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and Verification -- Certification -- Formal Monotony Analysis of Neural Networks with Mixed Inputs: An asset for certification -- Generating Domain-specific Interactive Validation Documents -- Deductive Verification of Smart Contracts with Dafny -- Industrial use cases -- Towards Reusable Formal Models for Custom Real-time Operating Systems -- Formal verification of an industrial UML-like model using mCRL2 -- Chemical Case Studies in KeYmaera X -- Analysing Capacity Bottlenecks in Rail Infrastructure by Episode Mining -- Testing and monitoring -- Test Suite Augmentation for Recon gurable PLC Software in the Internet of Production -- Monitoring of Spatio-Temporal Properties with nonlinear SAT solvers -- Model-Based Testing of Internet of Things Protocols -- Methodology -- Formally Verifying Decompositions of Stochastic Specifications -- Verification of Behavior Trees using Linear Constrained Horn Clauses -- A Multi-level Methodology for Behavioral Comparison of SoftwareIntensive Systems.

Sommario/riassunto

This book constitutes the proceedings of the 27th International Conference on Formal Methods for Industrial Critical Systems, FMICS 2022, which took place in Warsaw, Poland, in September 2022. The 13 full papers included in this book were carefully reviewed and selected from 22 submissions. They were organized in topical sections as follows: Certification; industrial use cases; testing and monitoring; and methodology.