



Safety & Al





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 Al	Machine Learning (ML) - Overview
Definition of AI & AI Effect	Forms of ML
Narrow, General& Super Al	ML Workflow
AI-based & Conventional Systems	Selecting a Form of ML
Al Technologies	Factors Involved in ML Algorithm Selection
Al Development Frameworks	Overfitting & Underfitting
Hardware for AI-Based Systems	ML - Data
Al 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 Al-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



ISTQB® CTFL AI Testing

Test Objectives & Acceptance Criteria





246€

258,30€

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

CONTENTS	
ML Neural Networks & Testing	
Neural Networks	Methods & Techniques for the Testing of AI-Based System
Coverage Measures for Neural Networks	Adversarial Attacks & Data Poisoning
Testing Al-Based Systems Overview	Pairwise Testing
Specification of Al-Based Systems	A/B Testing
Test Levels for AI-Based Systems	Back-to-Back Testing
Test Data for Testing Al-Based Systems	Metamorphic Testing (MT)
Testing for Automation Bias in Al-Based Systems	Experience Based Testing of AI-Based Systems
Documentation an Al Component	Selecting Test Techniques for Al-Based System
Testing for Concept Drift	Test Environments for Al-Based Systems
Selecting a Test Approach for an ML System	Test Environments for Al-Based Systems
Testing Al-Specific Quality Characteristics	Virtual Test Environments for Testing Al-Based Systems
Challenges Testing Self-Learning Systems	Using Al for Testing
Testing Autonomous Self-Learning Systems	Al Technologies for Testing
Testing for Algorithmic, Sample & Inappropriate Bias	Using AI to Analyze Defect Reports
Challenges Testing Probabilistic & Non-Deterministic Al-Based Systems	Using AI for Test Case Generation
Challenges Testing Complex Al-Based Systems	Using AI for the Optimization of Regression Test Suites
Testing Transparency Interpretability & Explainbility of AI-Based Systems	Using AI for Defect Prediction
Test Oracles for AI-Based Systems	Using AI for Testing User Interfaces