Contents

5th International Workshop on Assurance Cases for Software-Intensive Systems (ASSURE 2017)

Making the Case for Safety of Machine Learning in Highly Automated Driving ......................................................... 5
   Simon Burton, Lydia Gauerhof, and Christian Heinzemann

A Thought Experiment on Evolution of Assurance Cases—from a Logical Aspect ................................................................. 17
   Shuji Kinoshita and Yoshiki Kinoshita

Using an Assurance Case Framework to Develop Security Strategy and Policies .................................................................... 27
   Robin Bloomfield, Peter Bishop, Eoin Butler, and Kate Netkachova

Uniform Model Interface for Assurance Case Integration with System Models ................................................................. 39
   Andrzej Wardziński and Paul Jones

ExplicitCase: Integrated Model-Based Development of System and Safety Cases ............................................................... 52
   Carmen Cărlean, Simon Barner, Alexander Diewald, Alexandros Tsalidis, and Sebastian Voss

D-Case Communicator: A Web Based GSN Editor for Multiple Stakeholders ................................................................. 64
   Yutaka Matsuno

Towards Combined Safety and Security Constraints Analysis ......................................................................................... 70
   Daniel Pereira, Celso Hirata, Rodrigo Pagliares, and Simin Nadjm-Tehrani

Attack Modeling for System Security Analysis (Position Paper) ..................................................................................... 81
   Abdullah Altawairqi and Manuel Maarek

Reconciling Systems-Theoretic and Component-Centric Methods for Safety and Security Co-analysis ..................................... 87
   William G. Temple, Yue Wu, Binbin Chen, and Zbigniew Kalbarczyk
12th International ERCIM/EWICS/ARTEMIS Workshop on Dependable Smart Embedded Cyber-Physical Systems and Systems-of-Systems (DECSoS 2017)

Analysis of Potential Code Vulnerabilities Involving Overlapping Instructions ......................................................... 103
  Loui Al Sardy, Tong Tang, Marc Spisländer, and Francesca Saglietti

Increasing Dependability in Safety Critical CPSs Using Reflective Statecharts ..................................................... 114
  Miren Illarramendi, Leire Etxeberria, Xabier Elkorobarrutia, and Goiuria Sagardui

A Survey of Hardware Technologies for Mixed-Critical Integration Explored in the Project EMC² ........................................... 127
  Haris Isakovic, Radu Grosu, Denise Ratasich, Jiri Kadlec, Zdenek Pohl, Steve Kerrison, Kyriakos Georgiou, Kerstin Eder, Norbert Druml, Lillian Tadros, Flemming Christensen, Emilie Wheatley, Bastian Farkas, Rolf Meyer, and Mladen Berekovic

Safe Implementation of Mixed-Criticality Applications in Multicore Platforms: A Model-Based Design Approach ...................... 141
  Pasquale Antonante, Juan Valverde-Alcalá, Stylianos Basagiannis, and Marco Di Natale

GSN Support of Mixed-Criticality Systems Certification ........................................................... 157
  Carlos-F. Nicolas, Fernando Eizaguirre, Asier Larrucea, Simon Barner, Franck Chauvel, Goiuria Sagardui, and Jon Perez

Concepts for Reliable Communication in a Software-Defined Network Architecture ............................................... 173
  Ferdinand von Tüllenburg and Thomas Pfeiffenberger

Combining Safety and Security Analysis for Industrial Collaborative Automation Systems ........................................... 187
  Sándor Plósz, Christoph Schmittner, and Pál Varga

Software Updates in Safety and Security Co-engineering ........................................................... 199
  Imanol Mugarza, Jorge Parra, and Eduardo Jacob

Detailed Analysis of Security Evaluation of Automotive Systems Based on JASO TP15002 ............................................... 211
  Yasuyuki Kawanishi, Hideaki Nishihara, Daisuke Souma, and Hirotaka Yoshida

Systematic Composition of Services from Distributed Systems for Highly Dynamic Collaboration Processes ......................... 225
  Sebastian Müller and Peter Liggesmeyer
Safety Assurance for Autonomous and Collaborative Medical Cyber-Physical Systems ................................................. 237
   Fabio L. Leite Jr., Rasmus Adler, and Patrik Feth

Safety-Aware Control of Swarms of Drones ................................. 249
   Amin Majd, Elena Troubitsyna, and Masoud Daneshtalab


Representation of Safety Standards with Semantic Technologies Used in Industrial Environments ...................................... 265
   Jose Luis de la Vara, Álvaro Gómez, Elena Gallego, Gonzalo Génova, and Anabel Fraga

Automotive SPICE, Safety and Cybersecurity Integration ..................... 273
   Georg Macher, Alexander Much, Andreas Riel, Richard Messnarz, and Christian Kreiner

Safety and Security Co-engineering and Argumentation Framework .......... 286
   Helmut Martin, Robert Bramberger, Christoph Schmittner, Zhendong Ma, Thomas Gruber, Alejandra Ruiz, and Georg Macher

Process Assessment in Supplier Selection for Safety-Critical Systems in Nuclear Domain ............................................ 298
   Timo Varkoi and Risto Nevalainen

A Runtime Risk Assessment Concept for Safe Reconfiguration in Open Adaptive Systems ......................................... 309
   Nikita Bhardwaj and Peter Liggesmeyer

Assuring Degradation Cascades of Car Platoons via Contracts ............... 317
   Irfan Sljivo, Barbara Gallina, and Bernhard Kaiser

3rd International Workshop on TEchnical and LEgal Aspects of Data pRIVATE and SEcurity (TELERISE 2017)

Transparent Personal Data Processing: The Road Ahead ........................ 337
   Piero Bonatti, Sabrina Kirrane, Axel Polleres, and Rigo Wenning

The Use of Data Protection Regulatory Actions as a Data Source for Privacy Economics ............................................. 350
   Aaron Ceross and Andrew Simpson

Automated Legal Compliance Checking by Security Policy Analysis ........ 361
   Silvio Ranise and Hari Siswantoro
Access Control Policy Coverage Assessment Through Monitoring. . . . . . . . . 373
       Antonello Calabrò, Francesca Lonetti, and Eda Marchetti

Try Walking in My Shoes, if You Can: Accurate Gait Recognition
Through Deep Learning. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 384
       Giacomo Giorgi, Fabio Martinelli, Andrea Saracino,
       and Mina Sheikhalishahi

Security Flows in OAuth 2.0 Framework: A Case Study . . . . . . . . . . . . . . . 396
       Marios Argyriou, Nicola Dragoni, and Angelo Spognardi

PoEnA: Enforcing Fine-grained Permission Policies in Android . . . . . . . . . . 407
       Gabriele Costa, Federico Sinigaglia, and Roberto Carbone

Fast Estimation of Privacy Risk in Human Mobility Data. . . . . . . . . . . . . . . 415
       Roberto Pellungrini, Luca Pappalardo, Francesca Pratesi,
       and Anna Monreale

Security and Privacy in the Automotive Domain:
A Technical and Social Analysis. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 427
       Zhendong Ma, Walter Seböck, Bettina Pospisil, Christoph Schmittner,
       and Thomas Gruber

One Click Privacy for Online Social Networks . . . . . . . . . . . . . . . . . . . . . . . 435
       Philipp Hehnle, Pascal Keilbach, Hyun-Jin Lee, Sabrina Lejn,
       Daniel Steidinger, Marina Weinbrenner, and Hanno Langweg

2nd International Workshop on Timing Performance in Safety
Engineering (TIPS 2017)

Modeling Rover Communication Using Hierarchical State Machines
with Scala. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 447
       Klaus Havelund and Rajeev Joshi

Towards Component-Based (max,+) Algebraic Throughput Analysis
of Hierarchical Synchronous Data Flow Models . . . . . . . . . . . . . . . . . . . . . . 462
       Mladen Skelin and Marc Geilen

Author Index . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 477
Computer Safety, Reliability, and Security
SAFECOMP 2017 Workshops, ASSURE, DECSoS, SASSUR, TELERISE, and TIPS, Trento, Italy, September 12, 2017, Proceedings
Tonetta, S.; Schoitsch, E.; Bitsch, F. (Eds.)
2017, XIV, 478 p. 138 illus., Softcover
ISBN: 978-3-319-66283-1