DeepMBT

The Next Generation of Test Automation

Is the system I am in charge of (creating, extending, integrating, customizing, using) **reliable enough?**

What happens if **part of the system fails** (is damaged, jammed, out of a network signal, ...) but the rest of the system **must keep running?**

How to foresee what **nasty surprises** an operation in real conditions can bring?

How to prepare for such surprises (test, train, rehearse) so as **not to be caught by a surprise?**

If you answered one or more of these questions "yes", register for our workshop!

To get higher confidence in a system (and a level of preparedness for its operation), you can create a set of scenarios of how a system will operate and test (train, rehearse) them. But, even for relatively simple systems, there can be quite a lot of these scenarios. So, we need to automate the process. Most often, we automate the execution of the tests. However, even the creation of these test scenarios can be automated. This is done by **Model-based Testing (MBT)**. When MBT is done well, it can save a lot of time and effort (or costs).

MBT promises to give confidence that "we have covered all important things" (formally test coverage), to remove waste of effort in the tests (removing duplications in tests), to prepare the test scenarios much faster, and other benefits. However, MBT suffers from two major problems.

First, we need to create a model of the tested system, and it might be costly to create and keep up-to-date. Second, if the used model is too simplified or not the right fit, it might happen that some of the automatically generated test scenarios cannot be executed in the real world.

The **DeepMBT project** focuses on these two main problems to give MBT much more power to be more effective not only in testing mission-critical systems, but also to work for common software projects, where it can effectively save time and effort.

During the workshop, we will show you how this can be achieved through **Constrained Path-based Testing** and **Model Inference** techniques. We will also answer an actual question: If and how can Large Language Models (LLMs), e.g., ChatGPT, Copilot, and others, help you prepare your tests in this sense? We can talk about what your actual needs are in your tests and how the discussed techniques can be used to help you address these needs. We will use practical examples from real projects, and the workshop program includes a tool demo for Constrained Path-based Testing.

No previous knowledge of MBT, artificial intelligence, or any other specialized topics is needed.

DeepMBT project public workshop

FREE ENTRY

When: October 1st 2025, 9:00 – 12:30
12:30 – 13:30 buffet lunch and networking

Where: Prague, Vila Lanna, Travenský salonek
(https://www.vila-lanna.cz/en/)

Organizer: System Testing IntelLigent Lab, FEE, CTU in Prague

Registration: Send an email to miroslav.bures@fel.cvut.cz