18th Workshop on Automotive Software Engineering (ASE'21)

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Abstract: Software-based systems play an increasingly important role and enable most of the innovations in modern cars. This workshop deals with various topics related to the development of automotive software and discusses suitable methods, techniques, and tools necessary to master the most current challenges researchers and practitioners are facing.

Keywords: Automotive Software Engineering, Autonomous Driving, Driver Assistance Systems, Software Development

The 18th Workshop on Automotive Software Engineering (ASE'21) addresses the challenges of software development in the automotive sector as well as suitable methods, techniques, and tools for this specific area. With the increasing amount of connected vehicles, modern driver assistance systems, and the challenges of fully automated driving, automotive software plays an important role today more than ever.

Furthermore, the distraction-free and intuitive operation of vehicle applications via multimodal interfaces play an increasingly important role. In addition, innovative technologies like voice control, cloud computing, or 5G connectivity found their way into the car. These technological advances have changed the experience of driving a car: In the near future services such as WhatsApp, Skype or even Facebook will be integrated into the car and can then be operated by users while driving.

The main objectives of the workshop are the exchange and discussion of how current challenges in automotive software engineering can be mastered. The thematic orientation offers many cross-references to the Software Engineering (SE) conference to which the workshop is colocated. The workshop addresses researchers, developers, and users from the automotive industry as well as scientists from research institutes and universities working in the field of automotive software engineering. Traditionally, the focus is less on theory than on applied research.

To ensure that only high-quality submissions are selected for publication and presentation, two reviewers were selected for each of the contributions submitted to this year's workshop.

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Many thanks to all the reviewers who contributed with great commitment to the review process.

As in previous years, the workshop will be opened with a keynote speech. We would like to thank Prof. Dr.-Ing. Markus Maurer (Director of the Department of Vehicle Electronics, Technische Universität Braunschweig), who will a give a talk on 'The Inherent Risk of Autonomous Road Vehicles'.

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For many years, this workshop has been organized by the GI interest group (Fachgruppe) on "Automotive Software Engineering"[5]. The steering committee was consequently involved in the organization of this workshop as well.

[5] http://fg-ase.gi.de/