

Call for Papers

6th ACM COMPUTER SCIENCE IN CARS SYMPOSIUM (CSCS 2022)

Challenges in artificial intelligence & security for autonomous vehicles

Technical University of Ingolstadt | Ingolstadt, Germany | December 8th, 2022

Aim of the Event

Industry and 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 2022 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 to discuss the latest developments in the context of security and privacy for autonomous vehicles and bringing together researchers and practitioners.

Venue

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](#).

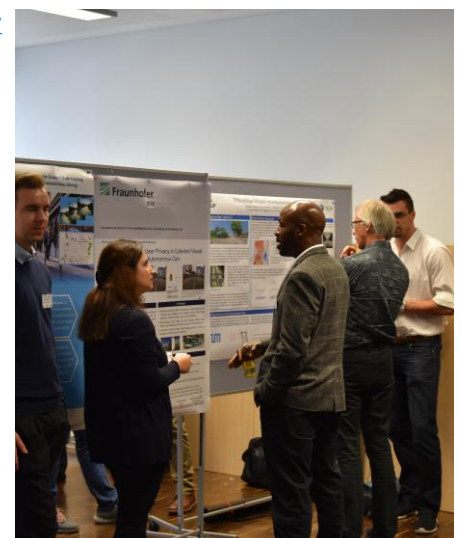
Important Dates

Full paper submission deadline: September 24th, 2022

Extended abstract submission deadline: October 22nd, 2022

Notification of acceptance: October 22nd / November 5th, 2022

Symposium: December 8th, 2022



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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:** Tracks with conference presentation – regular ACM online paper publication. We are looking for papers with high quality, original and unpublished contributions of eight to ten pages (references excluded). The review process is double-blind. Submissions have to be anonymized.
- **Extended Abstracts:** 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](#)**

Committee

General Chair: **Björn Brücher**, Intel Deutschland GmbH, GChACM Council, ACM

Program Chair: **Christoph Krauß**, Darmstadt University of Applied Sciences and INCYDE GmbH

Program Co-Chairs: **Oliver Wasenmüller**, University for Applied Science Mannheim

Mario Fritz, CISP Helmholz Center for Information Security

Hans-Joachim Hof, Technical University of Ingolstadt

Organization: **Oliver Grau**, Intel Deutschland GmbH, ACM Europe Council

Dominik Bayerl, Technical University of Ingolstadt

Isha Sharma, Intel Deutschland GmbH

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Program Committee: **Ignacio Alvarez**, Intel; **Hans-Peter Beise**, Trier University of Applied Sciences; **Apratim Bhattacharyya**, Max Plank Institute for Informatics; **MarkusENZweiler**, Esslingen University of Applied Sciences; **Tim Fingscheidt**, Technische Universität Braunschweig; **Flavio Garcia**, University of Birmingham; **Philipp Heidenreich**, Opel Automobile GmbH; **Fabian Hüger**, Volkswagen AG; **Frank Kargl**, Universität Ulm; **Stefan Katzenbeisser**, University of Passau; **Tim Leinmüller**, Denso; **Stefan Miltz**, Spleenlab.ai / Ilmenau University; **Hans-Gregor Molter**, Dr.-Ing. h.c.F. Porsche AG; **Dennis Kengo Oka**, Synposys; **Tribhuvanesh Orekondy**, Qualcomm AI Research; **Lourenco Pereira**, ITA; **Shervin Raafatnia**, Bosch; **Mario Reyes**, Eurecat Technological Center; **Timo van Roermund**, NXP; **Timo Saemann**, Valeo; **René Schuster**, DFKI; **Markus Tschersich**, Continental; **Yang Zhang**, CISP Helmholz Center for Information Security