and uploading datasets used for machine learning model validation and training. It offers scalable, durable, and secure storage, making it ideal for holding datasets required by Amazon Bedrock for validation purposes.
? Option A (Correct): "Amazon S3": This is the correct answer because Amazon S3
is widely used for storing large datasets that are accessed by machine learning models, including those in Amazon Bedrock.
? Option B: "Amazon Elastic Block Store (Amazon EBS)" is incorrect because EBS
is a block storage service for use with Amazon EC2, not for directly storing datasets for Amazon Bedrock.
? Option C: "Amazon Elastic File System (Amazon EFS)" is incorrect as it is
primarily used for file storage with shared access by multiple instances.
? Option D: "AWS Snowcone" is incorrect because it is a physical device for offline data transfer, not suitable for directly providing data to Amazon Bedrock.
AWS AI Practitioner References:
? Storing and Managing Datasets on AWS for Machine Learning: AWS recommends using S3 for storing and managing datasets required for ML model training and validation.

NEW QUESTION 6
How can companies use large language models (LLMs) securely on Amazon Bedrock?

A. Design clear and specific prompt
B. Configure AWS Identity and Access Management (IAM) roles and policies by using least privilege access.
C. Enable AWS Audit Manager for automatic model evaluation jobs.
D. Enable Amazon Bedrock automatic model evaluation jobs.
E. Use Amazon CloudWatch Logs to make models explainable and to monitor for bias.

Answer: A

Explanation:
To securely use large language models (LLMs) on Amazon Bedrock, companies should design clear and specific prompts to avoid unintended outputs and ensure proper configuration of AWS Identity and Access Management (IAM) roles and policies with the principle of least privilege. This approach limits access to sensitive resources and minimizes the potential impact of security incidents.
? Option A (Correct): "Design clear and specific prompts. Configure AWS Identity
and Access Management (IAM) roles and policies by using least privilege access": This is the correct answer as it directly addresses both security practices in prompt design and access management.
? Option B: "Enable AWS Audit Manager for automatic model evaluation jobs" is
incorrect because Audit Manager is for compliance and auditing, not directly related to secure LLM usage.
? Option C: "Enable Amazon Bedrock automatic model evaluation jobs" is incorrect
because Bedrock does not provide automatic model evaluation jobs specifically for security purposes.
? Option D: "Use Amazon CloudWatch Logs to make models explainable and to
monitor for bias" is incorrect because CloudWatch Logs are used for monitoring and not directly for making models explainable or secure.
AWS AI Practitioner References:
? Secure AI Practices on AWS: AWS recommends configuring IAM roles and using least privilege access to ensure secure usage of AI models.

NEW QUESTION 7
A company wants to build an ML model by using Amazon SageMaker. The company needs to share and manage variables for model development across multiple teams.
Which SageMaker feature meets these requirements?

A. Amazon SageMaker Feature Store
B. Amazon SageMaker Data Wrangler
C. Amazon SageMaker Clarify
D. Amazon SageMaker Model Cards

Answer: A

Explanation:
Amazon SageMaker Feature Store is the correct solution for sharing and managing variables (features) across multiple teams during model development.
? Amazon SageMaker Feature Store:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 8
Which AWS service or feature can help an AI development team quickly deploy and consume a foundation model (FM) within the team's VPC?

A. Amazon Personalize
B. Amazon SageMaker JumpStart
C. PartyRock, an Amazon Bedrock Playground
D. Amazon SageMaker endpoints

Answer: B

Explanation:
Amazon SageMaker JumpStart is the correct service for quickly deploying and consuming a foundation model (FM) within a team's VPC.
? Amazon SageMaker JumpStart:
? Why Option B is Correct:

? Why Other Options are Incorrect:

NEW QUESTION 9
Which strategy evaluates the accuracy of a foundation model (FM) that is used in image classification tasks?

A. Calculate the total cost of resources used by the model.
B. Measure the model's accuracy against a predefined benchmark dataset.
C. Count the number of layers in the neural network.
D. Assess the color accuracy of images processed by the model.

Answer: B

Explanation:
Measuring the model's accuracy against a predefined benchmark dataset is the correct strategy to evaluate the accuracy of a foundation model (FM) used in image classification tasks.
? Model Accuracy Evaluation:
? Why Option B is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 10
A company wants to classify human genes into 20 categories based on gene characteristics. The company needs an ML algorithm to document how the inner mechanism of the model affects the output.
Which ML algorithm meets these requirements?

A. Decision trees
B. Linear regression
C. Logistic regression
D. Neural networks

Answer: A

Explanation:
Decision trees are an interpretable machine learning algorithm that clearly documents the decision-making process by showing how each input feature affects the output. This transparency is particularly useful when explaining how the model arrives at a certain decision, making it suitable for classifying genes into categories.
? Option A (Correct): "Decision trees": This is the correct answer because decision
trees provide a clear and interpretable representation of how input features influence the model's output, making it ideal for understanding the inner mechanisms affecting predictions.
? Option B: "Linear regression" is incorrect because it is used for regression tasks,
not classification.
? Option C: "Logistic regression" is incorrect as it does not provide the same level of interpretability in documenting decision-making processes.
? Option D: "Neural networks" is incorrect because they are often considered "black boxes" and do not easily explain how they arrive at their outputs.
AWS AI Practitioner References:
? Interpretable Machine Learning Models on AWS: AWS supports using interpretable models, such as decision trees, for tasks that require clear documentation of how input data affects output decisions.

NEW QUESTION 10
Which term describes the numerical representations of real-world objects and concepts that AI and natural language processing (NLP) models use to improve understanding of textual information?

A. Embeddings
B. Tokens
C. Models
D. Binaries

Answer: A

Explanation:
Embeddings are numerical representations of objects (such as words, sentences, or documents) that capture the objects' semantic meanings in a form that AI and NLP models can easily understand. These representations help models improve their understanding of textual information by representing concepts in a continuous vector space.
? Option A (Correct): "Embeddings": This is the correct term, as embeddings provide
a way for models to learn relationships between different objects in their input space, improving their understanding and processing capabilities.
? Option B: "Tokens" are pieces of text used in processing, but they do not capture
semantic meanings like embeddings do.
? Option C: "Models" are the algorithms that use embeddings and other inputs, not the representations themselves.
? Option D: "Binaries" refer to data represented in binary form, which is unrelated to the concept of embeddings.
AWS AI Practitioner References:
? Understanding Embeddings in AI and NLP: AWS provides resources and tools, like Amazon SageMaker, that utilize embeddings to represent data in formats suitable for machine learning models.

NEW QUESTION 11
A research company implemented a chatbot by using a foundation model (FM) from Amazon Bedrock. The chatbot searches for answers to questions from a large database of research papers.
After multiple prompt engineering attempts, the company notices that the FM is performing poorly because of the complex scientific terms in the research papers.
How can the company improve the performance of the chatbot?

A. Use few-shot prompting to define how the FM can answer the questions.
B. Use domain adaptation fine-tuning to adapt the FM to complex scientific terms.
C. Change the FM inference parameters.

D. Clean the research paper data to remove complex scientific terms.

Answer: B

Explanation:
Domain adaptation fine-tuning involves training a foundation model (FM) further using a specific dataset that includes domain-specific terminology and content, such as scientific terms in research papers. This process allows the model to better understand and handle complex terminology, improving its performance on specialized tasks.
? Option B (Correct): "Use domain adaptation fine-tuning to adapt the FM to complex
scientific terms": This is the correct answer because fine-tuning the model on domain-specific data helps it learn and adapt to the specific language and terms used in the research papers, resulting in better performance.
? Option A: "Use few-shot prompting to define how the FM can answer the
questions" is incorrect because while few-shot prompting can help in certain
scenarios, it is less effective than fine-tuning for handling complex domain-specific terms.
? Option C: "Change the FM inference parameters" is incorrect because adjusting
inference parameters will not resolve the issue of the model's lack of understanding of complex scientific terminology.
? Option D: "Clean the research paper data to remove complex scientific terms" is
incorrect because removing the complex terms would result in the loss of important information and context, which is not a viable solution.
AWS AI Practitioner References:
? Domain Adaptation in Amazon Bedrock: AWS recommends fine-tuning models with domain-specific data to improve their performance on specialized tasks involving unique terminology.

NEW QUESTION 14
A company wants to use large language models (LLMs) with Amazon Bedrock to develop a chat interface for the company's product manuals. The manuals are stored as PDF files.
Which solution meets these requirements MOST cost-effectively?

A. Use prompt engineering to add one PDF file as context to the user prompt when the prompt is submitted to Amazon Bedrock.
B. Use prompt engineering to add all the PDF files as context to the user prompt when the prompt is submitted to Amazon Bedrock.
C. Use all the PDF documents to fine-tune a model with Amazon Bedroc
D. Use the fine- tuned model to process user prompts.
E. Upload PDF documents to an Amazon Bedrock knowledge bas
F. Use the knowledge base to provide context when users submit prompts to Amazon Bedrock.

Answer: A

Explanation:
Using Amazon Bedrock with large language models (LLMs) allows for efficient utilization of AI to answer queries based on context provided in product manuals. To achieve this cost- effectively, the company should avoid unnecessary use of resources.
? Option A (Correct): "Use prompt engineering to add one PDF file as context to the
user prompt when the prompt is submitted to Amazon Bedrock": This is the most cost-effective solution. By using prompt engineering, only the relevant content from one PDF file is added as context to each query. This approach minimizes the amount of data processed, which helps in reducing costs associated with LLMs' computational requirements.
? Option B: "Use prompt engineering to add all the PDF files as context to the user
prompt when the prompt is submitted to Amazon Bedrock" is incorrect. Including
all PDF files would increase costs significantly due to the large context size processed by the model.
? Option C: "Use all the PDF documents to fine-tune a model with Amazon Bedrock"
is incorrect. Fine-tuning a model is more expensive than using prompt engineering, especially if done for multiple documents.
? Option D: "Upload PDF documents to an Amazon Bedrock knowledge base" is
incorrect because Amazon Bedrock does not have a built-in knowledge base feature for directly managing and querying PDF documents.
AWS AI Practitioner References:
? Prompt Engineering for Cost-Effective AI: AWS emphasizes the importance of using prompt engineering to minimize costs when interacting with LLMs. By carefully selecting relevant context, users can reduce the amount of data processed and save on expenses.

NEW QUESTION 18
Which AWS feature records details about ML instance data for governance and reporting?

A. Amazon SageMaker Model Cards
B. Amazon SageMaker Debugger
C. Amazon SageMaker Model Monitor
D. Amazon SageMaker JumpStart

Answer: A

Explanation:
Amazon SageMaker Model Cards provide a centralized and standardized repository for documenting machine learning models. They capture key details such as the model's intended use, training and evaluation datasets, performance metrics, ethical considerations, and other relevant information. This documentation facilitates governance and reporting by ensuring that all stakeholders have access to consistent and comprehensive information about each model. While Amazon SageMaker Debugger is used for real-time debugging and monitoring during training, and Amazon SageMaker Model Monitor tracks deployed models for data and prediction quality, neither offers the comprehensive documentation capabilities of Model Cards. Amazon SageMaker JumpStart provides pre-built models and solutions but does not focus on governance documentation.
Reference: Amazon SageMaker Model Cards

NEW QUESTION 22
A company wants to develop a large language model (LLM) application by using Amazon Bedrock and customer data that is uploaded to Amazon S3. The company's security policy states that each team can access data for only the team's own customers.
Which solution will meet these requirements?

A. Create an Amazon Bedrock custom service role for each team that has access to only the team's customer data.
B. Create a custom service role that has Amazon S3 acces

C. Ask teams to specify the customer name on each Amazon Bedrock request.
D. Redact personal data in Amazon S3. Update the S3 bucket policy to allow team access to customer data.
E. Create one Amazon Bedrock role that has full Amazon S3 acces
F. Create IAM roles for each team that have access to only each team's customer folders.

Answer: A

Explanation:
To comply with the company's security policy, which restricts each team to access data for only their own customers, creating an Amazon Bedrock custom service role for each team is the correct solution.
? Custom Service Role Per Team:
? Why Option A is Correct:
? Why Other Options are Incorrect:
Thus, A is the correct answer to meet the company's security requirements.

NEW QUESTION 26
A retail store wants to predict the demand for a specific product for the next few weeks by using the Amazon SageMaker DeepAR forecasting algorithm.
Which type of data will meet this requirement?

A. Text data
B. Image data
C. Time series data
D. Binary data

Answer: C

Explanation:
Amazon SageMaker's DeepAR is a supervised learning algorithm designed for forecasting scalar (one-dimensional) time series data. Time series data consists of sequences of data points indexed in time order, typically with consistent intervals between them. In the context of a retail store aiming to predict product demand, relevant time series data might include historical sales figures, inventory levels, or related metrics recorded over regular time intervals (e.g., daily or weekly). By training the DeepAR model on this historical time series data, the store can generate forecasts for future product demand. This capability is
particularly useful for inventory management, staffing, and supply chain optimization. Other data types, such as text, image, or binary data, are not suitable for time series forecasting tasks and would not be appropriate inputs for the DeepAR algorithm.
Reference: Amazon SageMaker DeepAR Algorithm

NEW QUESTION 28
A company is using Amazon SageMaker Studio notebooks to build and train ML models. The company stores the data in an Amazon S3 bucket. The company needs to manage the flow of data from Amazon S3 to SageMaker Studio notebooks.
Which solution will meet this requirement?

A. Use Amazon Inspector to monitor SageMaker Studio.
B. Use Amazon Macie to monitor SageMaker Studio.
C. Configure SageMaker to use a VPC with an S3 endpoint.
D. Configure SageMaker to use S3 Glacier Deep Archive.

Answer: C

Explanation:
To manage the flow of data from Amazon S3 to SageMaker Studio notebooks securely, using a VPC with an S3 endpoint is the best solution.
? Amazon SageMaker and S3 Integration:
? Why Option C is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 29
A loan company is building a generative AI-based solution to offer new applicants discounts based on specific business criteria. The company wants to build and use an AI model responsibly to minimize bias that could negatively affect some customers.
Which actions should the company take to meet these requirements? (Select TWO.)

A. Detect imbalances or disparities in the data.
B. Ensure that the model runs frequently.
C. Evaluate the model's behavior so that the company can provide transparency to stakeholders.
D. Use the Recall-Oriented Understudy for Gisting Evaluation (ROUGE) technique to ensure that the model is 100% accurate.
E. Ensure that the model's inference time is within the accepted limits.

Answer: AC

Explanation:
To build and use an AI model responsibly, especially in sensitive applications like loan approvals, it's crucial to address potential biases and ensure transparency:
? Detect imbalances or disparities in the data (Option A): Analyzing the training data
for imbalances or disparities is essential. Imbalanced data can lead to models that are biased towards the majority class, potentially disadvantaging certain groups. By identifying and mitigating these imbalances, the company can reduce the risk of biased predictions.
? Evaluate the model's behavior to provide transparency to stakeholders (Option C):
Regularly assessing the model's outputs and decision-making processes allows the company to understand how decisions are made. This evaluation fosters transparency, enabling the company to explain model behavior to stakeholders
and ensure that the model operates as intended without unintended biases. Options B, D, and E, while relevant to model performance and evaluation, do not directly address the responsible use of AI concerning bias and transparency.
Reference: AWS Certified AI Practitioner Exam Guide

NEW QUESTION 33

A company is building a customer service chatbot. The company wants the chatbot to improve its responses by learning from past interactions and online resources.
Which AI learning strategy provides this self-improvement capability?

A. Supervised learning with a manually curated dataset of good responses and bad responses
B. Reinforcement learning with rewards for positive customer feedback
C. Unsupervised learning to find clusters of similar customer inquiries
D. Supervised learning with a continuously updated FAQ database

Answer: B

Explanation:
Reinforcement learning allows a model to learn and improve over time based on feedback from its environment. In this case, the chatbot can improve its responses by being rewarded for positive customer feedback, which aligns well with the goal of self- improvement based on past interactions and new information.
? Option B (Correct): "Reinforcement learning with rewards for positive customer
feedback": This is the correct answer as reinforcement learning enables the chatbot to learn from feedback and adapt its behavior accordingly, providing self-improvement capabilities.
? Option A: "Supervised learning with a manually curated dataset" is incorrect
because it does not support continuous learning from new interactions.
? Option C: "Unsupervised learning to find clusters of similar customer inquiries" is incorrect because unsupervised learning does not provide a mechanism for improving responses based on feedback.
? Option D: "Supervised learning with a continuously updated FAQ database" is incorrect because it still relies on manually curated data rather than self-improvement from feedback.
AWS AI Practitioner References:
? Reinforcement Learning on AWS: AWS provides reinforcement learning
frameworks that can be used to train models to improve their performance based on feedback.

NEW QUESTION 36
A company has built an image classification model to predict plant diseases from photos of plant leaves. The company wants to evaluate how many images the model classified correctly.
Which evaluation metric should the company use to measure the model's performance?

A. R-squared score
B. Accuracy
C. Root mean squared error (RMSE)
D. Learning rate

Answer: B

Explanation:
Accuracy is the most appropriate metric to measure the performance of an image classification model. It indicates the percentage of correctly classified images out of the total number of images. In the context of classifying plant diseases from images, accuracy will help the company determine how well the model is performing by showing how many images were correctly classified.
? Option B (Correct): "Accuracy": This is the correct answer because accuracy
measures the proportion of correct predictions made by the model, which is suitable for evaluating the performance of a classification model.
? Option A: "R-squared score" is incorrect as it is used for regression analysis, not
classification tasks.
? Option C: "Root mean squared error (RMSE)" is incorrect because it is also used for regression tasks to measure prediction errors, not for classification accuracy.
? Option D: "Learning rate" is incorrect as it is a hyperparameter for training, not a performance metric.
AWS AI Practitioner References:
? Evaluating Machine Learning Models on AWS: AWS documentation emphasizes the use of appropriate metrics, like accuracy, for classification tasks.

NEW QUESTION 37
A security company is using Amazon Bedrock to run foundation models (FMs). The company wants to ensure that only authorized users invoke the models. The company needs to identify any unauthorized access attempts to set appropriate AWS Identity and Access Management (IAM) policies and roles for future iterations of the FMs.
Which AWS service should the company use to identify unauthorized users that are trying to access Amazon Bedrock?

A. AWS Audit Manager
B. AWS CloudTrail
C. Amazon Fraud Detector
D. AWS Trusted Advisor

Answer: B

Explanation:
AWS CloudTrail is a service that enables governance, compliance, and operational and risk auditing of your AWS account. It tracks API calls and identifies unauthorized access attempts to AWS resources, including Amazon Bedrock.
? AWS CloudTrail:
? Why Option B is Correct:
? Why Other Options are Incorrect:
Thus, B is the correct answer for identifying unauthorized users attempting to access Amazon Bedrock.

NEW QUESTION 39
A company wants to use generative AI to increase developer productivity and software development. The company wants to use Amazon Q Developer.
What can Amazon Q Developer do to help the company meet these requirements?

A. Create software snippets, reference tracking, and open-source license tracking.

B. Run an application without provisioning or managing servers.
C. Enable voice commands for coding and providing natural language search.
D. Convert audio files to text documents by using ML models.

Answer: A

Explanation:
Amazon Q Developer is a tool designed to assist developers in increasing productivity by generating code snippets, managing reference tracking, and handling open-source license tracking. These features help developers by automating parts of the software development process.
? Option A (Correct): "Create software snippets, reference tracking, and open-
source license tracking": This is the correct answer because these are key features that help developers streamline and automate tasks, thus improving productivity.
? Option B: "Run an application without provisioning or managing servers" is
incorrect as it refers to AWS Lambda or AWS Fargate, not Amazon Q Developer.
? Option C: "Enable voice commands for coding and providing natural language search" is incorrect because this is not a function of Amazon Q Developer.
? Option D: "Convert audio files to text documents by using ML models" is incorrect as this refers to Amazon Transcribe, not Amazon Q Developer.
AWS AI Practitioner References:
? Amazon Q Developer Features: AWS documentation outlines how Amazon Q Developer supports developers by offering features that reduce manual effort and improve efficiency.

NEW QUESTION 44
An AI practitioner has a database of animal photos. The AI practitioner wants to automatically identify and categorize the animals in the photos without manual human effort.
Which strategy meets these requirements?

A. Object detection
B. Anomaly detection
C. Named entity recognition
D. Inpainting

Answer: A

Explanation:
Object detection is the correct strategy for automatically identifying and categorizing animals in photos.
? Object Detection:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 46
A digital devices company wants to predict customer demand for memory hardware. The company does not have coding experience or knowledge of ML algorithms and needs to develop a data-driven predictive model. The company needs to perform analysis on internal data and external data.
Which solution will meet these requirements?

A. Store the data in Amazon S3. Create ML models and demand forecast predictions by using Amazon SageMaker built-in algorithms that use the data from Amazon S3.
B. Import the data into Amazon SageMaker Data Wrangle
C. Create ML models and demand forecast predictions by using SageMaker built-in algorithms.
D. Import the data into Amazon SageMaker Data Wrangle
E. Build ML models and demand forecast predictions by using an Amazon Personalize Trending-Now recipe.
F. Import the data into Amazon SageMaker Canva
G. Build ML models and demand forecast predictions by selecting the values in the data from SageMaker Canvas.

Answer: D

Explanation:
Amazon SageMaker Canvas is a visual, no-code machine learning interface that allows users to build machine learning models without having any coding experience or knowledge of machine learning algorithms. It enables users to analyze internal and external data, and make predictions using a guided interface.
? Option D (Correct): "Import the data into Amazon SageMaker Canvas. Build ML
models and demand forecast predictions by selecting the values in the data from SageMaker Canvas": This is the correct answer because SageMaker Canvas is designed for users without coding experience, providing a visual interface to build predictive models with ease.
? Option A: "Store the data in Amazon S3 and use SageMaker built-in algorithms" is
incorrect because it requires coding knowledge to interact with SageMaker's built- in algorithms.
? Option B: "Import the data into Amazon SageMaker Data Wrangler" is incorrect.
Data Wrangler is primarily for data preparation and not directly focused on creating ML models without coding.
? Option C: "Use Amazon Personalize Trending-Now recipe" is incorrect as Amazon
Personalize is for building recommendation systems, not for general demand forecasting.
AWS AI Practitioner References:
? Amazon SageMaker Canvas Overview: AWS documentation emphasizes Canvas as a no-code solution for building machine learning models, suitable for business analysts and users with no coding experience.

NEW QUESTION 48
A company has petabytes of unlabeled customer data to use for an advertisement campaign. The company wants to classify its customers into tiers to advertise and promote the company's products.
Which methodology should the company use to meet these requirements?

A. Supervised learning
B. Unsupervised learning
C. Reinforcement learning
D. Reinforcement learning from human feedback (RLHF)

Answer: B

Explanation:
Unsupervised learning is the correct methodology for classifying customers into tiers when the data is unlabeled, as it does not require predefined labels or outputs.
? Unsupervised Learning:
? Why Option B is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 50
A company manually reviews all submitted resumes in PDF format. As the company grows, the company expects the volume of resumes to exceed the company's review capacity. The company needs an automated system to convert the PDF resumes into plain text format for additional processing.
Which AWS service meets this requirement?

A. Amazon Textract
B. Amazon Personalize
C. Amazon Lex
D. Amazon Transcribe

Answer: A

Explanation:
Amazon Textract is a service that automatically extracts text and data from scanned documents, including PDFs. It is the best choice for converting resumes from PDF format to plain text for further processing.
? Amazon Textract:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 51
Which feature of Amazon OpenSearch Service gives companies the ability to build vector database applications?

A. Integration with Amazon S3 for object storage
B. Support for geospatial indexing and queries
C. Scalable index management and nearest neighbor search capability
D. Ability to perform real-time analysis on streaming data

Answer: C

Explanation:
Amazon OpenSearch Service (formerly Amazon Elasticsearch Service) has introduced capabilities to support vector search, which allows companies to build vector database applications. This is particularly useful in machine learning, where vector representations (embeddings) of data are often used to capture semantic meaning.
Scalable index management and nearest neighbor search capability are the core features enabling vector database functionalities in OpenSearch. The service allows users to index high-dimensional vectors and perform efficient nearest neighbor searches, which are crucial for tasks such as recommendation systems, anomaly detection, and semantic search.
Here is why option C is the correct Answer:
? Scalable Index Management: OpenSearch Service supports scalable indexing of vector data. This means you can index a large volume of high-dimensional vectors
and manage these indexes in a cost-effective and performance-optimized way. The service leverages underlying AWS infrastructure to ensure that indexing scales seamlessly with data size.
? Nearest Neighbor Search Capability: OpenSearch Service's nearest neighbor
search capability allows for fast and efficient searches over vector data. This is essential for applications like product recommendation engines, where the system needs to quickly find the most similar items based on a user's query or behavior.
? AWS AI Practitioner References:
The other options do not directly relate to building vector database applications:
? A. Integration with Amazon S3 for object storage is about storing data objects, not vector-based searching or indexing.
? B. Support for geospatial indexing and queries is related to location-based data, not vectors used in machine learning.
? D. Ability to perform real-time analysis on streaming data relates to analyzing incoming data streams, which is different from the vector search capabilities.

NEW QUESTION 53
A company wants to build an interactive application for children that generates new stories based on classic stories. The company wants to use Amazon Bedrock and needs to ensure that the results and topics are appropriate for children.
Which AWS service or feature will meet these requirements?

A. Amazon Rekognition
B. Amazon Bedrock playgrounds
C. Guardrails for Amazon Bedrock
D. Agents for Amazon Bedrock

Answer: C

Explanation:
Amazon Bedrock is a service that provides foundational models for building generative AI applications. When creating an application for children, it is crucial to ensure that the generated content is appropriate for the target audience. "Guardrails" in Amazon Bedrock provide mechanisms to control the outputs and topics of generated content to align with desired safety standards and appropriateness levels.
? Option C (Correct): "Guardrails for Amazon Bedrock": This is the correct answer
because guardrails are specifically designed to help users enforce content moderation, filtering, and safety checks on the outputs generated by models in Amazon Bedrock. For a children??s application, guardrails ensure that all content generated is suitable and appropriate for the intended audience.
? Option A: "Amazon Rekognition" is incorrect. Amazon Rekognition is an image and
video analysis service that can detect inappropriate content in images or videos, but it does not handle text or story generation.

? Option B: "Amazon Bedrock playgrounds" is incorrect because playgrounds are
environments for experimenting and testing model outputs, but they do not inherently provide safeguards to ensure content appropriateness for specific audiences, such as children.
? Option D: "Agents for Amazon Bedrock" is incorrect. Agents in Amazon Bedrock
facilitate building AI applications with more interactive capabilities, but they do not provide specific guardrails for ensuring content appropriateness for children.
AWS AI Practitioner References:
? Guardrails in Amazon Bedrock: Designed to help implement controls that ensure generated content is safe and suitable for specific use cases or audiences, such as children, by moderating and filtering inappropriate or undesired content.
? Building Safe AI Applications: AWS provides guidance on implementing ethical AI practices, including using guardrails to protect against generating inappropriate or biased content.

NEW QUESTION 56
A company is using a pre-trained large language model (LLM) to build a chatbot for product recommendations. The company needs the LLM outputs to be short and written in a specific language.
Which solution will align the LLM response quality with the company's expectations?

A. Adjust the prompt.
B. Choose an LLM of a different size.
C. Increase the temperature.
D. Increase the Top K value.

Answer: A

Explanation:
Adjusting the prompt is the correct solution to align the LLM outputs with the company's expectations for short, specific language responses.
? Adjust the Prompt:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 61
A company has terabytes of data in a database that the company can use for business analysis. The company wants to build an AI-based application that can build a SQL query from input text that employees provide. The employees have minimal experience with technology.
Which solution meets these requirements?

A. Generative pre-trained transformers (GPT)
B. Residual neural network
C. Support vector machine
D. WaveNet

Answer: A

Explanation:
Generative Pre-trained Transformers (GPT) are suitable for building an AI-based application that can generate SQL queries from natural language input provided by employees.
? GPT for Natural Language Processing:
? Why Option A is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 65
An e-commerce company wants to build a solution to determine customer sentiments based on written customer reviews of products.
Which AWS services meet these requirements? (Select TWO.)

A. Amazon Lex
B. Amazon Comprehend
C. Amazon Polly
D. Amazon Bedrock
E. Amazon Rekognition

Answer: BD

Explanation:
To determine customer sentiments based on written customer reviews, the company can use Amazon Comprehend and Amazon Bedrock.
? Amazon Comprehend:
? Amazon Bedrock:
? Why Other Options are Incorrect:

NEW QUESTION 69
A company wants to use AI to protect its application from threats. The AI solution needs to check if an IP address is from a suspicious source.
Which solution meets these requirements?

A. Build a speech recognition system.
B. Create a natural language processing (NLP) named entity recognition system.
C. Develop an anomaly detection system.
D. Create a fraud forecasting system.

Answer: C

Explanation:
An anomaly detection system is suitable for identifying unusual patterns or behaviors, such as suspicious IP addresses, which might indicate a potential threat.

? Anomaly Detection:
? Why Option C is Correct:
? Why Other Options are Incorrect:
Thus, C is the correct answer for detecting suspicious IP addresses.

NEW QUESTION 72
A company is using domain-specific models. The company wants to avoid creating new models from the beginning. The company instead wants to adapt pre-trained models to create models for new, related tasks.
Which ML strategy meets these requirements?

A. Increase the number of epochs.
B. Use transfer learning.
C. Decrease the number of epochs.
D. Use unsupervised learning.

Answer: B

Explanation:
Transfer learning is the correct strategy for adapting pre-trained models for new, related tasks without creating models from scratch.
? Transfer Learning:
? Why Option B is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 77
A company is building a chatbot to improve user experience. The company is using a large language model (LLM) from Amazon Bedrock for intent detection. The company wants to use few-shot learning to improve intent detection accuracy.
Which additional data does the company need to meet these requirements?

A. Pairs of chatbot responses and correct user intents
B. Pairs of user messages and correct chatbot responses
C. Pairs of user messages and correct user intents
D. Pairs of user intents and correct chatbot responses

Answer: C

Explanation:
Few-shot learning involves providing a model with a few examples (shots) to learn from. For improving intent detection accuracy in a chatbot using a large language model (LLM), the data should consist of pairs of user messages and their corresponding correct intents.
? Few-shot Learning for Intent Detection:
? Why Option C is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 82
A large retailer receives thousands of customer support inquiries about products every day. The customer support inquiries need to be processed and responded to quickly. The company wants to implement Agents for Amazon Bedrock.
What are the key benefits of using Amazon Bedrock agents that could help this retailer?

A. Generation of custom foundation models (FMs) to predict customer needs
B. Automation of repetitive tasks and orchestration of complex workflows
C. Automatically calling multiple foundation models (FMs) and consolidating the results
D. Selecting the foundation model (FM) based on predefined criteria and metrics

Answer: B

Explanation:
Amazon Bedrock Agents provide the capability to automate repetitive tasks and orchestrate complex workflows using generative AI models. This is particularly beneficial for customer support inquiries, where quick and efficient processing is crucial.
? Option B (Correct): "Automation of repetitive tasks and orchestration of complex workflows": This is the correct answer because Bedrock Agents can automate common customer service tasks and streamline complex processes, improving response times and efficiency.
? Option A: "Generation of custom foundation models (FMs) to predict customer needs" is incorrect as Bedrock agents do not create custom models.
? Option C: "Automatically calling multiple foundation models (FMs) and consolidating the results" is incorrect because Bedrock agents focus on task automation rather than combining model outputs.
? Option D: "Selecting the foundation model (FM) based on predefined criteria and metrics" is incorrect as Bedrock agents are not designed for selecting models.
AWS AI Practitioner References:
? Amazon Bedrock Documentation: AWS explains that Bedrock Agents automate tasks and manage complex workflows, making them ideal for customer support automation.

NEW QUESTION 86
A company wants to develop an educational game where users answer questions such as the following: "A jar contains six red, four green, and three yellow marbles. What is the probability of choosing a green marble from the jar?"
Which solution meets these requirements with the LEAST operational overhead?

A. Use supervised learning to create a regression model that will predict probability.
B. Use reinforcement learning to train a model to return the probability.
C. Use code that will calculate probability by using simple rules and computations.
D. Use unsupervised learning to create a model that will estimate probability density.

Answer: C

Explanation:
The problem involves a simple probability calculation that can be handled efficiently by straightforward mathematical rules and computations. Using machine learning techniques would introduce unnecessary complexity and operational overhead.
? Option C (Correct): "Use code that will calculate probability by using simple rules and computations": This is the correct answer because it directly solves the problem with minimal overhead, using basic probability rules.
? Option A: "Use supervised learning to create a regression model" is incorrect as it overcomplicates the solution for a simple probability problem.
? Option B: "Use reinforcement learning to train a model" is incorrect because reinforcement learning is not needed for a simple probability calculation.
? Option D: "Use unsupervised learning to create a model" is incorrect as unsupervised learning is not applicable to this task.
AWS AI Practitioner References:
? Choosing the Right Solution for AI Tasks: AWS recommends using the simplest and most efficient approach to solve a given problem, avoiding unnecessary machine learning techniques for straightforward tasks.

NEW QUESTION 90
A company needs to train an ML model to classify images of different types of animals. The company has a large dataset of labeled images and will not label more data. Which type of learning should the company use to train the model?

A. Supervised learning.
B. Unsupervised learning.
C. Reinforcement learning.
D. Active learning.

Answer: A

Explanation:
Supervised learning is appropriate when the dataset is labeled. The model uses this data to learn patterns and classify images. Unsupervised learning, reinforcement learning, and active learning are not suitable since they either require unlabeled data or different problem settings. References: AWS Machine Learning Best Practices.

NEW QUESTION 92
A pharmaceutical company wants to analyze user reviews of new medications and provide a concise overview for each medication. Which solution meets these requirements?

A. Create a time-series forecasting model to analyze the medication reviews by using Amazon Personalize.
B. Create medication review summaries by using Amazon Bedrock large language models (LLMs).
C. Create a classification model that categorizes medications into different groups by using Amazon SageMaker.
D. Create medication review summaries by using Amazon Rekognition.

Answer: B

Explanation:
Amazon Bedrock provides large language models (LLMs) that are optimized for natural language understanding and text summarization tasks, making it the best choice for creating concise summaries of user reviews. Time-series forecasting, classification, and image analysis (Rekognition) are not suitable for summarizing textual data. References: AWS Bedrock Documentation.

NEW QUESTION 94
A loan company is building a generative AI-based solution to offer new applicants discounts based on specific business criteria. The company wants to build and use an AI model responsibly to minimize bias that could negatively affect some customers.
Which actions should the company take to meet these requirements? (Select TWO.)

A. Detect imbalances or disparities in the data.
B. Ensure that the model runs frequently.
C. Evaluate the model's behavior so that the company can provide transparency to stakeholders.
D. Use the Recall-Oriented Understudy for Gisting Evaluation (ROUGE) technique to ensure that the model is 100% accurate.
E. Ensure that the model's inference time is within the accepted limits.

Answer: AC

Explanation:
To build an AI model responsibly and minimize bias, it is essential to ensure fairness and transparency throughout the model development and deployment process. This involves detecting and mitigating data imbalances and thoroughly evaluating the model's behavior to understand its impact on different groups.
? Option A (Correct): "Detect imbalances or disparities in the data": This is correct because identifying and addressing data imbalances or disparities is a critical step in reducing bias. AWS provides tools like Amazon SageMaker Clarify to detect bias during data preprocessing and model training.
? Option C (Correct): "Evaluate the model's behavior so that the company can provide transparency to stakeholders": This is correct because evaluating the model's behavior for fairness and accuracy is key to ensuring that stakeholders understand how the model makes decisions. Transparency is a crucial aspect of responsible AI.
? Option B: "Ensure that the model runs frequently" is incorrect because the frequency of model runs does not address bias.
? Option D: "Use the Recall-Oriented Understudy for Gisting Evaluation (ROUGE) technique to ensure that the model is 100% accurate" is incorrect because ROUGE is a metric for evaluating the quality of text summarization models, not for minimizing bias.
? Option E: "Ensure that the model's inference time is within the accepted limits" is incorrect as it relates to performance, not bias reduction.
AWS AI Practitioner References:
? Amazon SageMaker Clarify: AWS offers tools such as SageMaker Clarify for detecting bias in datasets and models, and for understanding model behavior to ensure fairness and transparency.
? Responsible AI Practices: AWS promotes responsible AI by advocating for fairness, transparency, and inclusivity in model development and deployment.

NEW QUESTION 98
A company is building an application that needs to generate synthetic data that is based on existing data.
Which type of model can the company use to meet this requirement?

A. Generative adversarial network (GAN)

B. XGBoost
C. Residual neural network
D. WaveNet

Answer: A

Explanation:
Generative adversarial networks (GANs) are a type of deep learning model used for generating synthetic data based on existing datasets. GANs consist of two neural networks (a generator and a discriminator) that work together to create realistic data.
? Option A (Correct): "Generative adversarial network (GAN)": This is the correct
answer because GANs are specifically designed for generating synthetic data that closely resembles the real data they are trained on.
? Option B: "XGBoost" is a gradient boosting algorithm for classification and
regression tasks, not for generating synthetic data.
? Option C: "Residual neural network" is primarily used for improving the performance of deep networks, not for generating synthetic data.
? Option D: "WaveNet" is a model architecture designed for generating raw audio waveforms, not synthetic data in general.
AWS AI Practitioner References:
? GANs on AWS for Synthetic Data Generation: AWS supports the use of GANs for creating synthetic datasets, which can be crucial for applications like training machine learning models in environments where real data is scarce or sensitive.

NEW QUESTION 101
Which option is a benefit of using Amazon SageMaker Model Cards to document AI models?

A. Providing a visually appealing summary of a model's capabilities.
B. Standardizing information about a model's purpose, performance, and limitations.
C. Reducing the overall computational requirements of a model.
D. Physically storing models for archival purposes.

Answer: B

Explanation:
Amazon SageMaker Model Cards provide a standardized way to document important details about an AI model, such as its purpose, performance, intended usage, and known limitations. This enables transparency and compliance while fostering better communication between stakeholders. It does not store models physically or optimize computational requirements. References: AWS SageMaker Model Cards Documentation.

NEW QUESTION 103
Which option is a benefit of ongoing pre-training when fine-tuning a foundation model (FM)?

A. Helps decrease the model's complexity
B. Improves model performance over time
C. Decreases the training time requirement
D. Optimizes model inference time

Answer: B

Explanation:
Ongoing pre-training when fine-tuning a foundation model (FM) improves model performance over time by continuously learning from new data.
? Ongoing Pre-Training:
? Why Option B is Correct:
? Why Other Options are Incorrect:

NEW QUESTION 106
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