

ACM/IEEE DESTION 2021 CALL FOR PAPERS

The 3rd Workshop on Design Automation for CPS and IoT

May 18, 2021, part of CPS-IoT Week 2021

<https://cps-vo.org/group/DESTION21>

Overview:

Cyber-Physical Systems (CPS) such as aircraft, automobiles, industrial robots, medical devices, and Internet-of-Things (IoT) applications, promise relevant economic and societal benefits. Advances in the area of Artificial Intelligence are promoting a shift of operational responsibilities from humans to systems that redefines them as autonomous cyber-physical systems. These systems are designed to operate and achieve goals in complex environments that are not fully specified and constrained at design time. Autonomous CPS comprises physical sensing and actuation, perception, situational assessment, decision making, and execution, and they are often deployed on a distributed system and interact with human operators. These systems must be able to deal with uncertainty, learn from experience, and must react at the pace of the physical environment. The ability to handle such intractable high-dimensional spaces often relies on Artificial Intelligence tools, where both academia and industry are rapidly developing innovative solutions in the area of data-driven and model-based techniques, as well as their hardware and software implementation. However, many interesting applications such as automotive, aviation, critical infrastructure, and even social networks, must obey stringent assurance requirements. These requirements have been traditionally guaranteed through escape-proof design methodologies and a range of supporting tools that have been carefully engineered over many years of research and development. Autonomy challenges these best practices as more freedom is left to both the environment and the control policies that can be adapted and evolved over time by the CPS through learning.

ACM/IEEE DESTION provides a premier forum for researchers and engineers from academia, industry, and government to present and discuss challenges, promising solutions, and applications in design automation for Autonomous CPS and IoT. The workshop has a broad scope covering tools for modeling, simulation, synthesis, validation and verification of Autonomous CPS and IoT, and their applications in a variety of domains, such as automotive and transportation systems, avionics, robotics, buildings, grid, and medical devices.

We invite contributions in the following main topics:

- Formal verification methodologies
- Correct-by-construction design and evolution
- Requirement engineering
- Real-time execution
- Test and evaluation
- Languages and tools for specification and design
- Architectural design
- Run-time monitoring
- Benchmarks and datasets

Submissions:

Papers: All submissions must be in English. Only original papers that have not been submitted or published in other conferences or journals will be considered. Full technical contributions should have no more than 6 pages. Position papers, technical notes and work-in-progress presentations should have no more than 4 pages.

Demos: DESTION 2021 seeks high-quality demos showing design automation benchmarks, tools, and applications for Autonomous CPS and IoT. A 2-page abstract in English (including references) should be submitted.

Please submit your papers and demo abstracts at <https://destion21.hotcrp.com/>. The submission must be in the ACM two-column conference style, US Letter (8.5 inch x 11 inch) paper size, and 10pt text font size. All accepted papers and demo abstracts will be published in IEEE Xplore and ACM Digital Library as part of the DESTION 2021 proceedings.

Important Dates:

February 22, 2021: Submission deadline

March 24, 2021: Author notification

March 31, 2021: Camera-ready due