

Quiz

Graded: AI Concepts, Terminology, and Application Areas

1. Which of these statements is true?

1 / 1 point

- ☐ Cognitive systems can only translate small volumes of audio data into their literal text translations at massive speeds
- ☐ Cognitive systems can only process neatly organized structured data
- ☒ Cognitive systems can learn from their successes and failures
- ☐ Cognitive systems can derive mathematically precise answers following a rigid decision tree approach

✓ **Correct**

Cognitive systems learn, adapt, and keep getting smarter by learning from their interactions with us and from their own successes and failures, just like humans do.

2. Which of these statements is true?

1 / 1 point

- ☐ Artificial Intelligence and Machine Learning refer to the same thing since both the terms are often used interchangeably
- ☐ AI is the subset of Data Science that uses Deep Learning algorithms on structured big data
- ☒ Deep Learning is a specialized subset of Machine Learning that uses layered neural networks to simulate human decision-making
- ☐ Data Science is a subset of AI that uses machine learning algorithms to extract meaning and draw inferences from data

✓ **Correct**

Deep Learning enables machines to continuously learn on the job and improve the quality and accuracy of results by determining whether decisions were correct.

3. Which of the following is NOT an attribute of Machine Learning?

1 / 1 point

- ☒ Takes data and rules as input and uses these inputs to develop an algorithm that will give us an answer
- ☐ Machine Learning models can be continuously trained
- ☐ Takes data and answers as input and uses these inputs to create a set of rules that determine what the Machine Learning model will be
- ☐ Machine Learning defines behavioral rules by comparing large data sets to find common patterns

✓ **Correct**

Machine Learning algorithms are trained with large sets of datasets to determine the relationships between inputs and desired results to build the machine learning models.

4. Which of the following is NOT an attribute of Unsupervised Learning?

1 / 1 point

- ☐ The algorithm ingests unlabeled data, draws inferences, and finds patterns from unstructured data
- ☒ Takes data and rules as input and uses these inputs to develop an algorithm that will give us an answer
- ☐ It is useful for finding hidden patterns and or groupings in data and can be used to differentiate normal behavior with outliers such as fraudulent activity
- ☐ It is useful for clustering data, where data is grouped according to how similar it is to its neighbors and dissimilar to everything else

✓ **Correct**

This statement is not an attribute of either Machine Learning or Unsupervised Learning. Machine Learning techniques such as unsupervised learning are not fed rules. Rather they determine the rules from data.

5. Which of the following is an attribute of Supervised Learning?

1 / 1 point

- ☐ Relies on providing the machine learning algorithm unlabeled data and letting the machine infer qualities
- ☒ Relies on providing the machine learning algorithm human-labeled data - the more samples you provide, the more precise the algorithm becomes in classifying new data
- ☐ Relies on providing the machine learning algorithm with a set of rules and constraints and letting it learn how to achieve its goals
- ☐ Tries its best to maximize its rewards by trying different combinations of allowed actions within the provided constraints

✓ **Correct**

Supervised learning relies on giving the algorithm human-labeled data for training. The greater the number of samples that the algorithm is trained on, the greater is its precision in classifying new data.

6. Which of the following statements about datasets used in Machine Learning is NOT true?

1 / 1 point

- ☒ Training data is used to fine-tune algorithm's parameters and evaluate how good the model is
- ☐ Testing data is data the model has never seen before and is used to evaluate how good the model is
- ☐ Training subset is the data used to train the algorithm
- ☐ Validation data subset is used to validate results and fine-tune the algorithm's parameters

✓ **Correct**

Training data is used to train the algorithm. It is the Validation data that is used to fine-tune algorithm's parameters and evaluate how good the model is.

7. When creating deep learning algorithms, developers configure the number of layers and the type of functions that connect the outputs of each layer to the inputs of the next.

1 / 1 point

- ☒ True
- ☐ False

✓ **Correct**

Deep Learning algorithms rely on several layers of processing units, or neurons, where each layer passes on its output to the next layer, which processes it and passes it onto the next. The number of layers and the types of functions that connect the outputs of each layer to the inputs of the next are configured by developers.

8. Which of the following fields of application for AI can be used at the airport to flag weapons within luggage passing through the X-ray scanner?

0 / 1 point

- ☐ Natural Language
- ☐ Speech
- ☐ Computer Vision
- ☒ Chatbots

! **Incorrect**

Chatbots are designed to converse with people in the same way a human would.

9. Which of these activities is not required in order for a neural network to synthesize human voice?

1 / 1 point

- ☐ Ingest numerous samples of a person's voice until it can tell whether a new voice sample belongs to the same person
- ☒ Deconstruct sentences to decipher the context of use
- ☐ Generate audio data and run it through the network to see if it validates it as belonging to the subject
- ☐ Continue to correct the sample and run it through the classifier, repetitively, till an accurate voice sample is created



Correct

Deconstructing sentences to decipher the context of use is a feature of Natural Language Processing, not Speech Synthesis.

10. Which one of these ways is NOT how AI learns?

1 / 1 point

- ☐ Unsupervised Learning
- ☐ Reinforcement Learning
- ☒ Proactive Learning
- ☐ Supervised Learning



Correct

AI learns in three different ways - Supervised, Unsupervised, and Reinforcement Learning.