18th International Workshop on "Dependable Smart Embedded and Cyber-Physical Systems and Systems-of-Systems" at SAFECOMP 2023 (DECSoS '23)

Toulouse, France, Sept. 19, 2023

Co-hosted by EWICS TC7 and ERCIM and the ECSEL/KDT projects AI4CSM, AIMS5.0, A-IQ Ready, Comp4Drones, PowerizeD, SECREDAS, Teaching and the Austrian national (FFG) project ADEX

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Final Programme

Welcome and Introduction

09:00 – 09:30   **DECSoS Workshop: European Research and Innovation Projects in the Field of Cyber-Physical Systems and Systems-of-Systems (Selective Overview);** *by Erwin Schoitsch and Amund Skavhaug.*

Session 1:   System-of-Systems Resilience

09:30 – 10:00   **A Quantitative Approach for System of Systems' Resilience Analyzing Based on Archimate**, *by Huanjun Zhang, Yutaka Matsubara, and Hiroaki Takada.*

10:00 – 10:30   Coffee Break

Session 2:   Cybersecurity and Safety of complex critical applications

10:30 – 11:00   **Towards DO-178C Compliance of a Secure Product,** *by Lijun Shan.*

11:00 – 11:30   **The Need for Threat Modelling in Unmanned Aerial Systems**, by Abdelkader *Magdy Shaaban, Oliver Jung, and Christoph Schmittner.*

11:30 – 12:00   **Using Runtime information of controllers for safe adaptation at runtime**: a Process Mining approach, *by Jorge Da Silva, Miren Illarramendi, and Asier Iriarte.*

12:00 – 13:00   Lunch Break

Session 3:   Dependability of AI-based Systems (Joint DECSoS – TEACHING project Session)
(Session Chairs: Georg Macher, Erwin Schoitsch)

13:00 – 13:30   **Safety and Robustness for Deep Neural Networks: An Automotive Use Case**, *by Davide Bacciu, Antonio Carta, Claudio Gallicchio, and Christoph Schmittner.*

13:30 – 14:00   **Towards Dependable Integration Concepts for AI-based Systems,** *by Georg Macher, Romana Blazevic, Omar Veledar, and Eugen Brenner.*

This paper serves as introduction to a workshop triggered by the TEACHING project. It provides an overview of the concepts related to dependability issues of autonomous systems, particularly automated driving systems.

14:00 – Open End   **Workshop and Plenary discussion (Moderator: Georg Macher)**: **Dependability issues of critical, highly automated systems including AI-based components and subsystems**, humans in the loop, factors like policies, political influences, economic and sociological influences, technology and standardization aspects, legal and environmental aspects, as well as technological factors.

Afterwards: Round-Up, Closure, and Coffee