

# Call for papers

## Key dates

Deadline for Paper Submission: May 28, 2021

Paper Acceptance Notification: July 1, 2021

Camera-ready Paper: July 8, 2021

Workshop Date: August 23 and 24

## Location

Online (Athens)

<http://www.a-test.org/>

## Abstract

For the past eleven years, A-TEST has provided a venue for researchers and industry partners to exchange and discuss trending views, ideas, state of the art, work in progress, and scientific results on automated test case design, selection and evaluation.

This year's theme will be testing “Extended Reality” (XR) systems, i.e. advanced interactive systems such as Virtual Reality (VR) and Augmented Reality (AR) systems. XR systems have emerged in various domains, ranging from entertainment, cultural heritage, to combat training and mission critical applications.

We need novel testing technology for XR systems based on AI techniques to provide learning and reasoning over a virtual world. XR developers need powerful test agents to automatically explore and test the correct parameters of their virtual worlds as they iteratively develop and refine them. This workshop will provide researchers and practitioners a forum for exchanging ideas, experiences, understanding of the problems, visions for the future, and promising solutions to the problems in testing XR systems.

## Topics of interest

- Test cases design, selection, and evaluation in Extended reality systems (VR, AR, MR), but also other emerging domains like Graphical User Interfaces, Social Networks, the Cloud, Games, Security, Cyber-Physical Systems.

- Techniques and tools for automating test case design, generation, and selection, e.g., search-based approaches, model-based approaches, symbolic-based approaches, mutation approaches, metamorphic approaches, combinatorial-based approaches, chaos testing, machine learning testing.
- New trends in the use of machine learning (ML) and artificial intelligence (AI) to improve test automation, and new approaches to test ML/AI techniques.
- Test case optimization.
- Test cases evaluation and metrics.
- Case studies that have evaluated an existing technique or tool on real systems, empirical studies, not only toy problems, to show the quality of the resulting test cases compared to other approaches.
- Experience/industry reports.

## **Call for Research Papers**

We invite you to submit a paper to the workshop, and present and discuss it at the event itself on any topics related to automated software testing.

***Full paper*** (up to 8 pages, including references) describing original and completed research.

***Short paper*** (up to 4 pages, including references) for example:

- ***Position papers*** (max. 2 pages) that analyse trends and raise issues of importance. Position papers are intended to generate discussion and debate during the workshop, and will be reviewed with respect to relevance and their ability to start up fruitful discussions
- ***Work-in-progress papers*** (max. 4 pages) that describe novel, interesting, and highly potential work in progress, but not necessarily reaching its full completion
- ***Tool papers*** (max. 4 pages) presenting some academic testing tools in a way that it could be presented to industry as a start of successful technology transfer
- ***Technology transfer paper*** (max. 4 pages) describing University-Industry cooperation projects

## **Call for hands-on**

A-TEST also offers an opportunity to introduce your novel testing technique or tool to its audience in an active **hands-on session** of 3 hours. This is an excellent opportunity to get more people involved in your technique/tool. You are invited to send us **hands-on proposals** (up to 2 pages) describing how you will conduct the session.

## **Call for Participation - Student Competition**

To encourage students' (bachelor, master or PhD) interest and involvement in themes around automated testing we organize a student competition, where they can come up with their own algorithms or AI to solve a set of managed testing problems in the domain of 3D computer games. We will use a test-AI Gym called [JLabGym](#) linked to a 3D maze-like game called Lab Rectuis. JLabGym provides Java APIs to let an external test agent to control the game and receive structured information about its state. New game levels can be conveniently defined or generated, to provide challenges for AI to solve, though in our case we will be focusing on AIs for solving testing problems. Contestants will be challenged to devise (and implement) a generic algorithm to automate a certain type of testing tasks for the game Lab Recruits. A set of game levels will be produced as challenges (some will be provided as examples) to benchmark the submitted solutions. Scoring would be based e.g. on the soundness, completeness (against some pre-defined oracles), and time consumption. For more details please check the [A-TEST website](#).

## **Submission Instructions**

Papers and proposals will be submitted through EasyChair:

<https://easychair.org/conferences/?conf=atest21>

Each paper will be reviewed by at least three referees. Submissions must be original and should not have been published previously or be under consideration for publication while being evaluated for this workshop. Authors are required to adhere to the ACM Policy and Procedures on Plagiarism and the ACM Policy on Prior Publication and Simultaneous Submissions.

All papers must be prepared in [ACM Conference Format](#).

Papers accepted for the workshop will appear in the ACM digital library, providing a lasting archived record of the workshop proceedings.

## **Organizing committee**

### **General Chairs**

Rui Prada (INESC-ID and Instituto Superior Técnico, Universidade de Lisboa)

Sinem Getir Yaman (Humboldt University, Berlin and Ege University, Izmir)

### **Program Chairs**

Fitsum Meshesha Kifetew (Fondazione Bruno Kessler)

Nicolas Cardozo Alvarez (Universidad de los Andes)

### **Hands-on Session Chair**

Kevin Moran (George Mason University)

### **Student Competition Chairs**

Wishnu Prasetya (Utrecht University)

Joseph Davidson (Good AI)

### **Publicity Chair**

Tanja E.J. Vos (Universidad Politecnica de Valencia and Open Universiteit)

### **Web Chair**

Pekka Aho (Open Universiteit)

### **Contacts**

All questions about submissions should be emailed to the workshop organizers at

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[sinemgetir@gmail.com](mailto:sinemgetir@gmail.com)