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Call for Papers

CPS Data – Second International Workshop on modeling, analysis and control of complex Cyber-Physical Systems

Workshop in conjunction with CPS Week 2016

April 11, 2016, Vienna (Austria)

https://www.twt-gmbh.de/en/cpsdata.html

Motivation and Goals of the Workshop

The availability of efficient and powerful embedded processing and communication systems has paved the way towards an increasing application of cyber-physical systems (CPS), in particular in but not limited to the automotive domain, where highly automated and electrified driving as well as connectivity services and applications are forceful drivers for development.

The increasing amount of interconnected CPS in vehicles or systems of CPS containing the vehicle requires holistic and interoperable methods and tools for the efficient and consolidated interdisciplinary design, and for end-to-end real-time transmission and management of data and corresponding algorithms for their (real-time) analysis, storage and processing. This implies also the consideration of security and the mutual impact of security and safety.

This workshop will focus on challenges and case studies for CPS development in the automotive and transport domain and foster the exchange of knowledge with other application domains such as factory or building automation (e.g. Industry 4.0). Particular attention is paid to the interdisciplinary approaches and communication between industrial requirements and best practices and state of the art and beyond approaches. Topics include, but are not limited to:

- Methodologies and tool chains for modeling and simulating CPS
- Autonomous Systems & Self-x Capabilities
- Reference Architectures and Standards for CPS
- Converging CPS Systems in different application domains
- Intelligent Offloading Architectures for the IOT
- Architectures, standards and methods for efficient onboard-offboard processing
- Storage and processing technologies for real-time data management (e.g. In-Memory)
- Centralized and distributed data management
- Data filtering, semantic annotations and analysis of heterogeneous data

- Business Intelligence approaches for predictive analytics and control of CPS
- Human centric CPS
- Formal verification of CPS
- Safety and Security for CPS and their mutual impact
- Case Studies and standards for CPS deployment in transport and automation

Applications can contain topics, but are not limited to, such as:

- Advanced Driver Assistance Systems (ADAS) and highly automated driving
- Communication and Infotainment Systems in vehicles
- Intelligent mobility and transport infrastructures
- Electric Vehicles and their interaction with smart grids / smart homes
- Cross-Domain applications such as building and factory automation or Industry 4.0

Target Group

The goal of this workshop is to bring together researchers, developers and system operators to discuss research questions on the interface between CPS and big data, in particular in the automotive domain, as well as to identify problems and new opportunities for cooperation.

Submission

Each submission shall be maximum 6 pages in two-column A4 format, with a font size of not less than 11 pt, using the IEEE templates available online:
http://www.ieee.org/conferences_events/conferences/publishing/templates.html
CPS week registration will be required to participate in the workshop. Please use the conference systems located at https://easychair.org/conferences/?conf=cpsdata2016 to submit your paper. If you have questions, please do not hesitate to e-mail to cpsdata@twt-gmbh.de

Important Dates

Submission	February 1, 2016
Acceptance Notification	March 1, 2016
Camery Ready Paper Version	March 16, 2016
Workshop date	April 11, 2016

Organizing Committee

Michael Ditze (TWT GmbH)	Peter Gorm Larsen (Aarhus University)
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