

SCAV 2018

Submitted by [akarns](#) on Thu, 01/11/2018 - 4:43pm

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2nd International Workshop on Safe Control of Autonomous Vehicles (SCAV 2018)

Hosted at Cyber-Physical Systems Week 2018 in Porto, Portugal

Autonomous vehicles (AV) of any kind (e.g. road, maritime, aerial, unmanned) and in any configuration (e.g. individual, connected, cooperative, traffic) will provide novel services having to fulfill strong safety requirements. For controllers of AVs and for control schemes of AV collectives,

we must guarantee safety and resilience in spite of, e.g.

- maximal permissiveness (e.g. performance requirements),
- indeterminacy (e.g. machine learning discontinuities),
- discrete disturbances (e.g. faults, security breaches, or unexpected road infrastructure updates),
- undesired absence or presence of humans in the loop (e.g. unintentional and malicious misuse),
- classical uncertainties (i.e., noise and disturbance),

we must deliver verified system designs for (1.), including

- powerful, correct, and reliable safety mechanisms,
- comprehensive and efficient run-time verification,
- correct and reliable run-time self-adaptation,

we must enhance approaches for (1.) & (2.) to verify, e.g.

- safe stable and permissive control of AV collectives,
- integration of moving with fixed infrastructure sensors,
- sensing of emergent traffic phenomena.

These objectives will play a decisive role in the adoption of AVs as a consumer, transport, and mobility technology. These objectives demand novel approaches to the analysis and assurance of local, distributed, and supervisory controllers.

The goal of this workshop is to discuss and consolidate models, algorithms, and verification approaches for safety and resilience of the whole control loop of autonomous machines and machine collectives.

The task of this workshop is to identify open research problems, discuss recent achievements, bring together researchers in, e.g. control theory, adaptive systems, machine self-organization and autonomy, mobile intelligent robotics, transportation, traffic control, machine learning, software verification, and dependability and security engineering.

Workshop Organizers

Mario Gleirscher (U York, UK)
Stefan Kugele (TU Munich, DE)
Sven Linker (U Liverpool, UK)

Program Committee

Murat Arcak (UC Berkeley, US)
Ezio Bartocci (TU Vienna, AT)
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Alessandro Papadopoulos (Malardalen U, SE)
Alan Peters (Transport Systems Catapult, UK)
Shinichi Shiraishi (Toyota Info Technology Center, US)
David Ward (MIRA, UK)

Event Details

Location: Porto, Portugal

URL: <https://scav.in.tum.de/index.php/home/>

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[CPS Domains Automotive Transportation Workshop CPS Week 2018](#)
