



Remote Exam



English, German & French



258,30€



Associate Price

246€

The amounts mentioned include VAT at the normal rate in force.

ISTQB® CTFL AI Testing

The Foundation Level Usability Testing qualification is aimed at anyone involved, or wants a basic understanding of in testing AI-based systems and/or AI for testing.

To be eligible to undertake the Usability Testing Foundation certification exam, candidates must first hold the ISTQB® Foundation Certificate.

CONTENTS

Introduction to AI	Machine Learning (ML) - Overview
Definition of AI & AI Effect	Forms of ML
Narrow, General & Super AI	ML Workflow
AI-based & Conventional Systems	Selecting a Form of ML
AI Technologies	Factors Involved in ML Algorithm Selection
AI Development Frameworks	Overfitting & Underfitting
Hardware for AI-Based Systems	ML - Data
AI as a Service (AlaaS)	Data Preparation as Part of the ML Workflow
Pre-Trained Models	Training, Validation & Test Datasets in the ML Workflow
Standards, Regulations & AI	Dataset Quality Issues
Quality Characteristic for AI-Based Systems	Data Quality & Its Effect on the ML Model
Flexibility & Adaptability	Data Labelling for Supervised Learning
Autonomy	ML Functional Performance Metrics
Evolution	Confusion Matrix
Bias	Add ML Functional Performance Metrics for Classification, Regression & Clustering
Ethics	Limitations of ML Functional Performance Metrics
Side Effects & Reward Hacking	Selecting ML Functional Performance Metrics
Transparency, Interpretability & Explainability	Benchmark Suites for ML Performance
Safety & AI	

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CONTENTS

ML Neural Networks & Testing

Neural Networks

Coverage Measures for Neural Networks

Testing AI-Based Systems Overview

Specification of AI-Based Systems

Test Levels for AI-Based Systems

Test Data for Testing AI-Based Systems

Testing for Automation Bias in AI-Based Systems

Documentation an AI Component

Testing for Concept Drift

Selecting a Test Approach for an ML System

Testing AI-Specific Quality Characteristics

Challenges Testing Self-Learning Systems

Testing Autonomous Self-Learning Systems

Testing for Algorithmic, Sample & Inappropriate Bias

Challenges Testing Probabilistic & Non-Deterministic AI-Based Systems

Challenges Testing Complex AI-Based Systems

Testing Transparency Interpretability & Explainability of AI-Based Systems

Test Oracles for AI-Based Systems

Test Objectives & Acceptance Criteria

Methods & Techniques for the Testing of AI-Based System

Adversarial Attacks & Data Poisoning

Pairwise Testing

A/B Testing

Back-to-Back Testing

Metamorphic Testing (MT)

Experience Based Testing of AI-Based Systems

Selecting Test Techniques for AI-Based System

Test Environments for AI-Based Systems

Test Environments for AI-Based Systems

Virtual Test Environments for Testing AI-Based Systems

Using AI for Testing

AI Technologies for Testing

Using AI to Analyze Defect Reports

Using AI for Test Case Generation

Using AI for the Optimization of Regression Test Suites

Using AI for Defect Prediction

Using AI for Testing User Interfaces

EXAM STRUCTURE

* 31 points or more;

** Only for participants taking the exam in a language other than their mothertongue;

*** Each correct answer equals 1 point.

40
Multiple-Choice
Questions

60
Minutes

65%*
Passing
Score

+ 15**
Minutes
Additional Time

47***
Maximum
Score



BUSINESS OUTCOMES

- Understand the current state and expected trends of AI;
- Experience the implementation and testing of a ML model and recognize where testers can best influence its quality;
- Understand the challenges associated with testing AI-Based systems, such as their self-learning capabilities, bias, ethics, complexity, non-determinism, transparency and explainability;
- Contribute to the test strategy for an AI-Based system;
- Design and execute test cases for AI-based systems;
- Recognize the special requirements for the test infrastructure to support the testing of AI-based systems;
- Understand how AI can be used to support software testing.

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