

ISTQB® Certified Tester AI Testing

The Foundation Level AI 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 AI Testing 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	



Remote Exam



English, German & French



258,30€



Associate Price

246€

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

ISTQB® Certified Tester AI Testing

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 mother tongue;

*** 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.

For more information, please contact: exames@pstqb.pt



Av.^a Infante D. Henrique, 311
Edifício Espazo
1950-421 Lisboa
PORTUGAL



(+351) 211 935 548



info@pstqb.pt



www.pstqb.pt