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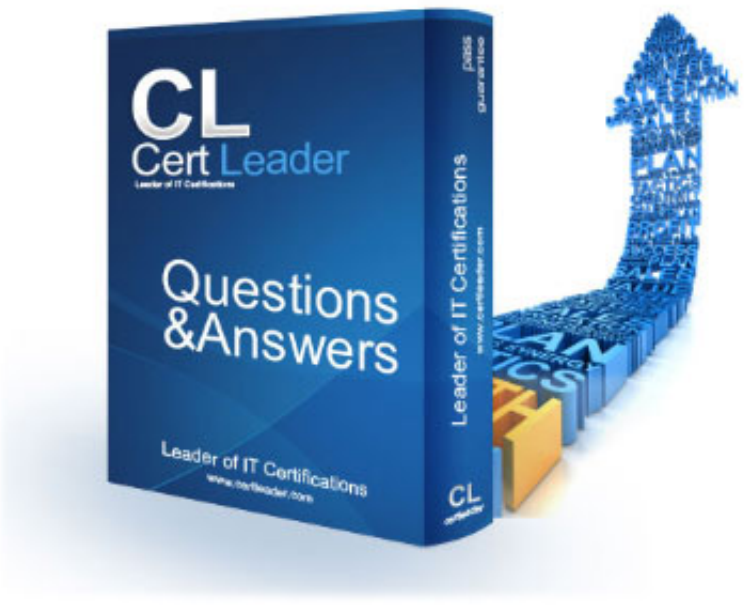

NEW QUESTION 1
Which ONE of the following characteristics is the least likely to cause safety related issues for an Al system?

A. Non-determinism
B. Robustness
C. High complexity
D. Self-learning

Answer: B

Explanation:
The question asks which characteristic is least likely to cause safety-related issues for an AI system. Let's evaluate each option:
? Non-determinism (A): Non-deterministic systems can produce different outcomes
even with the same inputs, which can lead to unpredictable behavior and potential safety issues.
? Robustness (B): Robustness refers to the ability of the system to handle errors,
anomalies, and unexpected inputs gracefully. A robust system is less likely to cause safety issues because it can maintain functionality under varied conditions.
? High complexity (C): High complexity in AI systems can lead to difficulties in
understanding, predicting, and managing the system's behavior, which can cause safety-related issues.
? Self-learning (D): Self-learning systems adapt based on new data, which can lead
to unexpected changes in behavior. If not properly monitored and controlled, this can result in safety issues.
References:
? ISTQB CT-AI Syllabus Section 2.8 on Safety and AI discusses various factors affecting the safety of AI systems, emphasizing the importance of robustness in maintaining safe operation.

NEW QUESTION 2
"AllerEgo" is a product that uses sell-learning to predict the behavior of a pilot under combat situation for a variety of terrains and enemy aircraft formations. Post training the model was exposed to the real-
world data and the model was found to be behaving poorly. A lot of data quality tests had been performed on the data to bring it into a shape fit for training and testing.
Which ONE of the following options is least likely to describes the possible reason for the fall in the performance, especially when considering the self-learning nature of the Al system?

A. The difficulty of defining criteria for improvement before the model can be accepted.
B. The fast pace of change did not allow sufficient time for testing.
C. The unknown nature and insufficient specification of the operating environment might have caused the poor performance.
D. There was an algorithmic bias in the Al system.

Answer: A

Explanation:
? A. The difficulty of defining criteria for improvement before the model can be accepted.
? B. The fast pace of change did not allow sufficient time for testing.
? C. The unknown nature and insufficient specification of the operating environment might have caused the poor performance.
? D. There was an algorithmic bias in the AI system.
Given the context of the self-learning nature and the need for real-time adaptability, option A is least likely to describe the fall in performance because it deals with acceptance criteria rather than real-time performance issues.

NEW QUESTION 3
Which of the following is THE LEAST appropriate tests to be performed for testing a feature related to autonomy?
SELECT ONE OPTION

A. Test for human handover to give rest to the system.
B. Test for human handover when it should actually not be relinquishing control.
C. Test for human handover requiring mandatory relinquishing control.
D. Test for human handover after a given time interval.

Answer: B

Explanation:
Testing Autonomy: Testing for human handover when it should not be relinquishing control is the least appropriate because it contradicts the very definition of autonomous systems. The other tests are relevant to ensuring smooth operation and transitions between human and AI control.
Reference: ISTQB_CT-AI_Syllabus_v1.0, Sections on Testing Autonomous AI-Based Systems and Testing for Human-AI Interaction.

NEW QUESTION 4
Which ONE of the following statements is a CORRECT adversarial example in the context of machine learning systems that are working on image classifiers.
SELECT ONE OPTION

A. Black box attacks based on adversarial examples create an exact duplicate model of the original.
B. These attack examples cause a model to predict the correct class with slightly less accuracy even though they look like the original image.
C. These attacks can't be prevented by retraining the model with these examplesaugmented to the training data.
D. These examples are model specific and are not likely to cause another model trained on same task to fail.

Answer: D

Explanation:
? A. Black box attacks based on adversarial examples create an exact duplicate model of the original.
? B. These attack examples cause a model to predict the correct class with slightly less accuracy even though they look like the original image.
? C. These attacks can't be prevented by retraining the model with these examples augmented to the training data.

? D. These examples are model specific and are not likely to cause another model trained on the same task to fail.
Therefore, the correct answer is D because adversarial examples are typically model- specific and may not cause another model trained on the same task to fail.

NEW QUESTION 5
Which ONE of the following options BEST DESCRIBES clustering? SELECT ONE OPTION

A. Clustering is classification of a continuous quantity.
B. Clustering is supervised learning.
C. Clustering is done without prior knowledge of output classes.
D. Clustering requires you to know the classes.

Answer: C

Explanation:
Clustering is a type of machine learning technique used to group similar data points into clusters. It is a key concept in unsupervised learning, where the algorithm tries to find patterns or groupings in data without prior knowledge of output classes. Let's analyze each option:
? A. Clustering is classification of a continuous quantity.
? B. Clustering is supervised learning.
? C. Clustering is done without prior knowledge of output classes.
? D. Clustering requires you to know the classes.
Therefore, the correct answer is C because clustering is an unsupervised learning technique done without prior knowledge of output classes.

NEW QUESTION 6
A system was developed for screening the X-rays of patients for potential malignancy detection (skin cancer). A workflow system has been developed to screen multiple cancers by using several individually trained ML models chained together in the workflow.
Testing the pipeline could involve multiple kind of tests (I - III): I.Pairwise testing of combinations
II.Testing each individual model for accuracy III.A/B testing of different sequences of models
Which ONE of the following options contains the kinds of tests that would be MOST APPROPRIATE to include in the strategy for optimal detection?
SELECT ONE OPTION

A. Only III
B. I and II
C. I and III
D. Only II

Answer: B

Explanation:
The question asks which combination of tests would be most appropriate to include in the strategy for optimal detection in a workflow system using multiple ML models.
? Pairwise testing of combinations (I): This method is useful for testing interactions
between different components in the workflow to ensure they work well together, identifying potential issues in the integration.
? Testing each individual model for accuracy (II): Ensuring that each model in the
workflow performs accurately on its own is crucial before integrating them into a combined workflow.
? A/B testing of different sequences of models (III): This involves comparing different
sequences to determine which configuration yields the best results. While useful, it might not be as fundamental as pairwise and individual accuracy testing in the initial stages.
References:
? ISTQB CT-AI Syllabus Section 9.2 on Pairwise Testing and Section 9.3 on Testing ML Models emphasize the importance of testing interactions and individual model accuracy in complex ML workflows.

NEW QUESTION 7
Which ONE of the following statements correctly describes the importance of flexibility for Al systems?
SELECT ONE OPTION

A. Al systems are inherently flexible.
B. Al systems require changing of operational environments; therefore, flexibility is required.
C. Flexible Al systems allow for easier modification of the system as a whole.
D. Self-learning systems are expected to deal with new situations without explicitly having to program for it.

Answer: C

Explanation:
Flexibility in AI systems is crucial for various reasons, particularly because it allows for easier modification and adaptation of the system as a whole.
? AI systems are inherently flexible (A): This statement is not correct. While some AI
systems may be designed to be flexible, they are not inherently flexible by nature. Flexibility depends on the system's design and implementation.
? AI systems require changing operational environments; therefore, flexibility is
required (B): While it's true that AI systems may need to operate in changing environments, this statement does not directly address the importance of flexibility for the modification of the system.
? Flexible AI systems allow for easier modification of the system as a whole (C): This
statement correctly describes the importance of flexibility. Being able to modify AI systems easily is critical for their maintenance, adaptation to new requirements, and improvement.
? Self-learning systems are expected to deal with new situations without explicitly
having to program for it (D): This statement relates to the adaptability of self- learning systems rather than their overall flexibility for modification.
Hence, the correct answer is C. Flexible AI systems allow for easier modification of the system as a whole.
References:
? ISTQB CT-AI Syllabus Section 2.1 on Flexibility and Adaptability discusses the importance of flexibility in AI systems and how it enables easier modification and adaptability to new situations.
? Sample Exam Questions document, Question #30 highlights the importance of flexibility in AI systems.

NEW QUESTION 8
Which ONE of the following types of coverage SHOULD be used if test cases need to cause each neuron to achieve both positive and negative activation values?
SELECT ONE OPTION

A. Value coverage
B. Threshold coverage
C. Sign change coverage
D. Neuron coverage

Answer: C

Explanation:
Coverage for Neuron Activation Values: Sign change coverage is used to ensure that test cases cause each neuron to achieve both positive and negative activation values. This type of coverage ensures that the neurons are thoroughly tested under different activation states.
Reference: ISTQB_CT-AI_Syllabus_v1.0, Section 6.2 Coverage Measures for Neural Networks, which details different types of coverage measures, including sign change coverage.

NEW QUESTION 9
Max. Score: 2
Al-enabled medical devices are used nowadays for automating certain parts of the medical diagnostic processes. Since these are life-critical process the relevant authorities are considenng bringing about suitable certifications for these Al enabled medical devices. This certification may involve several facets of Al testing (I - V).

A. I.Autonomy II.Maintainability III.Safety IV.Transparency V.Side EffectsWhich ONE of the following options contains the three MOST required aspects to be satisfied for the above scenario of certification of Al enabled medical devices?SELECT ONE OPTION
B. Aspects II, III and IV
C. Aspects I, II, and III
D. Aspects III, IV, and V
E. Aspects I, IV, and V

Answer: C

Explanation:
For AI-enabled medical devices, the most required aspects for certification are safety, transparency, and side effects. Here??s why:
? Safety (Aspect III): Critical for ensuring that the AI system does not cause harm to
patients.
? Transparency (Aspect IV): Important for understanding and verifying the decisions made by the AI system.
? Side Effects (Aspect V): Necessary to identify and mitigate any unintended consequences of the AI system.
Why Not Other Options:
? Autonomy and Maintainability (Aspects I and II): While important, they are secondary to the immediate concerns of safety, transparency, and managing side effects in life-critical processes.
References: This explanation is aligned with the critical quality characteristics for AI-based systems as mentioned in the ISTQB CT-AI syllabus, focusing on the certification of medical devices.

NEW QUESTION 10
Which ONE of the following options describes the LEAST LIKELY usage of Al for detection of GUI changes due to changes in test objects?
SELECT ONE OPTION

A. Using a pixel comparison of the GUI before and after the change to check the differences.
B. Using a computer vision to compare the GUI before and after the test object changes.
C. Using a vision-based detection of the GUI layout changes before and after test object changes.
D. Using a ML-based classifier to flag if changes in GUI are to be flagged for humans.

Answer: A

Explanation:
* A. Using a pixel comparison of the GUI before and after the change to check the differences.
? Pixel comparison is a traditional method and does not involve AI. It compares
images at the pixel level, which can be effective but is not an intelligent approach. It is not considered an AI usage and is the least likely usage of AI for detecting GUI changes.
* B. Using computer vision to compare the GUI before and after the test object changes.
? Computer vision involves using AI techniques to interpret and process images. It is
a likely usage of AI for detecting changes in the GUI.
* C. Using vision-based detection of the GUI layout changes before and after test object changes.
? Vision-based detection is another AI technique where the layout and structure of
the GUI are analyzed to detect changes. This is a typical application of AI.
* D. Using a ML-based classifier to flag if changes in GUI are to be flagged for humans.
? An ML-based classifier can intelligently determine significant changes and decide
if they need human review, which is a sophisticated AI application.

NEW QUESTION 10
Which ONE of the following options describes a scenario of A/B testing the LEAST? SELECT ONE OPTION

A. A comparison of two different websites for the same company to observe from a useracceptance perspective.
B. A comparison of two different offers in a recommendation system to decide on the more effective offer for same users.
C. A comparison of the performance of an ML system on two different input datasets.
D. A comparison of the performance of two different ML implementations on the same input data.

Answer: C

Explanation:
A/B testing, also known as split testing, is a method used to compare two versions of a product or system to determine which one performs better. It is widely used in web development, marketing, and machine learning to optimize user experiences and model performance. Here??s why option C is the least descriptive of an A/B testing scenario:
? Understanding A/B Testing:
? Application in Machine Learning:
? Why Option C is the Least Descriptive:
? Clarifying the Other Options:
References:
? ISTQB CT-AI Syllabus, Section 9.4, A/B Testing, explains the methodology and application of A/B testing in various contexts.
? "Understanding A/B Testing" (ISTQB CT-AI Syllabus).

NEW QUESTION 15
Which ONE of the following hardware is MOST suitable for implementing Al when using ML?
SELECT ONE OPTION

A. 64-bit CPUs.
B. Hardware supporting fast matrix multiplication.
C. High powered CPUs.
D. Hardware supporting high precision floating point operations.

Answer: B

Explanation:
? A. 64-bit CPUs.
? B. Hardware supporting fast matrix multiplication.
? C. High powered CPUs.
? D. Hardware supporting high precision floating point operations.
Therefore, the correct answer is B because hardware supporting fast matrix multiplication, such as GPUs, is most suitable for the parallel processing requirements of machine learning.

NEW QUESTION 17
Written requirements are given in text documents, which ONE of the following options is the BEST way to generate test cases from these requirements?
SELECT ONE OPTION

A. Natural language processing on textual requirements
B. Analyzing source code for generating test cases
C. Machine learning on logs of execution
D. GUI analysis by computer vision

Answer: A

Explanation:
When written requirements are given in text documents, the best way to generate test cases is by using Natural Language Processing (NLP). Here's why:
? Natural Language Processing (NLP): NLP can analyze and understand human
language. It can be used to process textual requirements to extract relevant information and generate test cases. This method is efficient in handling large volumes of textual data and identifying key elements necessary for testing.
? Why Not Other Options:
References: This aligns with the methodology discussed in the syllabus under the section on using AI for generating test cases from textual requirements.

NEW QUESTION 22
??BioSearch?? is creating an Al model used for predicting cancer occurrence via examining X- Ray images. The accuracy of the model in isolation has been found to be good. However, the users of the model started complaining of the poor quality of results, especially inability to detect real cancer cases, when put to practice in the diagnosis lab, leading to stopping of the usage of the model.
A testing expert was called in to find the deficiencies in the test planning which led to the above scenario.
Which ONE of the following options would you expect to MOST likely be the reason to be discovered by the test expert?
SELECT ONE OPTION

A. A lack of similarity between the training and testing data.
B. The input data has not been tested for quality prior to use for testing.
C. A lack of focus on choosing the right functional-performance metrics.
D. A lack of focus on non-functional requirements testing.

Answer: A

Explanation:
The question asks which deficiency is most likely to be discovered by the test expert given the scenario of poor real-world performance despite good isolated accuracy.
? A lack of similarity between the training and testing data (A): This is a common
issue in ML where the model performs well on training data but poorly on real- world data due to a lack of representativeness in the training data. This leads to poor generalization to new, unseen data.
? The input data has not been tested for quality prior to use for testing (B): While
data quality is important, this option is less likely to be the primary reason for the described issue compared to the representativeness of training data.
? A lack of focus on choosing the right functional-performance metrics (C): Proper
metrics are crucial, but the issue described seems more related to the data mismatch rather than metric selection.
? A lack of focus on non-functional requirements testing (D): Non-functional
requirements are important, but the scenario specifically mentions issues with detecting real cancer cases, pointing more towards data issues.
References:
? ISTQB CT-AI Syllabus Section 4.2 on Training, Validation, and Test Datasets emphasizes the importance of using representative datasets to ensure the model generalizes well to real-world data.

? Sample Exam Questions document, Question #40 addresses issues related to data representativeness and model generalization.

NEW QUESTION 23
Which ONE of the following tests is LEAST likely to be performed during the ML model testing phase?
SELECT ONE OPTION

A. Testing the accuracy of the classification model.
B. Testing the API of the service powered by the ML model.
C. Testing the speed of the training of the model.
D. Testing the speed of the prediction by the model.

Answer: C

Explanation:
The question asks which test is least likely to be performed during the ML model testing phase. Let's consider each option:
? Testing the accuracy of the classification model (A): Accuracy testing is a
fundamental part of the ML model testing phase. It ensures that the model correctly classifies the data as intended and meets the required performance metrics.
? Testing the API of the service powered by the ML model (B): Testing the API is
crucial, especially if the ML model is deployed as part of a service. This ensures that the service integrates well with other systems and that the API performs as expected.
? Testing the speed of the training of the model (C): This is least likely to be part of
the ML model testing phase. The speed of training is more relevant during the development phase when optimizing and tuning the model. During testing, the focus is more on the model's performance and behavior rather than how quickly it was trained.
? Testing the speed of the prediction by the model (D): Testing the speed of
prediction is important to ensure that the model meets performance requirements in a production environment, especially for real-time applications.
References:
? ISTQB CT-AI Syllabus Section 3.2 on ML Workflow and Section 5 on ML Functional Performance Metrics discuss the focus of testing during the model testing phase, which includes accuracy and prediction speed but not the training speed.

NEW QUESTION 26
Which ONE of the following approaches to labelling requires the least time and effort? SELECT ONE OPTION

A. Outsourced
B. Pre-labeled dataset
C. Internal
D. Al-Assisted

Answer: B

Explanation:
Labelling Approaches: Among the options provided, pre-labeled datasets require the least time and effort because the data has already been labeled, eliminating the need for further manual or automated labeling efforts.
Reference: ISTQB_CT-AI_Syllabus_v1.0, Section 4.5 Data Labelling for Supervised Learning, which discusses various approaches to data labeling, including pre-labeled datasets, and their associated time and effort requirements.

NEW QUESTION 29
Which ONE of the following options is an example that BEST describes a system with Al- based autonomous functions?
SELECT ONE OPTION

A. A system that utilizes human beings for all important decisions.
B. A fully automated manufacturing plant that uses no software.
C. A system that utilizes a tool like Selenium.
D. A system that is fully able to respond to its environment.

Answer: D

Explanation:
AI-Based Autonomous Functions: An AI-based autonomous system is one that can respond to its environment without human intervention. The other options either involve human decisions or do not use AI at all.
Reference: ISTQB_CT-AI_Syllabus_v1.0, Sections on Autonomy and Testing Autonomous AI-Based Systems.

NEW QUESTION 33
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