# Accelerate your Software Testing with Generative AI

In this practical course dedicated to AI for software testing, you will learn how to use generative AI to improve and accelerate your testing processes (design, optimisation and test automation).

The aim of this training course is to :

- Understand the role of generative AI in testing
- Learn to create structured, efficient prompts for test scenarios
- Identify hallucinations and mitigate testing risks
- Integrate AI features in real QA tools and environments
- Apply prompt engineering, RAG, and agent techniques effectively

Teaching resources used:

- ☑ Interactive presentations
- ☑ Live code examples and demos
- ☑ Practical workshops (70% of training)
- ☑ Access to AI models and environments
- ☑ Online collaboration tools & test case repositories
- ☑ Theory
- ☑ Active
- ☑ Interrogative

LLM & Outils IA pour la formation :

- GPT 4o et GPT 4o1 (OpenAI)
- Mistral Small, Medium et Large (Mistral)
- CodeLLama et LLama (Meta)
- Claude en versions Opus, Sonnet et Haiku (Anthropic)
- Gemini (Google)

## Description :

Learn how to enhance your software testing practices by integrating Generative AI through a hands-on, practice-driven approach (over 70% of the course).
You will explore the foundations of Generative AI, understand how to craft effective prompts for various LLMs, and apply best practices across test case design, automation, and anomaly analysis.
By the end of the course, you will be able to identify opportunities and limitations of AI-augmented testing and confidently integrate these technologies in real-world QA workflows.

## Requirements :

No prior AI knowledge required. A basic understanding of software testing is recommended.

## Evaluation:

Several in-course assessments of the extent to which skills have been acquired (tests, final simulations)

## Certification :

A skills certificate will be issued to each trainee at the end of the course.

## Accessibility :

Accessibility If you have any disability or need specific accommodations, please contact us at: contact@upskill4it.com

## Access times :

Online (live virtual with trainer) or on-site in-company format.
Once the registration is validated, the training date is proposed within 48 hours

## Duration :

This training “Accelerate Your Software Testing with Generative AI” lasts 2 day and is given face-to-face on an inter-company basis or online.

## Format :

Live online with a trainer or on-site within your organization

## Target audience :

- Quality Engineers, QA Manager
- Testers, Test Consultants
- Developers, Test Automation Engineers
- Product Owner, Project Managers
- Business Analysts

## Update :

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## Présentation des formateurs IA pour les tests logiciels :

**Bruno Legeard,**
Trainer, consultant, expert in software testing and AI for testing

Bruno is an expert in AI for testing.
He is involved in the development of AI-integrated tools at Smartesting and in evaluating generative AI for their application in software testing.
He also actively contributes to the French Software Testing Committee and to ISTQB within technical working groups

**Anne Kramer,**
Trainer software testing and AI for testing

Since her first model-based testing project in 2006, Anne has continuously promoted MBT – as project manager, consultant, trainer, and author.
In 2022, she joined Smartesting, where she discovered a whole new type of models: Large Language Models (LLMs) and Generative AI. With the support of Smartesting’s AI experts, Anne gained in-depth knowledge of using ChatGPT.
It is this knowledge that she now wishes to share in this training.

# Summary

## Section 1 – Introduction to Generative AI for Software Testing

1. Generative AI – The basics
2. What generative AI brings to software testing
3. Using generative AI for testing – General principles
4. **Workshop 0** - Getting familiar with the LLM workbench

## Section 2 – Prompt Engineering for Testing

1. Introduction to prompt engineering
2. Prompting techniques
3. Use cases with practical exercises:
4. **Workshop 1** – Designing test cases
5. **Workshop 2** – Improving existing test cases
6. **Workshop 3** – Test automation
7. **Workshop 4** – Analyzing anomaly reports
8. Good prompting practices in software testing
9. Summary and discussion of the know-how used

## Section 3 – Managing the risks of Generative AI

1. Hallucinations, Errors and Bias of AI
2. **Workshop 5** – Hallucinations / Errors – Examples from the testing domain
3. Cybersecurity risks
4. Environmental risks
5. **Workshop 6** – How much does it cost in energy?
6. Other risks: Loss of skills, dependence on a third-party service
7. Regulation of AI: The European AI Act

## Section 4 - LLM-Based Applications for Testing

1. Applications for testing including generative AI
2. Retrieval Augmented Generation (RAG) – Using company/project data
3. **Workshop 7** – Questioning a large document corpus
4. Integrating generative AI into the testing process
5. Fine-Tuning of the LLM
6. **Workshop 8** – Integration of generative AI functions in a test tool
7. LLMOps
8. AI agents for testing
9. Demo: Gérald – Virtual Manual Tester
10. Summary and discussion

## Section 5 – Final Wrap-Up

1. Recap: how to use AI for testing tomorrow
2. Choosing the right model for your test needs
3. Summary and actionable conclusions