Certified Tester - Testing with Generative AI (CT-GenAI) Training

Duration: **2 Day**

BILGINÇ IT Academy
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Overview

The **Certified Tester – Testing with Generative AI (CT-GenAI)** course provides software professionals with the knowledge and practical skills required to leverage **Generative AI**, **Large Language Models (LLMs)**, and **AI-powered testing solutions** throughout the software testing lifecycle.

Participants will gain hands-on experience with **Prompt Engineering**, **Software Test Automation**, **LLM-powered testing**, **Retrieval-Augmented Generation (RAG)**, and **LLMOps**.

Prerequisites

Candidates must hold:

- **ISTQB® Certified Tester Foundation Level (CTFL)**

Who Should Attend

- **Software Testers**
- **Test Analysts**
- **Test Automation Engineers**
- **Test Managers**
- **User Acceptance Testers**
- **Software Developers**
- **Quality Managers**
- **Project Managers**
- **Business Analysts**
- **IT Directors**

This course is also ideal for professionals seeking foundational knowledge of**Generative AI for Software Testing**.

What You Will Learn

By the end of this course, participants will be able to:

- Understand **Generative AI** and **LLM** fundamentals.
- Apply **Prompt Engineering** techniques to software testing activities.
- Improve **test analysis**, **test design**, and **test automation** using AI.
- Mitigate risks related to hallucinations, bias, privacy, and security.
- Explain **RAG**, **LLMOps**, and **AI-powered testing infrastructures**.
- Support the successful adoption of **GenAI in testing organizations**.

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Outline

Introduction to Generative AI for Software Testing

- Artificial Intelligence fundamentals
- Machine Learning
- Deep Learning
- **Generative AI**
- **Large Language Models (LLMs)**
- Tokenization
- Embeddings
- Context Windows
- Foundation Models
- Reasoning Models
- Multimodal AI

Prompt Engineering for Software Testing

- Prompt structure
- Context management
- Constraints
- Output formats
- **Few-Shot Prompting**
- **Prompt Chaining**
- **Meta Prompting**
- System vs User Prompts

AI-Powered Software Testing

- Test Analysis
- Test Design
- Test Implementation
- Regression Testing
- Test Monitoring
- Test Control

Evaluating AI Results

- Accuracy
- Precision
- Recall
- Relevance
- Diversity
- Time Efficiency

Managing Risks of Generative AI

- Hallucinations
- Reasoning Errors
- Bias
- Privacy Risks
- Security Vulnerabilities

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- Environmental Impact

AI Standards and Governance

- **ISO/IEC 42001**
- **EU AI Act**
- **NIST AI RMF**

LLM-Powered Testing Infrastructure

- Architecture Components
- **LLM Integration**
- **Retrieval-Augmented Generation (RAG)**
- AI Agents
- Test Automation
- Fine-Tuning
- **Small Language Models (SLMs)**
- **LLMOps**

Deploying Generative AI in Test Organizations

- Adoption Strategy
- Shadow AI Risks
- Cost Estimation
- Change Management
- Skills Development
- Organizational Transformation