17th Workshop on Advances in Model based Testing

A-MOST@ICST 2021

12-16 April 2021

https://icst2021.icmc.usp.br/home/a-most-2021

Abstract

The increasing complexity, criticality and pervasiveness of software results in new challenges for testing. Model Based Testing (MBT) continues to be an important research area, where new approaches, methods and tools make MBT techniques (for automatic test case generation) more deployable and useful for industry than ever. Following the success of previous editions, the goal of the A-MOST workshop is to bring researchers and practitioners together to discuss state of the art, practice and future prospects in MBT.

Topics and sub-topics *(not exhaustive):*

MODELS

- Models for component, integration and system testing
- Product-line models
- (Hybrid) embedded system models
- Systems-of-systems models
- Architectural models
- Models for orchestration and choreography of services
- Executable models, simulation and model transformations
- Environment and use models
- Non-functional models
- Models for variant-rich and highly configurable systems
- Machine-learning based models

PROCESSES, METHODS AND TOOLS

- Model-based test generation algorithms
- Application of model checking techniques to MBT
- Symbolic execution-based techniques
- Tracing from requirements models to test models
- Performance and predictability of MBT
- Test model evolution during the software life-cycle
- Risk-based approaches for MBT
- Generation of testing infrastructures from models
- Combinatorial approaches for MBT
- Statistical testing
- Non-functional MBT
- Derivation of test models by reverse engineering and machine learning

EXPERIENCES AND EVALUATION

- Estimating dependability (e.g., security, safety, reliability) using MBT
- Coverage metrics and measurements for structural and (non-) functional models
- Cost of testing, economic impact of MBT
- Empirical validation, experiences, case studies using MBT

NOVEL APPLICATIONS

- The role of MBT in automata learning
- Generating training data for machine learning
- Model-based security testing
- Statistical model checking

Important Dates

Paper submission: **Sun 10 Jan 2021**

Notification: **Sun 31 Jan 2021**

Camera ready: **Sat 20 Feb 2021**

Organising Committee

Raluca Lefticaru,
University of Bradford, UK
Florian Lorber,
Aalborg University, Denmark
Uraz Cengiz Türker,
University of Leicester, UK

Submission Format

Full and Short Papers

Papers should not exceed **8 pages** for full papers or **4 pages** for short experience and position papers, IEEE two-column publication format.

Journal First

The aim of journal-first papers in category is to further enrich the program of A-MOST, as well as to provide an overall more flexible path to publication and dissemination of original research in model-based testing. The **2-page** submission should provide a concise summary of the published journal paper.

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