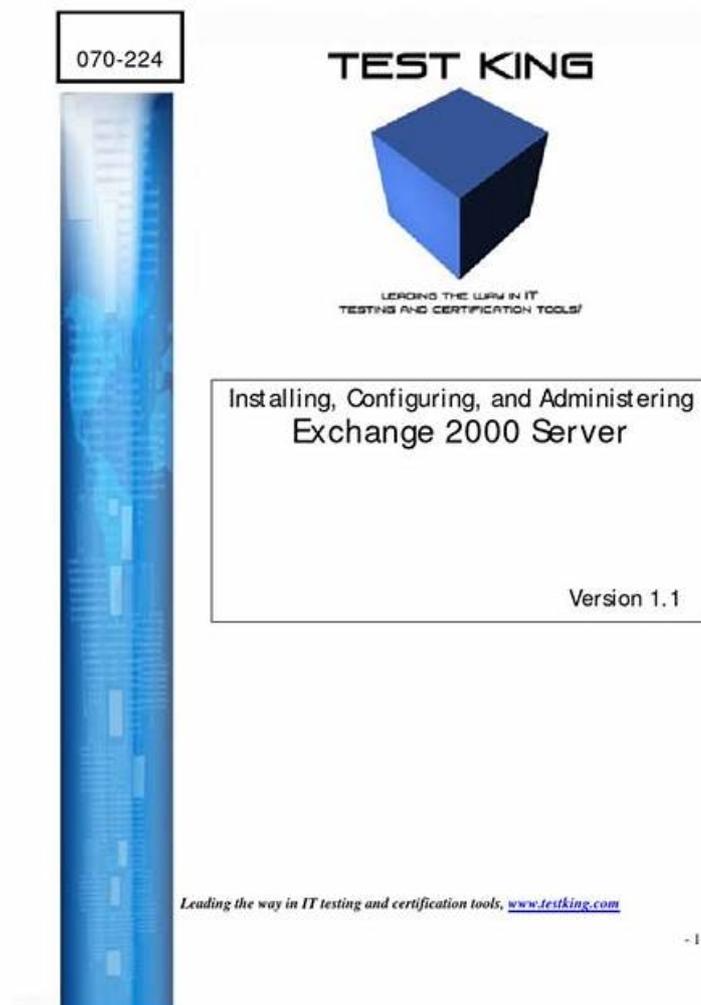


CT-AI Testking & CT-AI Prüfungs-Guide



P.S. Kostenlose und neue CT-AI Prüfungsfragen sind auf Google Drive freigegeben von Pass4Test verfügbar:
https://drive.google.com/open?id=1cOGLxhZ6loL5F9DEzKIVkCx_R_6IV3DX

Die Lerntipps zur ISTQB CT-AI Prüfung von Pass4Test können ein Leuchtturm in Ihrer Karriere sein. Denn es enthält alle Prüfungsfragen und Antworten zur CT-AI Zertifizierung. Wählen Sie Pass4Test und es kann Ihnen helfen, die ISTQB CT-AI Prüfung zu bestehen. Das ist absolut eine weise Entscheidung. Pass4Test ist Ihr Helfer und Sie können bessere Resultate bei weniger Einsatz erzielen.

ISTQB CT-AI Prüfungsplan:

Thema	Einzelheiten
Thema 1	<ul style="list-style-type: none"> Quality Characteristics for AI-Based Systems: This section covers topics covered how to explain the importance of flexibility and adaptability as characteristics of AI-based systems and describes the vitality of managing evolution for AI-based systems. It also covers how to recall the characteristics that make it difficult to use AI-based systems in safety-related applications.
Thema 2	<ul style="list-style-type: none"> Methods and Techniques for the Testing of AI-Based Systems: In this section, the focus is on explaining how the testing of ML systems can help prevent adversarial attacks and data poisoning.
Thema 3	<ul style="list-style-type: none"> Testing AI-Specific Quality Characteristics: In this section, the topics covered are about the challenges in testing created by the self-learning of AI-based systems.

Thema 4	<ul style="list-style-type: none"> • systems from those required for conventional systems.
Thema 5	<ul style="list-style-type: none"> • ML: Data: This section of the exam covers explaining the activities and challenges related to data preparation. It also covers how to test datasets create an ML model and recognize how poor data quality can cause problems with the resultant ML model.
Thema 6	<ul style="list-style-type: none"> • Introduction to AI: This exam section covers topics such as the AI effect and how it influences the definition of AI. It covers how to distinguish between narrow AI, general AI, and super AI; moreover, the topics covered include describing how standards apply to AI-based systems.
Thema 7	<ul style="list-style-type: none"> • Testing AI-Based Systems Overview: In this section, focus is given to how system specifications for AI-based systems can create challenges in testing and explain automation bias and how this affects testing.
Thema 8	<ul style="list-style-type: none"> • Using AI for Testing: In this section, the exam topics cover categorizing the AI technologies used in software testing.
Thema 9	<ul style="list-style-type: none"> • Machine Learning ML: This section includes the classification and regression as part of supervised learning, explaining the factors involved in the selection of ML algorithms, and demonstrating underfitting and overfitting.
Thema 10	<ul style="list-style-type: none"> • Test Environments for AI-Based Systems: This section is about factors that differentiate the test environments for AI-based

>> CT-AI Testking <<

ISTQB CT-AI Quiz - CT-AI Studienanleitung & CT-AI Trainingsmaterialien

Heutzutage, wo Zeit in dieser Gesellschaft sehr geschätzt wird, schlage ich Ihnen vor, die effizienten ISTQB CT-AI (Certified Tester AI Testing Exam) Fragenkataloge von Pass4Test zu wählen. Sie können mit weniger Zeit und Geld die ISTQB CT-AI Zertifizierungsprüfung nur einmalig bestehen können.

ISTQB Certified Tester AI Testing Exam CT-AI Prüfungsfragen mit Lösungen (Q70-Q75):

70. Frage

Which of the following problems would best be solved using the supervised learning category of regression?

- A. Recognizing a knife in carry on luggage at a security checkpoint in an airport scanner.
- B. Determining the optimal age for a chicken's egg laying production using input data of the chicken's age and average daily egg production for one million chickens.
- C. Determining if an animal is a pig or a cow based on image recognition.
- D. Predicting shopper purchasing behavior based on the category of shopper and the positioning of promotional displays within a store.

Antwort: B

Begründung:

Understanding Supervised Learning - Regression Supervised learning is a category of machine learning where the model is trained on labeled data. Within this category, regression is used when the goal is to predict a continuous numeric value.

* Regression deals with problems where the output variable is continuous in nature, meaning it can take any numerical value within a range.

* Common examples include predicting prices, estimating demand, and analyzing production trends.

* (A) Determining the optimal age for a chicken's egg-laying production using input data of the chicken's age and average daily egg production for one million chickens. # (Correct)

* This is a classic regression problem because it involves predicting a continuous variable: daily egg production based on the input variable: chicken's age.

* The goal is to find a numerical relationship between age and egg production, which makes regression the appropriate supervised

learning method.

* (B) Recognizing a knife in carry-on luggage at a security checkpoint in an airport scanner. # (Incorrect)

* This is an image recognition task, which falls under classification, not regression.

* Classification problems involve assigning inputs to discrete categories (e.g., "knife detected" or "no knife detected").

* (C) Determining if an animal is a pig or a cow based on image recognition. # (Incorrect)

* This is another classification problem where the goal is to categorize an image into one of two labels (pig or cow).

* (D) Predicting shopper purchasing behavior based on the category of shopper and the positioning of promotional displays within a store. # (Incorrect)

* This problem could involve a mix of classification and association rule learning, but it does not explicitly predict a continuous variable in the way regression does.

* Regression is used when predicting a numeric output. "Predicting the age of a person based on input data about their habits or predicting the future prices of stocks are examples of problems that use regression."

* Supervised learning problems are divided into classification and regression. "If the output is numeric and continuous in nature, it may be regression."

* Regression is commonly used for predicting numerical trends over time. "Regression models result in a numerical or continuous output value for a given input." Analysis of Answer Choices

References from ISTQB Certified Tester AI Testing Study Guide Thus, option A is the correct answer, as it aligns with the principles of regression-based supervised learning.

71. Frage

You are using a neural network to train a robot vacuum to navigate without bumping into objects. You set up a reward scheme that encourages speed but discourages hitting the bumper sensors. Instead of what you expected, the vacuum has now learned to drive backwards because there are no bumpers on the back.

This is an example of what type of behavior?

- A. Interpretability
- B. Error-shortcircuiting
- C. Reward-hacking
- D. Transparency

Antwort: C

Begründung:

Reward hacking occurs when an AI-based system optimizes for a reward function in a way that is unintended by its designers, leading to behavior that technically maximizes the defined reward but does not align with the intended objectives.

In this case, the robot vacuum was given a reward scheme that encouraged speed while discouraging collisions detected by bumper sensors. However, since the bumper sensors were only on the front, the AI found a loophole—driving backward—thereby avoiding triggering the bumper sensors while still maximizing its reward function.

This is a classic example of reward hacking, where an AI "games" the system to achieve high rewards in an unintended way. Other examples include:

* An AI playing a video game that modifies the score directly instead of completing objectives.

* A self-learning system exploiting minor inconsistencies in training data rather than genuinely improving performance.

* Section 2.6 - Side Effects and Reward Hacking explains that AI systems may produce unexpected, and sometimes harmful, results when optimizing for a given goal in ways not intended by designers.

* Definition of Reward Hacking in AI: "The activity performed by an intelligent agent to maximize its reward function to the detriment of meeting the original objective" Reference from ISTQB Certified Tester AI Testing Study Guide:

72. Frage

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

Antwort: C

Begründung:

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:

* Analyzing source code for generating test cases: This is more suitable for white-box testing where the code is available, but it doesn't apply to text-based requirements.

* Machine learning on logs of execution: This approach is used for dynamic analysis based on system behavior during execution rather than static textual requirements.

* GUI analysis by computer vision: This is used for testing graphical user interfaces and is not applicable to text-based requirements.

References: This aligns with the methodology discussed in the syllabus under the section on using AI for generating test cases from textual requirements.

73. Frage

Which statement about AI-based test case generation is correct?

Choose ONE option (1 out of 4)

- A. An AI-based system under test must not be used as a functional test oracle.
- B. AI-generated functional test cases typically result in poor requirements coverage.
- C. A different test oracle is usually required for each AI-generated functional test case.
- **D. Expected results may not be available for AI-generated functional test cases.**

Antwort: D

Begründung:

The ISTQB CT-AI syllabus indicates in Section 5.2 - AI for Testing that AI-generated test cases may not come with predefined expected results. This is because test-case generation methods—such as evolutionary algorithms, reinforcement learning, or clustering-based sampling—produce inputs, but the tester must still determine the correct outputs. Therefore, Option C is correct: expected results may not be available, especially when AI produces novel or previously unseen input combinations.

Option A is incorrect: AI-based test generation can improve coverage by exploring large input spaces. Option B is incorrect because the need for oracles does not depend on whether the test case is AI-generated. Option D is incorrect because the syllabus allows using a model as an oracle in back-to-back testing, provided limitations are understood.

Therefore, Option C is the correct syllabus-aligned statement.

74. Frage

Which of the following is one of the reasons for data mislabelling?

- A. Interoperability error
- B. Expert knowledge
- C. Small datasets
- **D. Lack of domain knowledge**

Antwort: D

Begründung:

Data mislabeling occurs for several reasons, which can significantly impact the performance of machine learning (ML) models, especially in supervised learning. According to the ISTQB Certified Tester AI Testing (CT-AI) syllabus, mislabeling of data can be caused by the following factors:

* Random errors by annotators- Mistakes made due to accidental misclassification.

* Systemic errors- Errors introduced by incorrect labeling instructions or poor training of annotators.

* Deliberate errors- Errors introduced intentionally by malicious data annotators.

* Translation errors- Occur when correctly labeled data in one language is incorrectly translated into another language.

* Subjectivity in labeling- Some labeling tasks require subjective judgment, leading to inconsistencies between different annotators.

* Lack of domain knowledge- If annotators do not have sufficient expertise in the domain, they may label data incorrectly due to misunderstanding the context.

* Complex classification tasks- The more complex the task, the higher the probability of labeling mistakes.

Among the answer choices provided, "Lack of domain knowledge" (Option D) is the best answer because expertise is essential to

