Call for Papers

4th ACM COMPUTER SCIENCE IN CARS SYMPOSIUM (CSCS 2020)

FUTURE CHALLENGES IN ARTIFICIAL INTELLIGENCE & SECURITY

FOR AUTONOMOUS VEHICLES CSCS 2020

Technical University of Ingolstadt | Ingolstadt, Germany | December 2nd, 2020

Aim of the Event

Industry, as well as academia, have made great advances working towards an overall vision of fully **autonomous driving**. Despite the success stories, great challenges still lie ahead of us to make this grand vision come true. On the one hand, future systems have to be yet more capable to **perceive, reason, and act in complex real-world scenarios**. On the other hand, these future systems have to comply with our expectations for **robustness, security,** and **safety**.

ACM, as the world's largest computing society, addresses these challenges with the ACM Computer Science in Cars Symposium (CSCS). This symposium provides a platform for industry and academia to exchange ideas and meet these future challenges jointly. The focus of the 2020 symposium is on **Artificial intelligence & Security for Autonomous Vehicles**.

Contributions focusing on those topics are invited. For more information please visit our **ACM-CSCS webpage**. Impressions of previous events can be found **here**.

Symposium Scope

TOPICS: Submission of contributions are invited in (but not limited to) the following key areas:

- **Artificial Intelligence in Autonomous Systems:** Sensing, perception & interaction are key challenges inside and outside the vehicle. Despite the great progress, complex real-world data still poses great challenges towards reliable recognition and analysis in a large range of operating conditions. Latest Machine Learning and in particular Deep Learning techniques have resulted in high-performance approaches that have shown impressive results.

- **Automotive Security for Autonomous driving:** Information technology enables connected autonomous vehicles and many new applications but also introduces new threats. For example, an attacker could manipulate safety-critical systems such as the braking system to endanger the live and limb of passengers and other road users. An attacker could also try to generate movement or behavior profiles of the vehicle user. Thus, ensuring security and privacy is of paramount importance but poses several challenges. CSCS is a forum for discussing the latest developments in the context of security and privacy for autonomous vehicles and bringing together researchers and practitioners.

Program Preview

Keynotes from industry and research center leads
Spotlight presentations of extended abstracts and oral sessions
Posters and demos
Panel Discussion
Evening Event

Important Dates

Full paper submission deadline: August 28th, 2020
Extended abstract submission deadline: October 16th, 2020
Notification of acceptance: October 9th / October 30th, 2020
Symposium: December 2nd, 2020

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Submissions

We are inviting submissions for "Full Papers" and "Extended Abstracts" in the following five categories: Demo, exhibitions, discussion papers, Ph.D. position paper, and significant, already published work. All papers must be formatted according to the **acm-sigconf-authordraft template** and submitted via the **submission system**.

- **Full Papers by August 28th, 2020:** Tracks with conference presentation – regular ACM online paper publication. Original work with eight to ten pages will be considered.
  The review process is double-blind. Submissions have to be anonymized.

- **Extended Abstracts by October 16th, 2020:** Tracks with poster presentation – with online publication (not quotable as academic work). The page limit is two pages with an additional third page containing references only.
  The review process is light-weight and single-blind, that is, the authors do not know the reviewers' names, but the submission does not have to be anonymized.

Sponsors / Exhibition

We invite companies and research labs to contribute to the summit also by presenting their latest results as demos.
For sponsoring and exhibition options, please contact: Björn Brücher

Venue

THI – Technical University of Ingolstadt – Esplanade 10, 85049 Ingolstadt, Germany

Ingolstadt is a vibrant and dynamic city located in the Greater Munich area and features many historic buildings. Ingolstadt has a long academic tradition, with the first university of Bavaria founded there in 1459. Being home to Audi, Ingolstadt is known as one of the automotive centers of Germany.

You can reach the conference conveniently by public transportation with accommodations close by. Further details on logistics are shared on the **ACM-CSCS web site**.

Committee

General Chair: **Björn Brücher, Intel Germany, ACM Member**
Program Chair: Oliver Wasenmüller, University for Applied Science Mannheim
Prog. Co-Chairs: Mario Fritz, CISPA Helmholtz Center for Information Security
Hans-Joachim Hof, Technical University of Ingolstadt
Christoph Krauß, University of Applied Sciences Darmstadt, Fraunhofer Institute for Secure Information Technology
Organization: Dominik Bayerl, Technical University of Ingolstadt
Cornelia Denk, BMW, ACM SIGGRAPH Munich
Kevin Gomez Buquerin, Technical University of Ingolstadt
Oliver Grau, Intel Germany, ACM Europe Council
Isha Sharma, Intel Germany