

Exam A

QUESTION 1

A company employs a team of customer service agents to provide telephone and email support to customers.

The company develops a webchat bot to provide automated answers to common customer queries.

Which business benefit should the company expect as a result of creating the webchat bot solution?

- A. increased sales
- B. a reduced workload for the customer service agents
- C. improved product reliability

Correct Answer: B

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

QUESTION 2

For a machine learning progress, how should you split data for training and evaluation?

- A. Use features for training and labels for evaluation.
- B. Randomly split the data into rows for training and rows for evaluation.
- C. Use labels for training and features for evaluation.
- D. Randomly split the data into columns for training and columns for evaluation.

Correct Answer: D

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

Explanation:

In Azure Machine Learning, the percentage split is the available technique to split the data. In this technique, random data of a given percentage will be split to train and test data.

Reference:

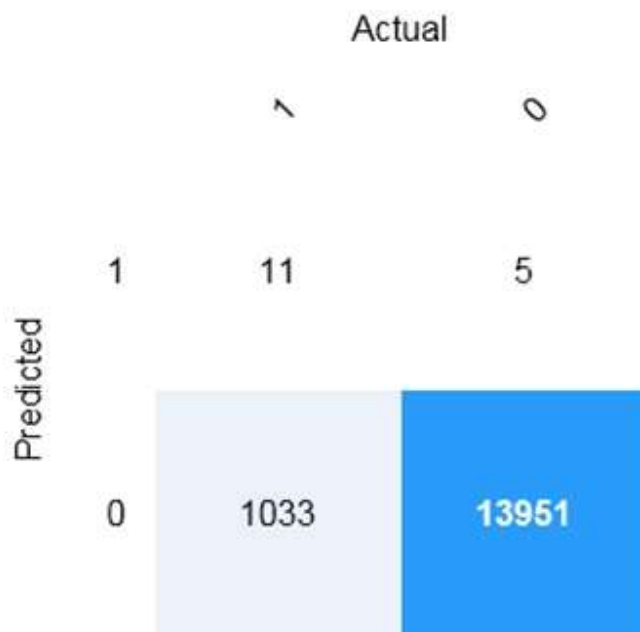
<https://www.sqlshack.com/prediction-in-azure-machine-learning/>

QUESTION 3

HOTSPOT

You are developing a model to predict events by using classification.

You have a confusion matrix for the model scored on test data as shown in the following exhibit.



Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

There are **[answer choice]** correctly predicted positives.

	▼
5	
11	
1,033	
13,951	

There are **[answer choice]** false negatives.

	▼
5	
11	
1,033	
13,951	

Correct Answer:

Answer Area

There are [answer choice] correctly predicted positives.

5
11
1,033
13,951

There are [answer choice] false negatives.

5
11
1,033
13,951

Section: Describe Artificial Intelligence workloads and considerations Explanation

Explanation/Reference:

Explanation:

Box 1: 11

	Predicted	
	Positive	Negative
Actual True	TP	FN
Actual False	FP	TN

TP = True Positive.

The class labels in the training set can take on only two possible values, which we usually refer to as positive or negative. The positive and negative instances that a classifier predicts correctly are called true positives (TP) and true negatives (TN), respectively. Similarly, the incorrectly classified instances are called false positives (FP) and false negatives (FN).

Box 2: 1,033

FN = False Negative

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio/evaluate-model-performance>

QUESTION 4

You build a machine learning model by using the automated machine learning user interface (UI).

You need to ensure that the model meets the Microsoft transparency principle for responsible AI.

What should you do?

- A. Set Validation type to **Auto**.
- B. Enable Explain best model.
- C. Set Primary metric to **accuracy**.
- D. Set Max concurrent iterations to **0**.

Correct Answer: B

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

Explanation:

Model Explain Ability.

Most businesses run on trust and being able to open the ML “black box” helps build transparency and trust. In heavily regulated industries like healthcare and banking, it is critical to comply with regulations and best practices. One key aspect of this is understanding the relationship between input variables (features) and model output. Knowing both the magnitude and direction of the impact each feature (feature importance) has on the predicted value helps better understand and explain the model. With model explain ability, we enable you to understand feature importance as part of automated ML runs.

Reference:

<https://azure.microsoft.com/en-us/blog/new-automated-machine-learning-capabilities-in-azure-machine-learning-service/>

QUESTION 5

HOTSPOT

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
Forecasting housing prices based on historical data is an example of anomaly detection.	<input type="radio"/>	<input type="radio"/>
Identifying suspicious sign-ins by looking for deviations from usual patterns is an example of anomaly detection.	<input type="radio"/>	<input type="radio"/>
Predicting whether a patient will develop diabetes based on the patient's medical history is an example of anomaly detection.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
Forecasting housing prices based on historical data is an example of anomaly detection.	<input type="radio"/>	<input checked="" type="radio"/>
Identifying suspicious sign-ins by looking for deviations from usual patterns is an example of anomaly detection.	<input checked="" type="radio"/>	<input type="radio"/>
Predicting whether a patient will develop diabetes based on the patient's medical history is an example of anomaly detection.	<input checked="" type="radio"/>	<input type="radio"/>

Section: Describe Artificial Intelligence workloads and considerations Explanation

Explanation/Reference:

Explanation:

Anomaly detection encompasses many important tasks in machine learning:
Identifying transactions that are potentially fraudulent.
Learning patterns that indicate that a network intrusion has occurred.
Finding abnormal clusters of patients.
Checking values entered into a system.

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/studio-module-reference/anomaly-detection>

QUESTION 6 HOTSPOT

To complete the sentence, select the appropriate option in the answer area.

Hot Area:

Answer Area

The handling of unusual or missing values provided to an AI system is a consideration for the Microsoft principle for responsible AI.

inclusiveness
privacy and security
reliability and safety
transparency

Correct Answer:

Answer Area

The handling of unusual or missing values provided to an AI system is a consideration for the Microsoft principle for responsible AI.

inclusiveness
privacy and security
reliability and safety
transparency

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

Explanation:

Privacy and security.

As AI becomes more prevalent, protecting privacy and securing important personal and business information is becoming more critical and complex. With AI, privacy and data security issues require especially close attention because access to data is essential for AI systems to make accurate and informed predictions and decisions about people. AI systems must comply with privacy laws that require transparency about the collection, use, and storage of data and mandate that consumers have appropriate controls to choose how their data is used. At Microsoft, we are continuing to research privacy and security breakthroughs (see next unit) and invest in robust compliance processes to ensure that data collected and used by our AI systems is handled responsibly.

Reference:

<https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles>

QUESTION 7

DRAG DROP

Match the types of AI workloads to the appropriate scenarios.

To answer, drag the appropriate workload type from the column on the left to its scenario on the right. Each workload type may be used once, more than once, or not at all.

NOTE: Each correct selection is worth one point.

Select and Place:

Workloads Types

- Anomaly detection
- Computer vision
- Conversational AI
- Knowledge mining
- Natural language processing

Answer Area

- Workload Type: An automated chat to answer questions about refunds and exchange
- Workload Type: Determining whether a photo contains a person
- Workload Type: Determining whether a review is positive or negative

Correct Answer:**Workloads Types**

- Anomaly detection
- Computer vision
- Conversational AI
- Knowledge mining
- Natural language processing

Answer Area

- Conversational AI: An automated chat to answer questions about refunds and exchange
- Computer vision: Determining whether a photo contains a person
- Natural language processing: Determining whether a review is positive or negative

Section: Describe Artificial Intelligence workloads and considerations**Explanation****Explanation/Reference:**

Explanation:

Box 3: Natural language processing

Natural language processing (NLP) is used for tasks such as sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing>

QUESTION 8

You are designing an AI system that empowers everyone, including people who have hearing, visual, and other impairments.

This is an example of which Microsoft guiding principle for responsible AI?

- A. fairness
- B. inclusiveness
- C. reliability and safety
- D. accountability

Correct Answer: B

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

Explanation:

Inclusiveness: At Microsoft, we firmly believe everyone should benefit from intelligent technology, meaning it must incorporate and address a broad range of human needs and experiences. For the 1 billion people with disabilities around the world, AI technologies can be a game-changer.

Reference:

<https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles>

QUESTION 9

DRAG DROP

Match the Microsoft guiding principles for responsible AI to the appropriate descriptions.

To answer, drag the appropriate principle from the column on the left to its description on the right. Each principle may be used once, more than once, or not at all.

NOTE: Each correct selection is worth one point.

Select and Place:

Principles

Accountability

Fairness

Inclusiveness

Privacy and security

Reliability and safety

Answer Area

Principle

Ensure that AI systems operate as they were originally designed, respond to unanticipated conditions, and resist harmful manipulation.

Principle

Implementing processes to ensure that decisions made by AI systems can be overridden by humans.

Principle

Provide consumers with information and controls over the collection, use, and storage of their data.

Correct Answer:

Principles

Accountability

Fairness

Inclusiveness

Privacy and security

Reliability and safety

Answer Area

Reliability and safety

Ensure that AI systems operate as they were originally designed, respond to unanticipated conditions, and resist harmful manipulation.

Fairness

Implementing processes to ensure that decisions made by AI systems can be overridden by humans.

Privacy and security

Provide consumers with information and controls over the collection, use, and storage of their data.

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

Explanation:

Box 1: Reliability and safety

To build trust, it's critical that AI systems operate reliably, safely, and consistently under normal circumstances and in unexpected conditions. These systems should be able to operate as they were originally designed, respond safely to unanticipated conditions, and resist harmful manipulation.

Box 2: Fairness

Fairness: AI systems should treat everyone fairly and avoid affecting similarly situated groups of people in different ways. For example, when AI systems provide guidance on medical treatment, loan applications, or employment, they should make the same recommendations to everyone with similar symptoms, financial circumstances, or professional qualifications.

We believe that mitigating bias starts with people understanding the implications and limitations of AI predictions and recommendations. Ultimately, people should supplement AI decisions with sound human judgment and be held accountable for consequential decisions that affect others.

Box 3: Privacy and security

As AI becomes more prevalent, protecting privacy and securing important personal and business information is becoming more critical and complex. With AI, privacy and data security issues require especially close attention because access to data is essential for AI systems to make accurate and informed predictions and decisions about people. AI systems must comply with privacy laws that require transparency about the collection, use, and storage of data and mandate that consumers have appropriate controls to choose how their data is used

Reference:

<https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles>

QUESTION 10

HOTSPOT

To complete the sentence, select the appropriate option in the answer area.

Hot Area:

When developing an AI system for self-driving cars, the Microsoft for responsible AI should be applied to ensure consistent operation system during unexpected circumstances.

inclusiveness
accountability
reliability and safety
fairness

principle of the

Correct Answer:

When developing an AI system for self-driving cars, the Microsoft for responsible AI should be applied to ensure consistent operation system during unexpected circumstances.

inclusiveness
accountability
reliability and safety
fairness

principle of the

Section: Describe Artificial Intelligence workloads and considerations

Explanation

Explanation/Reference:

Explanation:

Reliability and safety: To build trust, it's critical that AI systems operate reliably, safely, and consistently under normal circumstances and in unexpected conditions. These systems should be able to operate as they were originally designed, respond safely to unanticipated conditions, and resist harmful manipulation.

Reference: