

Section-Based – Applications of Foundation Models (AIF-C01)

!!BEST OF LUCK!!

Ques 1: A retail company wants to improve its customer engagement by providing personalized recommendations to online shoppers. They decide to leverage generative AI to achieve this goal.

Which characteristics of a Generative AI system are relevant for creating personalized product recommendations? (Select THREE.)

- a) Adaptability
- b) Scalability
- c) Data efficiency
- d) Responsiveness
- e) Personalization
- f) Simplicity

Ans: Scalability & Data efficiency & Personalization

Ques 2: A company is testing a model for generating text summaries and needs a metric to evaluate how well the summaries match human-created references.

Which metric is most appropriate for this evaluation?

- a) BLEU (Bilingual Evaluation Understudy)
- b) F1 Score
- c) Recall-Oriented Understudy for Gisting Evaluation (ROUGE)
- d) Cross-Entropy Loss

Ans: Recall-Oriented Understudy for Gisting Evaluation (ROUGE)

Ques 3: An insurance company receives many paper-based claim forms from policyholders. These forms contain handwritten and printed information about accidents, medical treatments, and property damage. The company wants to automate the extraction of relevant data from these scanned documents to streamline its claims processing workflow.

Which AWS service should you recommend to achieve this goal?

- a) Amazon Rekognition
- b) Amazon Polly
- c) Amazon Comprehend
- d) Amazon Textract

Ans: Amazon Textract

Ques 4: A company has a recommender system that generates embeddings from customer interaction data to understand product relationships and user preferences. The goal is to enhance the system with semantic search capabilities to retrieve contextually similar product recommendations more efficiently.

Which AWS services are best suited for implementing vector search to optimize and scale the recommendation system? (Select THREE.)

- a) Amazon OpenSearch Service
- b) Amazon Redshift
- c) Amazon DocumentDB (with MongoDB compatibility)
- d) Amazon Quicksight
- e) Amazon Neptune ML

- f) Amazon S3

Ans: Amazon OpenSearch Service & Amazon DocumentDB (with MongoDB compatibility) & Amazon Neptune ML

Ques 5: A company is building a mobile application that assists visually impaired users. The app must be able to convert printed text from images into spoken language. Users can take pictures of documents, handwritten notes, or product labels, and the app will read the content aloud. The application needs to be accurate, reliable, and efficient.

Which AWS services would you recommend for implementing this functionality? (Select TWO.)

- a) Amazon Polly
- b) Amazon Rekognition
- c) Amazon Textract
- d) Amazon Lex
- e) Amazon Comprehend

Ans: Amazon Polly & Amazon Textract

Ques 6: A development team is building a social media platform that allows users to upload images. They want to ensure that inappropriate content is filtered out.

Which Amazon Rekognition API can detect unsafe content in a specified JPEG or PNG format image?

- a) DetectModerationLabels
- b) DetectLabels
- c) DetectFaces
- d) DetectText

Ans: DetectModerationLabels

Ques 7: A company needs to label a large dataset of images with high accuracy to train a machine learning model. The company requires a solution combining human labeling with machine learning to ensure data quality.

Which AWS service or feature will best meet this requirement?

- a) Amazon SageMaker Debugger
- b) Amazon SageMaker Model Monitor
- c) Amazon SageMaker Ground Truth
- d) Amazon SageMaker Autopilot

Ans: Amazon SageMaker Ground Truth

Ques 8: An ML engineer is tasked with forecasting the monthly revenue for a subscription-based service.

Which evaluation metrics should be used to assess the model's performance? (Select TWO.)

- a) Mean absolute error (MAE)
- b) Mean absolute percentage error (MAPE)
- c) InferenceLatency
- d) Accuracy
- e) F1 score

Ans: Mean absolute error (MAE) & Mean absolute percentage error (MAPE)

Ques 9: An AI specialist is developing a system to detect vehicles in street images using machine learning. The goal is to create labels for a large dataset of street images and utilize Reinforcement Learning from Human Feedback (RLHF) to improve the model over time.

Which of the following options would be the most suitable for this task?

- a) Amazon SageMaker built-in algorithms.
- b) Amazon SageMaker Ground Truth
- c) Amazon Rekognition Custom Labels
- d) Amazon Comprehend

Ans: Amazon SageMaker Ground Truth

Ques 10: A marketing team plans to use Amazon Bedrock to generate personalized email content for different customer segments.

What should the team do FIRST to get started with Amazon Bedrock?

- a) Configure the output format for the generated content.
- b) Pick a suitable foundation model (FM).
- c) Choose the input token limit for content generation.
- d) Set up API credentials for access.

Ans: Pick a suitable foundation model (FM).

Ques 11: An organization is developing a conversational AI assistant using a large language model. The organization wants to incorporate human feedback to improve the model's responses and ensure they are appropriate and helpful.

Which steps are part of the RLHF (Reinforcement Learning from Human Feedback) approach? (Select TWO.)

- a) Supervised fine-tuning of the regression model
- b) Evaluating the model's performance using perplexity score
- c) Supervised fine-tuning of the language model
- d) Creating a reward model
- e) Unsupervised pre-training of the language model

Ans: Supervised fine-tuning of the language model & Creating a reward model

Ques 12: A retail organization is building a machine-learning model for its customer support chatbot. They need to evaluate how closely the chatbot's responses match those of subject matter experts. The organization also wants to optimize the chatbot's speed of response.

What is the most appropriate metric to evaluate the chatbot's response similarity to expert answers?

- a) BERTScore
- b) Metric for Evaluation of Translation with Explicit Ordering (METEOR)
- c) Mean squared error (MSE)
- d) ROUGE-N

Ans: BERTScore

Ques 13: An ML engineer is working on a machine learning project. The engineer has trained several models using different algorithms and hyperparameters. These models need to be efficiently managed for deployment in a production environment.

Which service should be used to catalog models, manage model versions, and associate metadata with the models?

- AWS Elastic Beanstalk

- Amazon SageMaker Model Registry
- Amazon Elastic Container Registry
- AWS Glue

Ans: Amazon SageMaker Model Registry

Ques 14: An AI specialist is in the process of studying the capabilities of foundational models (FMs) to enhance the company's AI-driven solutions. These powerful models can be fine-tuned for various tasks based on extensive pre-training on large datasets. The specialists need to understand the different capabilities of foundation models and how they can be applied.

Select the correct tasks that FMs can perform to help the company improve its AI-driven solution. (Select THREE.)

It has the capability to identify objects, scenes, and other elements within images:

- a) High-resolution image creation and editing
- b) Image classification
- c) Visual comprehension
- d) Hugging Face

Ans: Visual comprehension

It can answer natural language questions and even write short scripts or articles in response to prompts:

- a) Language translation
- b) Language processing
- c) Speech to text
- d) Visual comprehension

Ans: Language processing

It is designed for tasks like transcription and video captioning in various languages.

- a) Language translation
- b) Document extraction
- c) Speech to text
- d) Language processing

Ans: Speech to text

Ques 15: Match the appropriate AWS service or feature from the given options to each requirement related to building and securing a generative AI application using Amazon Bedrock. Each option can be used once, more than once, or not at all. (Select THREE)

Implement role-based access control for your AI application resources:

- a) AWS Key Management Service (KMS)
- b) AWS Identity and Access Management (IAM)
- c) Amazon Bedrock Content Guardrails
- d) AWS CloudTrail

Ans: AWS Identity and Access Management (IAM)

Define policies to prevent the generation of explicit or offensive content:

- a) Amazon Bedrock Content Guardrails
- b) AWS Identity and Access Management (IAM)
- c) AWS Key Management Service (KMS)
- d) AWS CloudTrail

Ans: Amazon Bedrock Content Guardrails

Encrypt data used for training and inference in your AI models

- a) Amazon Bedrock Content Guardrails
- b) AWS Identity and Access Management (IAM)
- c) AWS Key Management Service (KMS)
- d) AWS CloudTrail

Ans: AWS Key Management Service (KMS)